

FINAL - SEPTEMBER 2016

COASTSIDE COUNTY WATER DISTRICT

2015 Urban Water Management Plan



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2015 Urban Water Management Plan

Prepared for

Coastside County Water District

September 2016



464-12-15-02



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Date

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List of Acronyms

AB	Assembly Bill
ABAG	Association of Bay Area Governments
Act	Urban Water Management Act
AF	Acre-Feet
AFY	Acre-Feet Per Year
AMR	Advanced Meter Reading
AWWA	American Water Works Association
BAIRWMP	Bay Area Integrated Regional Water Management Plan
BARDP	Bay Area Regional Desalination Project
BAWSCA	Bay Area Water Supply and Conservation Agency
BMP	Best Management Practice
CASGEM	California Statewide Groundwater Elevation Monitoring Program
CCF	Hundred Cubic Feet
CCR	California Code of Regulations
CDoF	California Department of Finance
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CFS	Cubic Feet Per Second
CII	Commercial, Industrial, Institutional
CIMIS	California Irrigation Management Information System
CIP	Capital Improvement Program
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
District	Coastside County Water District
DMMs	Demand Management Measures
DSS	Decision Support System
DWR	Department of Water Resources
DWR Guidebook	2015 Urban Water Management Plans Guidebook for Urban Water Suppliers
EIR	Environmental Impact Report
ETo	Reference Evapotranspiration
FY	Fiscal Year
GPCD	Gallons Per Capita Per Day
GPM	Gallons Per Minute
GSP	Groundwater Sustainability Plan
hcf	Hundred Cubic Feet
ISA	Interim Supply Allocation
ISG	Individual Supply Guarantee
ISL	Interim Supply Limitation
LCP	San Mateo County Local Coastal Program
Maddaus	Maddaus Water Management, Inc.



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MG	Million Gallons
MGD	Million Gallons Per Day
MGY	Million Gallons Per Year
MOU	Memorandum of Understanding
MWSD	Montara Water and Sanitary District
NAICS	North American Industry Classification System
NPDES	National Pollutant Discharge Elimination System
OCP	Ocean Colony Partners
RWS	Regional Water System
SAM	Sewer Authority Mid-Coastside
SFPUC	San Francisco Public Utilities Commission
SGMA	Sustainable Groundwater Management Act of 2015
SMCWPPP	San Mateo County Water Pollution Prevention Program
UWMP	Urban Water Management Plan
WDR	Waste Discharge Requirements
West Yost	West Yost Associates
WSA	Water Supply Agreement
WSAP	Water Shortage Allocation Plan
WSCP	Water Shortage Contingency Plan
WSIP	Water System Improvement Program
WTP	Water Treatment Plant
WWFMP	Wet Weather Flow Management Project
WWTP	Wastewater Treatment Plant



EXECUTIVE SUMMARY

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 current unprecedented water supply conditions in California, development of the 2015 UWMPs comes at a pivotal time. Current drought conditions have resulted in State mandates for water conservation and have led to the passage of the Sustainable Groundwater Management Act of 2014. These actions will impact 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 is 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 Coastside County Water 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.

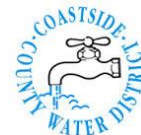
ES.2 WATER CODE REQUIREMENTS

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) 2014/15, the District supplied approximately 666 million gallons (MG) (2,044 acre-feet (AF)) of potable and raw water to approximately 7,360 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 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



Executive Summary

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

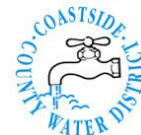
The legislative changes to the UWMP Act are described in Chapter 1. Some highlighted changes include:

- 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).

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.



Executive Summary

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 September 13, 2016. 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 early 2016, a notice of preparation was sent to the City of Half Moon Bay, San Mateo County and other stakeholders, to inform them of the 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.

This Plan was adopted by the District's Board of Directors on September 13, 2016. A copy of the adoption resolution is provided in Appendix M.



Executive Summary

Within 30 days of Plan adoption, a copy of the Plan was submitted to DWR, the California State Library, the City of Half Moon Bay, and San Mateo 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:

- Coastside County Water District, 766 Main Street, Half Moon Bay

A copy of the adopted Plan will also be available for review and download on the District's website (www.coastsidewater.org).

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



CHAPTER 1

Introduction and Overview

This chapter provides an introduction and overview of the Coastside County Water 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 1947, the District has had a long history of providing clean and reliable water to its residential, business, and floriculture customers in the City of Half Moon Bay and in unincorporated areas of San Mateo County. Expanding local sources of water and finding new sources have met the needs for water in the community. In 1994, the District finalized a major pipeline project (the Crystal Springs Project) with the San Francisco Public Utilities Commission (SFPUC), which allowed the District to purchase water from Crystal Springs Reservoir. This project allowed the District to no longer be constrained by variable local supplies. 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 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.

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

Chapter 1

Introduction and Overview



- 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.



Chapter 1

Introduction and Overview

- 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: Service Area Population Estimates and Projections
- Appendix F: Water Audit



Chapter 1

Introduction and Overview

- Appendix G: SB X7-7 Verification Form
- Appendix H: Groundwater Information
- Appendix I: SFPUC Water Supply Reliability
- Appendix J: Water Shortage Contingency Plan
- Appendix K: Water Conservation Information
- Appendix L: Coastside County Water District Water Rate Schedule
- Appendix M: 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 acre-feet of water annually (AFY).

As shown in Table 2-1, in Fiscal Year (FY) 2014/15, the District provided water supplies to 7,360 customers (connections), and supplied 666 million gallons (MG) of potable and raw water (equivalent to 2,044 acre-feet (AF)). 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 June 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
CA4110011	Coastside County Water District	7,360	666
TOTAL		7,360	666

NOTES: Volumes are in million gallons (MG) and includes potable and raw water.

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 Bay Area Water Supply and Conservation Agency (BAWSCA) and SFPUC, 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"/>	Individual UWMP	
<input type="checkbox"/>	Regional Urban Water Management Plan (RUWMP)	

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 fiscal year basis, with the fiscal year starting on July 1 and ending on June 30 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)

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 type="checkbox"/>	UWMP Tables Are in Calendar Years
<input checked="" type="checkbox"/>	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Date that the Fiscal Year Begins	
7/1	
Units of Measure Used in UWMP	
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 BAWSCA and SFPUC. These and other 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).

The District is a member of BAWSCA. BAWSCA members are all contract customers of SFPUC for the wholesale purchase of water. In accordance with Water Code Section 10631, the District has informed SFPUC of projected water use from that source for the period of 2020 to 2040, as shown in 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
San Francisco Public Utilities Commission (SFPUC)

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.

Land use planning and development approvals within the District's boundaries are the responsibility of the City of Half Moon Bay and the County of San Mateo. The Sewer Authority Mid-Coastside (SAM) provides wastewater treatment and the Coastside Fire Protection District provides fire suppression services.



Chapter 2

Plan Preparation

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 to fund these water projects.

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 early 2016, a notice of preparation was sent to the City of Half Moon Bay, San Mateo County, and other stakeholders, to inform them of the 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



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

The District is a special district in San Mateo County formed in 1947 to provide water to customers within its jurisdictional boundaries which include the City of Half Moon Bay, and several unincorporated coastal communities including El Granada, Miramar, and Princeton by the Sea.

3.2 SERVICE AREA

The District is located along the coast of the Pacific Ocean approximately 30 miles south of San Francisco. Residing at approximately 69 feet above sea level, the District is bounded to the east by the northernmost portion of the Santa Cruz Mountains. District boundaries extend approximately 9.5 miles north to south along the coast and 1.5 miles east to west, encompassing approximately 14 square miles.

The District's service area consists of predominantly residential land uses (approximately 81 percent) surrounded by agriculture and light ranching activities. Commercial development is constrained within the populated areas along State Route 1 and Highway 92 and at Pillar Point Harbor. Floriculture is the largest agricultural industry in the area.

The District's jurisdictional boundaries are shown on Figure 3-1.

3.3 SERVICE AREA CLIMATE

The District experiences a mild climate that is moderated by sea breezes from the Pacific Ocean throughout the year. Fog and overcast is predominant in the morning and evening hours throughout the year, which significantly reduces landscape irrigation requirements. Temperatures are moderate with the summer highs in the mid 60's and the winter lows in the 40's. Average rainfall in Half Moon Bay is 26.2 inches per year.

Water use within the District's service area is dependent on various climate factors such as temperature, precipitation, and evapotranspiration (ET_o). Climate data, including temperature and precipitation estimates, were obtained from the Western Regional Climate Center for Half Moon Bay, California. The period of record was July 1, 1939 to January 20, 2015.

ET_o describes the combined water lost through evaporation from the soil and surface-water bodies and plant transpiration. In general, a reference ET_o is given for turf grass, and then corrected for a specific crop type. Local ET_o data was obtained from the California Irrigation Management Information System (CIMIS) for Reference ET_o Zone 1 (Coastal Plains Heavy Fog Belt).

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



Chapter 3

System Description

Table 3-1. Monthly Average Climate Data Summary

Month	Standard Monthly Average ET _o , inches ^(a)	Average Total Rainfall, inches ^(b)	Average Temperature, degrees Fahrenheit ^(b)	
			Max	Min
January	0.93	5.15	58.4	42.9
February	1.40	4.49	59.3	43.5
March	2.48	3.83	59.8	43.8
April	3.30	1.88	60.7	44.6
May	4.03	0.76	61.7	47.4
June	4.50	0.30	63.4	49.8
July	4.65	0.12	64.2	51.9
August	4.03	0.19	65.1	52.7
September	3.30	0.35	66.8	51.2
October	2.48	1.59	65.8	48.3
November	1.20	2.99	62.7	45.4
December	0.62	4.52	58.9	43.3
Totals	33.0	26.17	62.2	47.1

(a) Source: California Irrigation Management Information System (CIMIS) data for ET_o Zone 1 (downloaded January 19, 2016)

(b) Source: Western Regional Climate Center (www.wrcc.dri.edu) data for Half Moon Bay, California (period of record: July 1, 1939 to January 20, 2015)

3.4 SERVICE AREA POPULATION AND DEMOGRAPHICS

3.4.1 Population

In 2005, Maddaus Water Management, Inc. (Maddaus) developed a Demand Side Management Least Cost Planning Decision Support System (DSS) Model for the District as part of the Capital Improvement Program for SFPUC's Regional Water System. In developing the 2014 Regional Demand and Conservation Projections, BAWSCA member agencies and Maddaus evaluated several data sources available for historical and projected population and opted to use Association of Bay Area Governments (ABAG) 2013 population data as it represented the most current population information for each BAWSCA member agency service area. Population estimates were provided by ABAG in their Plan Bay Area Projections 2013 report (<http://abag.ca.gov/planning/housing/projections13.html>) on a sub-regional jurisdictional level (not by water service area boundaries) in five-year increments from 1990 to 2040.

The District's population numbers were analyzed in detail by evaluating ABAG population data for the City of Half Moon Bay (which makes up approximately 67.4 percent of the District's service area) and a portion of the Half Moon Bay Unincorporated Area (which makes up the remaining 32.6 percent of the District's service area).

For the City of Half Moon Bay, ABAG historical and projected population values were used.



Chapter 3 System Description

For the District’s service area outside the City of Half Moon Bay (within in the Half Moon Bay Unincorporated area (El Granada area)), ABAG data for El Granada (a Census-designated place in the coastal area of northern San Mateo County, California) was further analyzed in detail. Water service maps down to the street level were compared to ABAG boundaries and 2010 Census data for further verification of accuracy. Aerial maps of the District’s service area, Census data for northern San Mateo County, along with ABAG boundary maps, were all aligned to determine how many dwelling units served by the District were in this region. An estimate of the number of people for 2010 was determined by assuming an average household size per residential parcel of 2.6 people. The 2.6 people per household size is based on Census 2010 estimates for household size in El Granada. This analysis determined the population that was served by the District outside the City of Half Moon Bay.

The two values (population for the City of Half Moon Bay and the population for the District’s service area in the Half Moon Bay Unincorporated area) were added together to arrive at the District’s total water service area population. Additional information on the population methodology is provided in Appendix E.

The District’s current (2015) service area population of 16,668 has been estimated using the method described above.

Growth and development within the District’s service area are subject to City and County growth management policies (described further in Section 3.4.2 below). Projections of future population within the District’s service area have been estimated based on the methodology described above using ABAG data and are summarized 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)
	16,668	16,848	16,873	16,886	18,363	19,840
NOTES: Population estimates based on ABAG Plan Bay Area Projections 2013.						

3.4.2 Demographic Factors

The District serves a highly desirable coastal area in close proximity to major employment centers in San Francisco and San Mateo Counties. Land use planning within the District is undertaken by the City of Half Moon Bay, and for the unincorporated areas, the County of San Mateo. Land use planning within the City is guided by the *Half Moon Bay Local Coastal Program and Land Use Plan (1993)*. Planning in the unincorporated areas of the District, including El Granada, Granada Highlands, Clipper Ridge, Princeton and part of Miramar, is guided by the *San Mateo County Local Coastal Program (June 2013)*.



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System Description

Growth management provisions in the San Mateo County Local Coastal Program (LCP) limit growth to 125 units/year in the County's planning area, only a portion of which is in the District service area. In addition, the proposed development must also be consistent with all applicable policies of the certified LCP. The San Mateo County LCP states that development that relies upon municipal water from the District shall not be approved unless the allocation of the District's water to the project is consistent with the Coastal Development Permits for the El Granada Pipeline Project (Coastal Commission CDP A-2-SMC-99-063; A-1-HMP-99-020) and the Crystal Springs Project.

Development projects are required to have a water service connection in order to receive water, but the District does not currently have an unlimited number of water service connections available. As part of growth management, the City and County LCP's limit the total number of water connections that can be sold within the District's service area. The District has two types of water connections defined in the local coastal plans for the County of San Mateo and the City of Half Moon Bay:

- Priority Connections are defined as commercial visitor serving, and includes motels, hotels, agriculture, and restaurants; and
- Non-Priority Connections include residential and non-commercial visitor serving.

There are currently 202.5 connections reserved for affordable housing within the District's service area. Available water capacity available for new development is restricted to the connections listed in Table 3-3.

Table 3-3. Uninstalled Water Service Connections^(a)

	Priority Connections	Non-Priority Connections
Sold but Uninstalled	37	946
Reserved for Affordable Housing	202.5	0
Reserved for Priority under LCP	209	0
Totals	448.5	946

^(a) Updated-November 2015.

In addition, growth in the City of Half Moon Bay is constrained by Measure D (LCP, 1999) which limits residential growth within the City of Half Moon Bay to 1 percent per year. The City may increase the annual residential growth to 1.5 percent per year for units in downtown only, but this increase is not required.

3.5 WATER SYSTEM FACILITIES

An overview of the District's water system facilities is shown on Figure 3-2. Major water system facilities are described below.



Chapter 3

System Description

3.5.1 Water Treatment Plants

The District operates two water treatment plants (WTP): the Nunes WTP and the Denniston WTP.

The Nunes WTP, located on Carter Hill northeast of Half Moon Bay, began operating in 1982 with an initial treatment capacity of 2.5 million gallons per day (MGD). The Nunes WTP was expanded as part of the Crystal Springs Project and now has a treatment capacity of 4.5 MGD. The Nunes WTP treats water purchased from SFPUC (from Pilarcitos Lake and Crystal Springs Reservoir) and the District's Pilarcitos Well Field.

The Denniston WTP, in operation since 1974, is located above Denniston Creek and has a treatment capacity of 1.7 MGD. It treats water from both surface and groundwater from the District's Denniston Project. In 2013, the District completed the Denniston Water Treatment Plant Improvement Project. The improvements did not expand the existing treatment capacity of the facilities, but allow the District's facilities to treat water of higher turbidity, and provide a more reliable and efficient treatment of local water supplies.

3.5.2 Pilarcitos Creek Infiltration Wells

The District owns and operates five infiltration wells in the Pilarcitos Canyon, upstream of Highway 92. The five wells (known as Wells P1 through P5) are shown on Figure 3-2. Water extracted from these wells is treated at the Nunes WTP. Additional discussion of these wells is provided in Chapter 6.

3.5.3 Denniston Well Field

The District owns and operates eight groundwater wells (Wells D1 through D6, Well D8, Well D9) in the Denniston Well Field. The Denniston Well Field is mostly located east of the Half Moon Bay Airport, but there is one well (D9) which is west of the Half Moon Bay Airport. The location of these wells is shown on Figure 3-2. Additional discussion of these wells is provided in Chapter 6.

3.5.4 Storage and Distribution

The District has eleven treated water storage tanks with a total storage capacity of 8.1 MG (see Figure 3-2). One of the eleven treated water storage tanks (Hazens Tank) was taken off-line in 2015 due to maintenance issues.

The District's other major facilities include a network of transmission and distribution pipelines. The major transmission pipelines are shown on Figure 3-2. The 18-inch diameter pipeline from the Crystal Springs Pump Station is the District's largest source of supply during peak demand periods in the summer and fall. Treated water is distributed from the treatment plants to two major geographical zones via 8-, 10-, 12- and 16-inch diameter transmission lines.

As pipelines age and become more susceptible to leaks, the District implements an extensive pipeline replacement program. Each year, the District implements a number of Capital Improvement Program (CIP) projects to replace aging pipelines. All old pipelines are replaced with new ductile iron pipe to reduce leaks and minimize losses within the distribution system.

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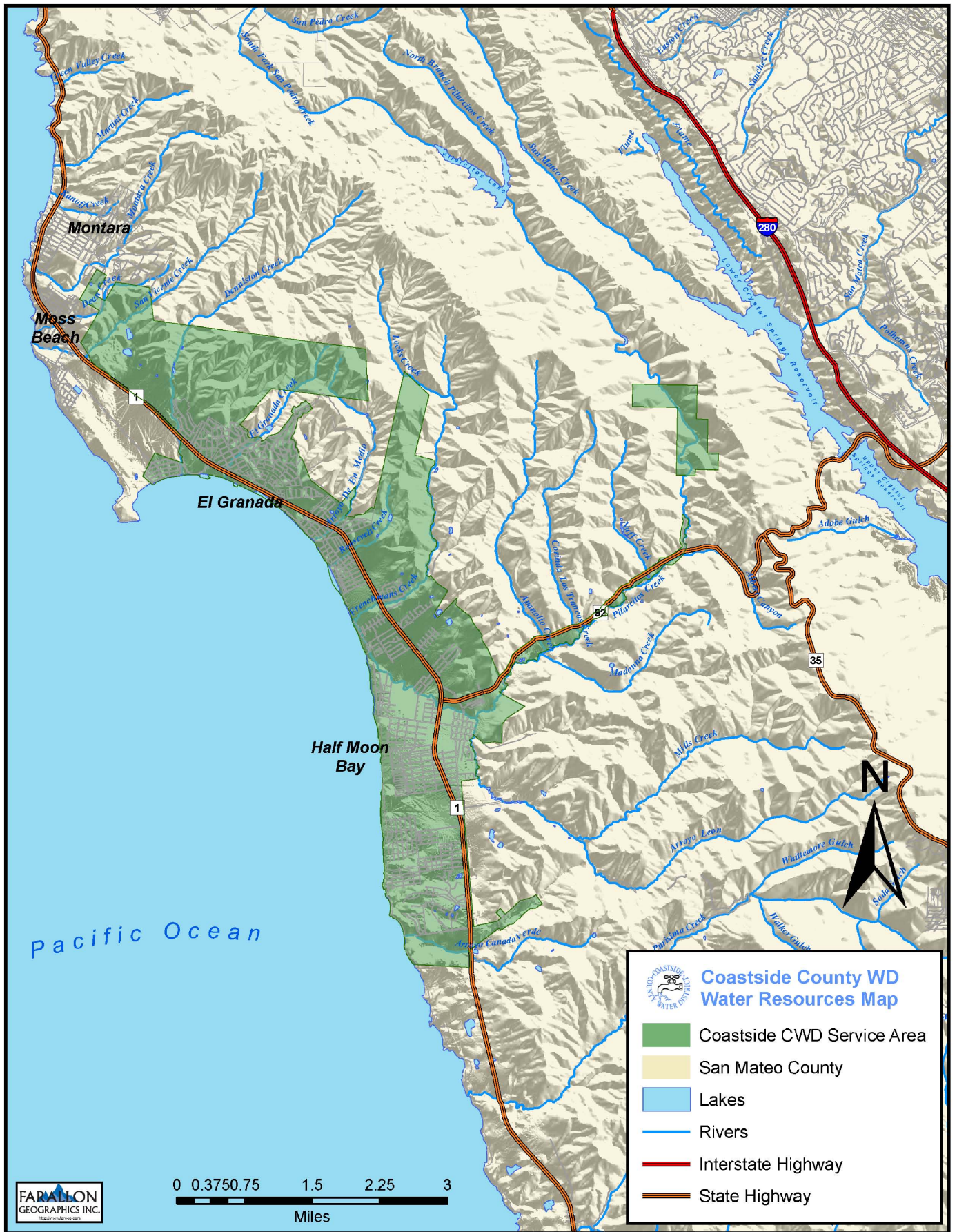


Figure 3-1

Coasts County Water District Jurisdictional Area

Coasts County Water District
2015 Urban Water Management Plan

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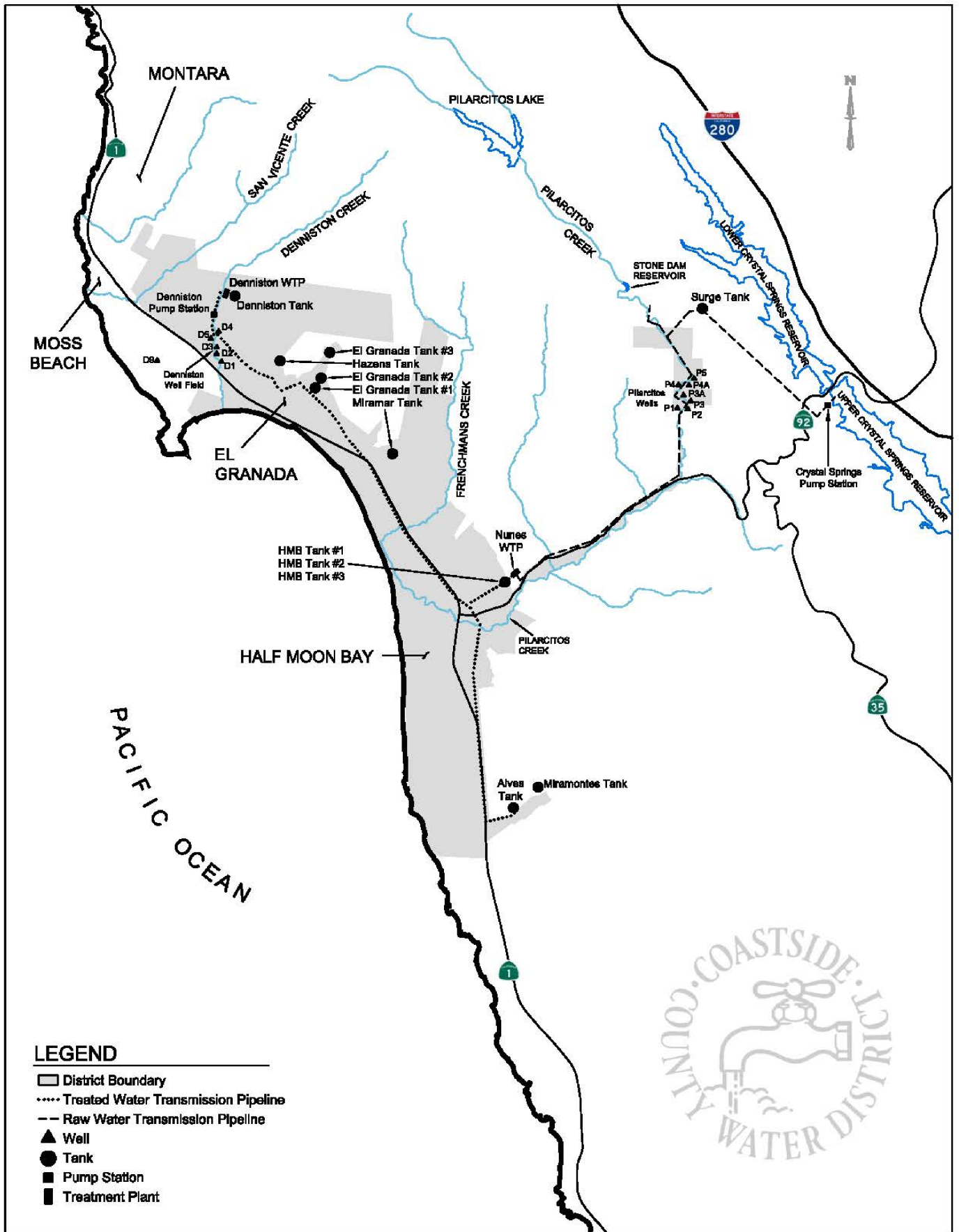


Figure 3-2

Coastside County Water District Water System Facilities

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CHAPTER 4

System Water Use



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

The District currently provides only potable water to customers within its service area. Potable water is water that is safe to drink and which typically has had various levels of treatment and disinfection. The District purchases potable water supplies from the SFPUC and also has local potable supplies.

Recycled water is municipal wastewater that has been treated to a specified quality to enable it to be used again. As discussed in Chapter 6, the District does not include recycled water supply projections in this UWMP.

Raw water is untreated water that is used in its natural state or with minimal treatment. The District has one temporary customer, by contract, that receives metered raw water for irrigation purposes only and only receives water as long as the District is not implementing its water shortage contingency plan stage that requires giving residential customers a drought allocation. The raw water customer, the Skylawn Cemetery, is treated as a retail customer and pays treated water rates.

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)).

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- **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, Million Gallons Per Year (MGY)

Water Use Type	FY 2004/05 Actual Volume	FY 2009/10 Actual Volume
Single-Family	465	414
Multi-Family	55	30
Commercial ^(a)	51	41
Business ^(b)	59	50
Municipal	28	24
Institutional/ Governmental	1	1
Landscape ^(c)	63	66
Agriculture (Floriculture)	118	95
Other ^(d)	4	2
Potable System Losses	32	14
Recycled Water	0	0
Total	876	738
^(a) Includes marine and recreation accounts and water uses. ^(b) Includes hotel and recreation accounts and water uses. ^(c) Includes raw water used for landscape irrigation. ^(d) Includes portable meters and fire meters.		

The District’s actual water demands for the year 2015 are presented in Table 4-2. 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. 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	326
Multi-Family		Drinking Water	30
Commercial		Drinking Water	38
Institutional/Governmental		Drinking Water	12
Landscape		Drinking Water	22
Landscape		Raw Water	50
Agricultural irrigation		Drinking Water	64
Other	Restaurants	Drinking Water	21
Other	Recreation	Drinking Water	2
Other	Parks/Beaches	Drinking Water	4
Other	Marine	Drinking Water	8
Other	Hotel	Drinking Water	33
Other	Portable and Fire	Drinking Water	2
Other	unbilled unmetered	Drinking Water	8
Losses	potable system losses	Drinking Water	46
TOTAL			666

NOTES: Volumes in MG.

SOURCE: Consumption by Use for FY 2014/15 (07/01/2014 through 06/30/2015) provided by the District.

In 2005, Maddaus developed a Demand Side Management Least Cost Planning DSS Model for the District as part of the Capital Improvement Program for SFPUC's Regional Water System. The DSS Model is an end-use model which breaks down water demand to specific end uses such as toilets, faucets, or irrigations systems. The end use approach allows for detailed criteria to be considered when estimating future water demands, such as the effects of fixture replacement, plumbing codes, and conservation efforts. The 2005 DSS Model for the District was subsequently updated (in 2006 to review regional conservation measures and in 2009 to evaluate the BAWSCA Water Conservation and Implementation Plan). The updated DSS Model has been used for this 2015 UWMP to develop water demand projections for the District.

Water demand projections in this 2015 UWMP are based on the Maddaus DSS Model projections for the District assuming savings resulting from future plumbing code changes. This is a conservative demand projection, as additional savings may be achieved through the implementation of additional water conservation measures, but are not relied upon for the supply and demand evaluation included in this 2015 UWMP. The projected water demands through the year 2040 are presented in Table 4-3.

Chapter 4

System Water Use



Table 4-3. 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		318	304	290	303	317
Multi-Family		61	59	56	58	61
Commercial		36	37	37	37	38
Institutional/Governmental		12	12	12	13	14
Landscape		57	60	62	63	64
Agricultural irrigation		81	81	81	81	81
Other	Restaurants	14	14	15	15	15
Other	Recreation	2	2	2	2	2
Other	Parks/Beaches	4	4	4	4	4
Other	Marine	6	6	6	6	6
Other	Fire	0	0	0	0	0
Other	Hotel	24	26	26	27	27
Other	Portable	2	2	2	2	2
Losses		54	54	55	58	61
TOTAL		671	661	648	669	692

NOTES: Volumes are in MG. Demand projections are from the Maddaus DSS Model's projected demands with plumbing code.

The actual and projected water demands reported in Tables 4-2 and 4-3, and the recycled water demands reported in Table 6-6, are summarized in Table 4-4.

Table 4-4. 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>	666	671	661	648	669	692
Recycled Water Demand* <i>From Table 6-4</i>	0	0	0	0	0	0
TOTAL WATER DEMAND	666	671	661	648	669	692
<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 District uses the American Water Works Association (AWWA) method to annually evaluate its distribution system losses. For FY 2014/15, the District's water losses were estimated to be approximately 46 MG. A copy of the District's FY 2014/15 Water Audit worksheet is provided in Appendix F. Also provided in Appendix F is a report of the District's FY 2013/14 water audit which also evaluated water loss control opportunities for the District.

The monthly system losses as the difference between the annual production (including both treated and untreated water supplies) and annual sales for the most recent 12-month period available are shown in Table 4-5. The most recent 12-month period began on July 1, 2014.

Table 4-5. Retail: 12-Month Water Loss Audit Reporting (DWR Table 4-4)

Reporting Period Start Date	Volume of Water Loss*
07/2014	46
<i>* Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.</i>	
NOTES: Volumes in MG; a copy of the District's 2015 Water Audit is provided in Appendix F.	

4.4 ESTIMATING FUTURE WATER SAVINGS

The District's water demand projections developed by Maddaus considered potential future savings with anticipated plumbing code changes (also known as passive savings) related to the following household and commercial plumbing fixtures:

- Single-family toilets, showers, lavatory and non-lavatory/kitchen faucets, and clothes washers;
- Multi-family toilets, showers, lavatory and non-lavatory/kitchen faucets, and clothes washers; and
- Commercial toilets, urinals, and lavatory and non-lavatory/kitchen faucets.

A summary of the potential future savings as a result of anticipated plumbing code changes is provided in Table 4-6.



Table 4-6. Summary of Maddaus Water Demand Projections Using DSS Model

	2015	2020	2025	2030	2035	2040
Water Demand Projection without Plumbing Code, MGY	676	693	701	705	748	791
Water Demand Projection with Plumbing Code, MGY	671	671	661	648	669	692
Projected Savings as a Result of Plumbing Code, MGY	5	22	40	57	79	99

Table 4-7 indicates that future water savings estimates are included in 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)	Yes
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.	Section 4.4 (page 4-5)
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 projections shown in Tables 4-3 and 4-4 include water use for single family and multi-family residential housing needed for low-income households, as identified in the City of Half Moon Bay’s and San Mateo County’s Housing Element.

A lower income household has an income below 80 percent of an Area Median Income, adjusted for family size. According to the City of Half Moon Bay Housing Element, adopted in March 2015, approximately 40 percent of City of Half Moon Bay households are classified as Low, Very Low or Extremely Low income¹.

Therefore, based on the City of Half Moon Bay’s Housing Element, it is estimated that approximately 40 percent of the District’s water demands are attributed to low income households. Table 4-8 presents these projected water demands for single family and multi-family households.

¹ Table 1-28: Households by Income Level and Overpayment, Plan Half Moon Bay Housing Element 2015-2013, adopted March 3, 2015.



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

Water Use Sector	Water Demands for Low Income Households ^(a) , MG				
	2020	2025	2030	2035	2040
Single Family	127	122	116	121	127
Multi-Family	24	24	22	23	24
Total	151	146	138	144	151

^(a) Based on data from the City of Half Moon Bay Housing Element indicating that 40 percent of households in the District's service area are classified as 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.

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



In November 2009, SB X7-7, the Water Conservation Act of 2009, was signed into law by Governor Arnold Schwarzenegger as part of a comprehensive water legislation package. The Water Conservation Act addresses both urban and agricultural water conservation. The legislation sets a goal of achieving a 20 percent statewide reduction in urban per capita water use by the year 2020 (i.e., “20 by 2020”), and directs urban retail water suppliers to establish an “interim” per capita water use target to be met by 2015 and a “final” per capita water use target to be met by 2020.

The District’s compliance with SB X7-7 was first addressed in the District’s 2010 UWMP. The District’s baseline per capita water use was determined, and urban water use targets for 2015 and 2020 were established and adopted. SB X7-7 included a provision that an urban water supplier may update its 2020 urban water use target in its 2015 UWMP, and may use a different target method than was used in 2010. Also, the SB X7-7 methodologies developed by DWR in 2011 noted that water suppliers may revise population estimates for baseline years when the 2010 U.S. Census information became available (as described below, the 2010 U.S. Census data was not finalized until 2012).

The DWR Guidebook indicates that there were significant discrepancies between the California Department of Finance (CDoF) estimated 2010 population (based on 2000 U.S. Census data) and the actual 2010 population (based on 2010 U.S. Census data). Therefore, if a water supplier did not use 2010 U.S. Census data for their baseline population calculations in the 2010 UWMP, DWR has determined that these water suppliers must recalculate their baseline population for the 2015 UWMP using 2000 and 2010 U.S. Census data, and baseline and 2015 and 2020 urban water use targets must be modified accordingly.

This chapter provides a review and update of the District’s baseline per capita water use, 2015 interim per capita water use target, and 2020 final per capita water use target in accordance with the requirements described in the DWR Guidebook and based on the 2010 U.S. Census population data. The District calculated baselines and targets on an individual reporting basis in accordance with SB X7-7 legislation requirements and *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (DWR, 2016). As discussed in this chapter, the District has achieved compliance with its 2015 interim target and is well positioned to achieve its 2020 final target. Regional Alliance baselines and targets are discussed in Section 5.8.

Additional information on the District’s baselines, targets, and compliance is provided in the SB X7-7 Verification Forms which are referenced throughout this chapter and included in Appendix G.

5.1 UPDATING CALCULATIONS FROM 2010 UWMP

CWC 10608.20 (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).*

Methodologies DWR 2016, Methodology 2 Service Area Population *Page 25 - Water suppliers may revise population estimates for baseline years between 2000 and 2010 when 2010 census information becomes available. DWR will examine discrepancy between the actual population estimate and DOF’s projections for 2010; if significant discrepancies are discovered, DWR may require some or all suppliers to update their baseline population estimates.*



Chapter 5

SB X7-7 Baselines and Targets

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.

Population data from the 2010 U.S. Census were not made available until 2012, after the District submitted its 2010 UWMP. Therefore, population data and baseline and target calculations have been updated for this 2015 UWMP to reflect 2010 U.S. Census data. The following sections describe these updates.

5.2 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 (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; however, the District did not deliver any recycled water in 2008. 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: FY 1998/99 to 2007/08
- 5-year Baseline Period: FY 2003/04 to 2007/08

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.

5.3 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 did not include 2010 U.S. Census data because the full U.S. Census data set was not available until 2012.

The District's service area includes the City of Half Moon Bay and several unincorporated coastal communities including El Granada, Miramar, and Princeton by the Sea. As described in Chapter 3, ABAG population data was used to determine the District's service area population and was used to determine the District's historical and current (2015) service area population for purposes of



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SB X7-7 Baselines and Targets

calculating baselines and targets and confirming the District's compliance with its 2015 SB X7-7 target. The revised population estimates based on ABAG data were consistently lower than those used in the District's 2010 UWMP. The 2010 service area population was estimated to be 16,590 people, which is lower than the 20,216 people included in the District's 2010 UWMP. Based on ABAG data, the District's 2015 service area population was estimated to be 16,668. Additional information on the ABAG population data used to determine the District's service area population, along with approval of the population estimating methodology by DWR, is provided in Appendix E. Resulting population values are included in SB X7-7 Table 3 in Appendix G.

5.4 GROSS WATER USE

Annual gross water use is the water that enters the District's distribution system over a 12-month period (fiscal 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 metered quantity of water purchased by the District from SFPUC and obtained from its local supply sources. Annual gross water use for the baseline periods and 2015 are summarized in SB X7-7 Table 4 in Appendix G.

5.5 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 service area population data for this 2015 UWMP. The District's baseline daily per capita use has been calculated as follows:

- 10-year Base Daily Per Capita Water Use
 - 148 GPCD (for the period from FY 1997/98 to FY 2006/07)
 - This value is 20 GPCD greater than the value calculated in the 2010 UWMP (128 GPCD)



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SB X7-7 Baselines and Targets

- 5-year Base Daily Per Capita Water Use
 - 150 GPCD (for the period from FY 2003/04 to FY 2007/08)
 - This value is 23 GPCD greater than the value calculated in the 2010 UWMP (127 GPCD)

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

The primary reason why the Base Daily Per Capita Water Uses are higher than what was calculated in the 2010 UWMP is because the service area population is lower than what was included in the 2010 UWMP.

5.6 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 2010 20 x 2020 Water Conservation Plan, and
- 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 118 GPCD. The 2020 target using Method 3 is 124 GPCD. Methods 2 and 4 require specific data which were not available, so those two methods were not considered. Target Method 3 results in the highest allowable SB X7-7 final (2020) target (124 GPCD by 2020), and would therefore be most favorable to the District.

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 2015 target is the midpoint between the District's 10-Year Base Daily Per Capita Water Use (148 GPCD) and the final 2020 target (124 GPCD). Therefore, the District's interim 2015 target is 136 GPCD.



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SB X7-7 Baselines and Targets

Urban water suppliers must verify that their 2020 final water use target is at least a 5 percent reduction from the 5-year baseline GPCD. As shown in SB X7-7 Table 7F in Appendix G, the District's maximum 2020 target is 143 GPCD (95 percent of the District's 5-year base daily per capita water use of 150 GPCD). The District's Method 3 2020 target of 124 GPCD complies with the minimum reduction.

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

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	1999	2008	148	136	124
5 Year	2004	2008	150		

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

For this 2015 UWMP, the District has selected Target Method 3, as was used in the 2010 UWMP. The recalculated interim 2015 target of 136 GPCD is 12 GPCD higher than the interim 2015 target included in the 2010 UWMP (124 GPCD). The recalculated final 2020 target of 124 GPCD is 4 GPCD higher than the final 2020 target included in the 2010 UWMP (120 GPCD). The District understands that the target method and resulting targets may not be changed in any amendments to the 2015 UWMP or in the 2020 UWMP.

5.7 2015 COMPLIANCE DAILY PER CAPITA WATER USE

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, urban per capita water use in 2015 was 109 GPCD, which is below the 2015 interim water use target of 136 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*		
109	136	0	0	0	0	109	109	Yes

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



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SB X7-7 Baselines and Targets

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 for 2015. Water use in 2015 in the District's service area was significantly reduced as compared to recent years as a result of increased water conservation efforts by the District and its customers in response to the severe drought conditions statewide.

5.8 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. Because the District was able to achieve compliance with SB X7-7 on an individual basis, a Regional Alliance compliance per capita water demand was not calculated.

CHAPTER 6

System Supplies



This chapter describes the water supplies currently available to the District, as well as future anticipated supplies. The District currently utilizes water from the following sources:

- Local groundwater basin (Half Moon Bay Terrace Basin);
- Local surface water (Pilarcitos, Denniston and San Vicente Creeks); and
- Imported surface water from the SFPUC.

These sources, along with the other projected future supplies, including recycled water and the potential for desalinated water and exchanges or transfers are described in this chapter.

6.1 PURCHASED OR IMPORTED WATER

Approximately 88 percent of the District’s water supply was purchased from the SFPUC from FY 2005/06 through FY 2014/15. The District purchases water from the SFPUC under the terms of the 2009 Water Supply Agreement (WSA) between the SFPUC and its wholesale customers. According to the WSA, the District is entitled to purchase a maximum of about 2.18 MGD (approximately 800 MGY), except in drought years when mandatory water rationing is in effect.

6.1.1 SFPUC Water Supply Agreement

The business relationship between the SFPUC and its wholesale customers is largely defined by the WSA between the SFPUC and wholesale customers in Alameda County, San Mateo County and Santa Clara County. In July 2009, the WSA replaced the Settlement Agreement and Master Water Sales Contract that expired in June 2009. The WSA addresses the rate-making methodology used by the SFPUC in setting wholesale water rates for its wholesale customers in addition to addressing water supply and water shortages for the San Francisco Regional Water System (RWS). The 2009 WSA has a 25-year term.

In terms of water supply, the WSA provides a 184 MGD (expressed on an annual average basis) “Supply Assurance” to SFPUC’s wholesale customers. The Supply Assurance is subject to reduction due to drought, emergencies, or by malfunctioning or rehabilitation of the regional water system. The WSA does not guarantee that the SFPUC will meet peak daily or hourly customer demands when their annual usage exceeds the Supply Assurance. SFPUC’s wholesale customers have agreed to the allocation of the 184 MGD Supply Assurance among themselves, with each entity’s share of the Supply Assurance set forth on Attachment C to the WSA. The Supply Assurance survives termination or expiration of the WSA and this agency’s Individual Water Sales Contract with the SFPUC.

The Water Shortage Allocation Plan between the SFPUC and its wholesale customers, adopted as part of the WSA in July 2009, addresses shortages of up to 20 percent of system-wide use. The Tier 1 Shortage Plan allocates water from the RWS between SFPUC’s retail and the wholesale customers during system-wide shortages of 20 percent or less. The WSA also anticipated a Tier 2 Shortage Plan adopted by the wholesale customers which would allocate the available water from the RWS among the wholesale customers.



Chapter 6

System Supplies

6.1.1.1 Individual Supply Guarantee

The SFPUC has a perpetual commitment (Supply Assurance) to deliver 184 MGD to the 24 permanent wholesale customers collectively. San Jose and Santa Clara are not included in the Supply Assurance commitment and each has temporary and interruptible water supply contracts with the SFPUC. The Supply Assurance is allocated among the 24 permanent wholesale customers through Individual Supply Guarantees (ISG), which represent each wholesale customer's allocation of the 184 MGD Supply Assurance. The District's ISG is 2.18 MGD (approximately 800 MGY).

6.1.1.2 2018 Interim Supply Limitation

As part of the adoption of the Water System Improvement Program (WSIP) in October 2008, the SFPUC adopted a water supply element, the Interim Supply Limitation (ISL), to limit sales from the RWS watersheds to an average annual of 265 MGD through 2018.

All 26 wholesale customers and the SFPUC are subject to the ISL. The wholesale customers' collective allocation under the ISL is 184 MGD and San Francisco's is 81 MGD. Although the wholesale customers did not agree to the ISL, as further discussed below, the WSA provides a framework for administering the ISL.

6.1.1.3 Interim Supply Allocations

The Interim Supply Allocations (ISAs) refer to each individual wholesale customer's share of the ISL. On December 14, 2010, the SFPUC established each agency's ISA through 2018. The District's ISA is 2.18 MGD (approximately 800 MGY).

In general, the SFPUC based the allocations on the lesser of the projected FY 2017/18 purchase projections or ISGs. The ISAs are effective only until December 31, 2018 and do not affect the Supply Assurance or the ISGs. As stated in the WSA, the wholesale customers do not concede the legality of SFPUC's establishment of the ISAs and Environmental Enhancement Surcharge (discussed below), and expressly retain the right to challenge either or both, if and when imposed, in a court of competent jurisdiction.

6.1.1.4 Environmental Enhancement Surcharge

As an incentive to keep RWS deliveries below the ISL of 265 MGD, the SFPUC adopted an Environmental Enhancement Surcharge for collective deliveries in excess of the ISL effective at the beginning of FY 2011/12. This volume-based surcharge is unilaterally imposed by the SFPUC on individual wholesale customers and San Francisco retail customers, when an agency's use exceeds their ISA and when sales of water to the wholesale customers and San Francisco retail customers, collectively, exceeds the ISL of 265 MGD. Actual charges would be determined based on each agency's respective amount(s) of excess use over their ISA. To date, no Environmental Enhancement Surcharges have been levied.

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System Supplies

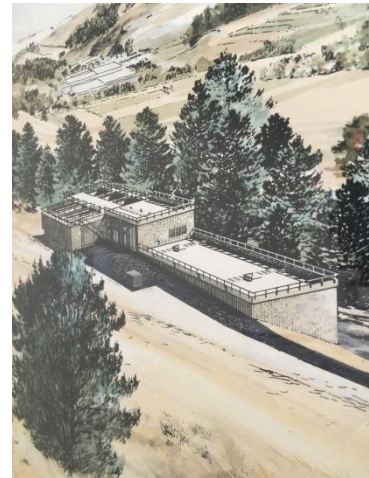
6.1.2 SFPUC Water Supply Sources

The water supply for the SFPUC is predominantly supplied from runoff and snowmelt from the Sierra Nevada, delivered through the Hetch Hetchy aqueducts, but also includes treated water from its local watersheds and facilities in Alameda and San Mateo Counties. The SFPUC serves its retail and wholesale water demands through integrated operation of local Bay Area water production and imported water from Hetch Hetchy. Local watershed facilities are primarily used to capture local runoff.

The District is the only customer of the SFPUC that receives raw water. The District purchases raw water from two sources owned and operated by the SFPUC: Pilarcitos Lake and Upper Crystal Springs Reservoir. The transmission pipelines from each of these sources interconnect in upper Pilarcitos Canyon. These two supply sources from the SFPUC are discussed below.

6.1.2.1 [Pilarcitos Lake](#)

Water supplies from Pilarcitos Lake are available to the District throughout the year. The source of the water in Pilarcitos Lake is local runoff from the surrounding watershed; no imported water from Hetch Hetchy is stored in Pilarcitos Lake. Water from this source is transported to the District's Nunes WTP via gravity pipelines. The maximum rate of flow is 1,889 GPM. The District prefers to draw the SFPUC water from the local Pilarcitos Lake source because the water flows by gravity from SFPUC's service connection at Stone Dam to the District's Nunes WTP, avoiding the power costs associated with pumping water from SFPUC's Upper Crystal Springs Reservoir. When there is insufficient water stored in Pilarcitos Lake, or when the District's demand exceeds the hydraulic capacity of the District-owned pipeline from Stone Dam, the District pumps the SFPUC water from Upper Crystal Springs Reservoir.



Nunes Water Treatment Plant

6.1.2.2 [Upper Crystal Springs Reservoir](#)

The water in Upper Crystal Springs Reservoir is supplied by local runoff from the surrounding watershed and imported water supplies from Hetch Hetchy. Upper Crystal Springs Reservoir also serves as an emergency water supply for the regional water system and its customers in the event of an interruption to SFPUC's Hetch Hetchy supplies. The District pumps water from Upper Crystal Springs Reservoir through an 18-inch diameter transmission pipeline to the District's Nunes WTP. Water from the Upper Crystal Springs Reservoir source is available throughout the year. The Crystal Springs project was designed for an ultimate capacity of 12.0 MGD. The present capacity to provide water to the District is 4.5 MGD and is limited by the operational constraints of the Nunes WTP. Expansion of the project capacity would require the approval from the SFPUC and the California Coastal Commission. The Upper Crystal Springs Reservoir supply source is important to the District because Upper Crystal Springs Reservoir is intertied with SFPUC's main supply source (Hetch Hetchy). The Upper Crystal

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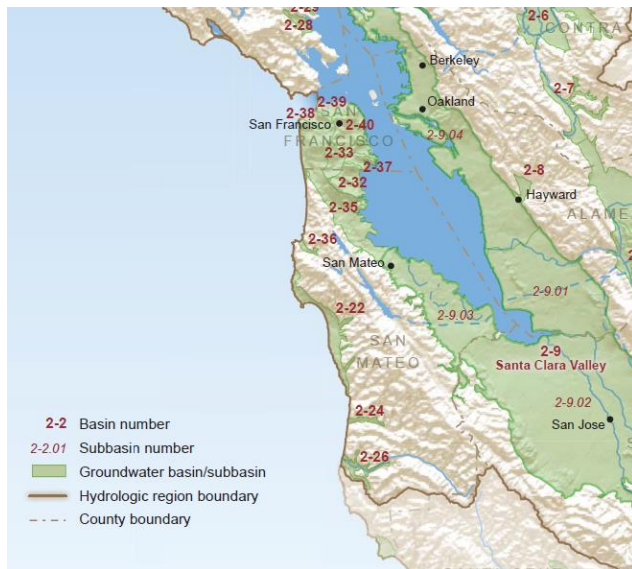
Springs Reservoir supply is more expensive than the other supply sources because of the pumping (electrical power) costs combined with the cost of purchasing the water.

6.2 GROUNDWATER

The District operates eight groundwater wells (Wells D1 through D6, Well D8, and Well D9) in the Denniston Well Field. The Denniston Well Field is mostly located to the east of the Half Moon Bay Airport, but there is one well (D9) which is to the west of the Half Moon Bay Airport. The District’s groundwater resource is described below.

6.2.1 Groundwater Basin Description

The District utilizes one of the San Francisco Bay Hydrologic Region groundwater basins known as the Half Moon Bay Terrace Basin (DWR Basin Number 2-22), as described in the Department of Water Resources Bulletin 118 (see basin description in Appendix H). The Half Moon Bay Terrace Basin is located along the northern San Mateo coast and encompasses 9,150 acres. The Midcoast Groundwater Study (2010), commissioned by the County of San Mateo, indicates that precipitation is the largest contributor of groundwater recharge for higher elevation areas of the Half Moon Bay Terrace Basin and streams are the largest contributor at lower elevation areas.



This groundwater basin is not adjudicated, and DWR has not identified the Half Moon Bay Terrace Basin as either in overdraft, or expected to be in overdraft.

The Half Moon Bay Terrace Basin is bounded by Martini Creek on the north, the Montara Mountains on the east, the Tunitas Creek on the south, and the Pacific Ocean on the west. Basin elevations range from sea level at the ocean to approximately 300 feet above sea level at the eastern boundary. There are many creeks that flow through the basin toward the Pacific Ocean, such as the Montara, San Vicente, Denniston, Pilarcitos, Purisima, and Lobitos Creeks.

The basin is composed of sedimentary materials and rests atop of Montara Mountain granite and the Purisima Formation. The sediments are believed to have been transported from adjacent hills and consist of unconsolidated deposits of sand, silt, and clay. The unconsolidated deposits consist of Holocene Alluvium and Pleistocene Marine Terrace deposits.

The District’s Denniston Well Field located within the Airport Terrace Subbasin. Both the District and the Montara Water and Sanitary District (MWSD) have production wells contained in the Airport Terrace Subbasin. The most significant recharge of the Airport Subbasin is caused by is infiltration recharge and groundwater inflow from Denniston Creek. Other Subbasins contained within the District’s service area include the El Granada Subbasin, the Arroyo de en Medio/Frenchmans Subbasin, and the Lower Pilarcitos Subbasin. As described in



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Section 6.2.2.2, the District has conducted a recent study of the potential for developing wells in the Lower Pilarcitos Subbasin.

6.2.2 Groundwater Studies

DWR Bulletin 118 (2014) does not include a complete groundwater budget estimate for the Half Moon Bay Terrace Groundwater Basin. The groundwater studies for estimating the Half Moon Bay Terrace Basin's budget estimate are discussed below.

6.2.2.1 Midcoast Groundwater Study

The Midcoast Groundwater Study, commissioned by the County of San Mateo, extended from northern Half Moon Bay to Devils Slide along Highway 1. The purpose of this three-phased groundwater study was to identify the groundwater yield that may be safely taken from San Mateo's Midcoast aquifers and encourage the development of a Groundwater Management Plan.

Phase I of the Midcoast Groundwater Study was performed by Balance Hydrologics, Inc. and included a comprehensive literature and data review of the groundwater basin (Woysner and others, April 2002). Kleinfelder subsequently prepared Phase II of the study (April 2009), which included depth-to-water measurements and pump tests in selected wells and a water balance assessment by subarea. Specific Phase II findings related to the Airport Subbasin are as follows:

- The Airport Subbasin is made up of the Airport Terrace, Denniston Upland and Denniston Stream Valley subareas. The San Vicente Upland and San Vicente Stream Valley subareas also contribute to the Airport Subbasin.
- Approximately 167 MGY of groundwater is pumped from the Airport Subbasin. These withdrawals consist of 55 MGY of average annual pumping by the District, 73 MGY of average annual pumping by the MWSO, about 31 MGY of extractions by approximately six agricultural wells, and approximately 8 MGY of withdrawals by about 87 domestic and other wells.
- The water table drops during dry years, but can quickly rebound during wet years.
- Based on prior studies, the 55-year precipitation record, monitoring data from two wells within the Airport subarea, and other factors, Kleinfelder estimates that the average annual inflow of 906 MGY to the basin equals the average annual output. As a result, the Phase II Report states that the Airport Subbasin appears to be in long-term hydrologic balance.
- The volume of Denniston Creek water that enters the Airport Terrace subarea is a significant recharge factor that is not well understood because long-term gaging data are not available. Estimating the water balance in the Airport Terrace subarea is difficult without a better understanding of this recharge.
- A 1991 study by Earth Sciences Associates concluded that at least 15 to 28 MGY of additional groundwater could be annually pumped from the Airport Subbasin without detrimental impacts.



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- The Kleinfelder study does not indicate whether or not additional groundwater is available for pumping due to significant hydrological uncertainties in the area.

In the subsequent Phase III Study prepared by Balance Hydrologics, Inc. (June 2010), the following findings were made with regard to the Airport Subbasin:

- Monitoring data indicate that groundwater storage was not as depleted as during previous droughts and storm recharge appeared normal during the 2009 dry season relative to pre-drought conditions.
- Groundwater levels were high in the Airport Aquifer when compared to the previous drought, 1987 to 1992. Static (not pumped) groundwater levels in MWSD wells were higher than pre-drought levels. Leaking underground storage tank site groundwater levels (in Princeton) were within a normal range.
- Previous investigations identified that baseflows in Denniston Creek provide significant recharge to the Airport Terrace through the dry season. During dry-season 2009, baseflows were gaged in Denniston Creek at two stations. The upper station was located at the canyon mouth below the reservoir, and the lower station was located below Capistrano Road at Princeton. Similar to findings during the previous drought, a net loss of flow was observed in the creek, which can be attributed to groundwater recharge and evapotranspiration. In addition, flows were compared to measurements taken in 1990, during the previous drought. Denniston Creek flowed continuously through dry-season 2009, with higher flows than were recorded during the scattered measurements made throughout the previous drought. The measurement with lowest flow was taken in June 1990; lower flows and drier conditions in general would have persisted through the dry season of 1990. This comparison of the 2009 flow data with 1990 measurements suggests that the current drought is less severe than the previous drought. Baseflows in 2009, however, were significantly lower than during 2008.
- In summary, groundwater storage was not as depleted as during previous droughts and storm recharge appeared normal during dry-season 2009 relative to pre-drought conditions.
- Groundwater recharge from Denniston Creek through the Airport Terrace is significant during the dry season. The agricultural irrigation ponds at the northeast portion of the Airport Subarea, filled from diversion of flow in San Vicente Creek, also should provide recharge to that portion of the Airport Subarea. Groundwater levels at Pillar Point Marsh support normal marsh conditions and conditions potentially allowing sea-water intrusion to occur were not observed.
- A 1987 study by Earth Science Associates and Luhdorff and Scalmanini Consulting Engineers estimates the usable groundwater storage for the Airport Terrace groundwater subbasin to be approximately 1,300 AF.
- Additional analysis should include developing dry-season groundwater contour maps to compare with those reported during the 1987 to 1992 drought.



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- Wells are available for continued monitoring and reported subsurface information are available for the sub-basin. A water balance model, drought analysis, and a groundwater flow model would assist groundwater management. Gaging Denniston Creek would greatly assist calibration of the models. In addition, the Airport Terrace is an ideal location for regional reference ET_0 monitoring. CIMIS only estimates ET_0 for the Midcoast and measured ET_0 would assist with calibration of all water balance models on the Midcoast.

6.2.2.2 [Lower Pilarcitos Creek Groundwater Basin Study](#)

In June of 2003, the District, along with Todd Engineers and Kennedy Jenks Consultants, finalized a comprehensive study for developing the Lower Pilarcitos Creek Groundwater Basin. The scope of the study was to assess the feasibility of developing drinking water wells in the Lower Pilarcitos Creek Groundwater Subbasin. The study found that if a well field were fully developed in Lower Pilarcitos Creek Groundwater Basin, the District could potentially increase its local water supply by a range of 129 to 259 MGY (depending on dry or wet season). The quality of water produced from five test wells in Lower Pilarcitos Creek Groundwater Basin found water to be suitable for potable uses when blended (ratio of 3:1) at the Nunes WTP with water from existing sources of supply. However, no action has been taken by the District since the study was completed.

6.2.3 Groundwater Management

Currently, a Groundwater Management Plan has not been developed for the Half Moon Bay Terrace Groundwater Basin or the Airport Subbasin.

6.2.3.1 [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 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 GSA and/or fail to adopt and implement a Groundwater Sustainability Plan (GSP).

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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"> June 30, 2017
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"> January 31, 2020 for critically overdrafted basins January 31, 2022 for high- and medium-priority basins not currently in overdraft
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"> January 31, 2040 for critically overdrafted basins January 31, 2042 for high- and medium-priority basins not currently in overdraft

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 Half Moon Bay Terrace groundwater basin is shown in Table 6-2. As shown, the Half Moon Bay Terrace basin has been ranked as a very low priority basin (see Appendix H for the ranking details for the basin).

Table 6-2. Groundwater Basin Prioritization for Sustainable Groundwater Management Act^(a)

Rank ^(b)	Basin Number	Basin Name	Overall Basin Ranking Score	Overall Basin Priority
308	2-22	Half Moon Bay Terrace	0.0	Very Low
^(a) CASGEM Groundwater Basin Prioritization Results, run version May 26, 2014. ^(b) Out of a total of 515 basins, of which 127 were high or medium priority basins.				

Under CASGEM, the District became a monitoring agency in the Half Moon Bay Terrace Basin, along with MWSD. The District established a monitoring well in the Airport subbasin of the Half Moon Bay Terrace Basin and reports elevations of this well seasonally to the state. In 2011, the District prepared a Groundwater Elevation Monitoring Plan for submittal to DWR for the CASGEM Program. A copy of the plan is provided in Appendix H.

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6.2.4 Historical Groundwater Production

A Coastal Development Permit (CDP) limits the annual total production from the District's Denniston Well Field to 130 MGY. It is assumed that production from the Denniston Well Field may decrease substantially during drought periods, due to lowering of the water table in the groundwater basin.

Historical groundwater pumpage from FY 2010/11 through FY 2014/15 is shown in Table 6-3. Average groundwater pumpage over the last 16 years has been about 20.2 MGY; however, during the last five years, average pumping has only been about 2.12 MGY.

Table 6-3. Retail: Groundwater Volume Pumped (DWR Table 6-1)

Groundwater Type	Location or Basin Name	2011	2012	2013	2014	2015
Alluvial Basin	Half Moon Bay Terrace Basin	3.2	0	0.67	2	4.71
TOTAL		3	0	1	2	5

NOTES: Volumes are in MG.

6.3 SURFACE WATER

The District receives surface water supplies from the Denniston and San Vicente Creeks, as permitted via water rights through the State. The State water rights permit for the Denniston Creek and San Vicente Creeks limit water diversions to no more than 4 cubic feet per second (CFS) annually.

The water supply from the Denniston Creek diversion is negatively impacted by the build-up of silt and plant growth. From 2009 to 2013, the District has dredged Denniston Creek to remove sediment. In 2009, the District was granted a permit to dredge 800 cubic yards of sediment the first year, and 400 cubic yards of sediment annually for the following four years. In 2013, the District's permit was amended to allow for the one-time work of clearing vegetation and dredging 1,000 linear feet of Denniston Creek upstream from the reservoir. The maintenance dredging projects have successfully dredged around the point of diversion and improved the rate of flow and quality of water diverted into the Denniston WTP. Normal year supplies from the District's Denniston surface water supplies are anticipated to be about 200 MGY.



Denniston Water Treatment Plant

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The Pilarcitos Creek infiltration wells, owned and operated by the District, is another source of surface water supplies. The Pilarcitos Creek infiltration wells are located in Pilarcitos Creek Canyon between Pilarcitos Lake and Highway 92. Operation of this well field is limited by a State-issued water rights license for the period from November 1 through March 31 of each year. The license limits the maximum pumping rate to 673 GPM and annual production to 117 MG. Because the production of these wells is dependent upon infiltration from the Pilarcitos Creek stream flow, their yield is extremely low during drought years. Normal year supplies from the Pilarcitos Wells are anticipated to be 48 to 50 MGY.

On February 11, 2015, the District completed a proposed Final Environmental Impact Report (EIR) for the Denniston/San Vicente Water Supply Project located southeast of the community of Moss Beach, in unincorporated San Mateo County, in the northern portion of the District's service area. The water supply improvements along Denniston and San Vicente Creeks would enable the expanded beneficial use of local water supply and thereby reduce dependence on current outside water sources. The Project would entail the installation of a permanent diversion structure and pump station to replace a semi-permanent structure currently in use on San Vicente Creek, as well as the replacement of approximately 2,000 feet of existing pipeline and installation of approximately 4,100 feet of new pipeline to convey San Vicente Creek water to the existing Denniston Reservoir pump station. The capacity of the Denniston WTP would be expanded to 1,500 GPM. In addition, a new booster pump station and 3,460 feet of new pipeline along Bridgeport Drive would augment water delivery into the existing distribution system. The Project would also allow for the expansion of ongoing sediment removal and maintenance activities within the existing Denniston Reservoir to ensure the long term ability to utilize the existing diversion at that location.

6.4 STORMWATER

In 1989, Congress passed amendments to the Clean Water Act requiring states to address the increasing problem of stormwater pollution entering storm drains. The state of California requires a National Pollutant Discharge Elimination System (NPDES) permit to regulate stormwater discharges. The San Mateo County Water Pollution Prevention Program (SMCWPPP) was adopted by San Mateo County to share stormwater pollution prevention tasks among its cities. The SMCWPPP includes a stormwater management plan that consists of five major pollution prevention and control sections. The major pollution prevention and control sections are summarized below:

- **Municipal maintenance activities:** Reduce pollutant load into waterways through street sweeping, cleaning catch basins and storm lines, and removing material from drainage channels.
- **Industrial & illicit discharge:** Control the releases of pollutants or non-stormwater to the storm drain system through response to calls from the public or discovered incidents in the field.
- **Public information/ participation:** Inform the general public on what causes stormwater pollution and what simple things can be done to prevent pollutants from entering storm drains.



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- **New development & construction:** Inform contractors of the Best Management Practices (BMPs) required on all construction projects in order to address pollution during construction projects, including sediment and erosion control.
- **Watershed & monitoring:** Conduct special scientific studies in order to determine effective prevention techniques.

In 2012, the SAM installed a 200,000-gallon passive underground stormwater retention basin beneath the Burnam Strip between Highway 1 and Obispo Road in El Granada. The underground stormwater retention basin was a vital component of the SAM's Wet Weather Flow Management Project (WWFMP). The stormwater retention basin has significantly advanced the SAM's ability to efficiently collect, temporarily store, and manage increased peak wet-weather flows carried by the 8-mile underground pipeline system that spans from Montara to Half Moon Bay. The Wet Weather Flow Retention Basin is in compliance with all regulatory guidelines including California Environmental Quality Act (CEQA), Local Coastal Plan and Local Coastal Program.

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

SAM is the wastewater and recycled water authority in the District's service area. SAM is responsible for providing secondary wastewater treatment to the City of Half Moon Bay, as well as two other coastal sanitary districts (Granada Community Services District and MWSD).

6.5.1 Recycled Water Coordination

As described in Chapter 2, the District has coordinated the development of this 2015 UWMP with SAM. SAM is an agency formed by a Joint Powers Authority agreement between the City of Half Moon Bay, the MWSD and the Granada Community Services District.

Currently, the District does not produce or sell recycled water to its customers. However, the District strongly supports the use of recycled water and plans to provide recycled water to customers in its service area who are able to use it in the future.

6.5.2 Wastewater Collection, Treatment, and Disposal

The SAM regional system includes over 100 miles of sewers (gravity, force mains, and transmission pipelines), over 20 pump and lift stations, a treatment plant and an ocean outfall. Wastewater generated within the District's service area is collected and conveyed by pump stations and transmission lines.

SAM's original wastewater treatment plant (WWTP), which started operation in 1984, provided secondary treatment capacity for up to 2 MGD. In 1999, a major plant upgrade was completed and expanded the permitted plant capacity to 4.0 MGD, which increased the plant's ability to handle peak wet weather flows.



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SAM's WWTP is currently designed to accommodate average dry weather flows of 4.0 MGD and peak hour wet-weather flows of 15 MGD. The WWTP's current average dry weather discharge is 1.5 MGD. Treated wastewater is discharged to the Pacific Ocean through a 20-inch pipeline, which extends 1,900 feet offshore to a depth of 40 feet. The SAM WWTP operates under a Waste Discharge Requirements (WDR) and a NPDES Permit issued by the Regional Water Quality Control Board.

SAM WWTP processes consist of primary treatment and secondary treatment. Primary treatment includes screening, grit removal and primary sedimentation. Secondary treatment consists of conventional activated sludge treatment and secondary clarification prior to ocean discharge. The following is a short description of each of the treatment processes at the SAM WWTP:

- **Headworks:** The headworks provide preliminary treatment of the incoming raw sewage to the SAM plant. Sewage passes through two mechanically cleaned bar screens to remove debris. Debris removed from the screens is compacted, dried and taken to the landfill. Following the bar screens, the flow is pumped to the grit removal tanks. Wastewater is pumped with eight self-priming pumps that are equipped with variable speed drives to allow pumping over the range of 0.3 MGD in the early morning to 15.0 MGD during peak hour wet weather flow.
- **Grit Removal:** The grit removal tanks use air bubbles to separate out non-organic materials such as sand and pebbles while allowing the organic material to pass on for treatment.
- **Primary Sedimentation Basins:** After grit removal, the flow is moved to the three primary sedimentation basins where the organic materials (sludge) from the wastewater can settle to the bottom. Once the sludge has settled to the bottom, it is pumped to the anaerobic digesters for further treatment. After the sludge (bio-solids) has been processed, it is dewatered and disposed of off-site.
- **Aeration Basins:** The clarified flow from the primary sedimentation basin is continually aerated with small bubbles to grow a culture of bacteria and microorganisms, which assimilate the dissolved and suspended wastes. The culture, known as "mixed liquor" forms large particles that can be settled out from the flow.
- **Secondary Clarifiers:** The flow is then moved to the secondary clarifiers where the particles from the mixed liquor settle to the bottom and is returned to the aeration basins to seed the incoming flow with the active culture. The clear water above flows to the chlorine contact tanks for further treatment.
- **Chlorine Contact Tanks:** Here, the flow is disinfected with liquid sodium hypochlorite.
- **Effluent Pump Station:** The pump station uses three vertical turbine pumps to convey the final effluent to the ocean via a deepwater outfall. Sodium bisulfite solution is added at the pump station to remove chlorine and prevent toxicity to fish and other marine life.
- **Ocean Outfall:** Final effluent is dispersed to the ocean waters through the deepwater ocean outfall.

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Table 6-4 summarizes the information on the collection of wastewater generated within the District's service area in 2015.

Table 6-4. Retail: Wastewater Collected Within Service Area in 2015 (DWR Table 6-2)

Wastewater Collection			Recipient of Collected Wastewater			
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? (optional)
City of Half Moon Bay	Metered	241	Sewer Authority Mid-Coastside	Sewer Authority Mid-Coastside	Yes	No
Granada Community Services District	Metered	136	Sewer Authority Mid-Coastside	Sewer Authority Mid-Coastside	Yes	No
Total Wastewater Collected from Service Area in 2015:		377				

NOTES: Volumes are in MG.

SAM's wastewater service area is larger than the District's water service area. It is estimated that 80 percent of SAM's total wastewater service area is located within the District's water service area (City of Half Moon Bay and Granada Community Services District). Table 6-5 identifies the treated wastewater disposed of within the service area in 2015, which includes wastewater that originated outside of the District.

Table 6-5. 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 (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
Sewer Authority Mid-Coastside	2100 foot ocean outfall, Pacific Ocean at a depth of 45 feet	2100 foot ocean outfall, Pacific Ocean at a depth of 45 feet	2,417,068,001	Ocean outfall	Yes	Secondary, Disinfected - 2.2	475	475	0	0
Total							475	475	0	0

NOTES: Volumes are in MG.

6.5.3 Recycled Water System

In 2009, the District and SAM cooperated in a recycled water pilot under Regional Water Board Order No. 91-042. SAM used a temporary auxiliary treatment process that included an ultra-filtration membrane module and ultraviolet disinfection. The recycled water met the requirements of Disinfected Secondary 2.2 Recycled Water in California Code of Regulations Title 22 Division 4 Chapter 3. The District distributed the recycled water by a water tanker to the Ocean Colony Golf Courses and the District also provided a temporary recycled water storage tank on-site at the golf course.

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In January 2015, the District approved the Guiding Principles for Recycled Water Agreement between the District, SAM, and MWSD, and established Phase 1 of the Recycled Water Project to consist of two components:

1. A recycled water treatment facility at the SAM plant, the capacity of which shall be designed, at a minimum, to serve recycled water to OCP's golf courses.
2. A recycled water transmission and distribution system for the District's service area including delivery to OCP's golf courses.

Since the Guiding Principles for Recycled Water Agreement between the District, SAM, and MWSD were approved in 2015, the District and SAM have been working on their respective roles in the Phase 1 project as defined by the Principles. In Phase 1, the District is responsible for distributing recycled water produced by SAM to Ocean Colony Partners (OCP) for use on OCP's golf courses, while SAM is responsible for designing and constructing recycled water treatment facilities to satisfy the water quality specified by the District. Currently, the OCP irrigation system serves 210 irrigated acres on the two OCP golf courses, and additional irrigation for Ritz Carlton Resort landscaping, a condominium complex adjacent to the Ocean Colony subdivision, greenbelt areas within the Ocean Colony subdivision, Miramontes Point Road landscaping and Spyglass subdivision park.

In December 2015, Kennedy/Jenks Consultants prepared the Phase 1 Recycled Water Project Water Quality and Quantity Evaluation Technical Memorandum, which provided water quality specifications and evaluated the facilities needed for recycled water distribution in Phase 1. These findings indicate that the treatment process that SAM will need to employ to meet OCP's requirements will be microfiltration/reverse osmosis of secondary effluent followed by either ultraviolet or chlorination disinfection. This treatment process will meet the California Code of Regulations Title 22 for Tertiary Recycled Water for unrestricted use and will meet OCP's water quality requirements. Because operational storage is provided on the golf course site, this TM suggests that recycled water facilities at SAM be sized to meet peak day irrigation demands at OCP, or 0.8 MGD (292 MGY). In addition, treatment facilities on SAM site should provide flow equalization upstream of the tertiary treatment and disinfection facilities, so these facilities can be reliably operated 24 hours per day, at OCP's peak day demand.

OCP has requested that the treatment and disinfection facilities be sized to a peak day demand of 0.8 MGD (292 MGY). This is 40 percent higher than the 0.57 MGD demand for the average day of the peak irrigating month and significantly impacts project costs. Project stakeholders are still exploring an alternative operating scenario in which OCP uses recycled water to meet its peak month, average day demand conditions, and then uses groundwater wells as a backup supply to meet peak day demands.

The District and SAM Recycled Water Committee's next step in determining the feasibility of the proposed Phase 1 project is to prepare a detailed cost estimate for the facilities based on a 25 percent preliminary design. The District does not include recycled water in its supply projections in this UWMP.



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6.5.4 Recycled Water Beneficial Uses

There has been strong community support and there have been multiple studies over the years by both SAM and the District on the feasibility of recycled water use. Discussions of recycled water, within the District's service area, have focused on:

- Turf irrigation (golf courses, cemeteries, parks); and
- Agricultural irrigation (crops, nurseries, cut flowers, tree farms); and
- Stream flow augmentation (Pilarcitos Creek).

OCP, one of the potential users of recycled water within the District's jurisdiction, has expressed interest in entering a long-term agreement with the District or SAM to purchase recycled water supplies for golf course and landscape irrigation purposes. Currently, groundwater, supplemented with water from the District, is being used to meet OCP's existing non-potable demands.

Another potential customer that could use recycled water for turf irrigation is a cemetery located approximately 5 miles east and 1,100 feet in elevation above the SAM WWTP. The cemetery currently irrigates approximately 80 acres of land, and plans on eventually expanding throughout its 505-acre property. Water usage has averaged about 0.2 MGD over an 8-month irrigation period. The use of recycled water at the cemetery would eliminate high quality water that is currently provided by the District and used solely for turf irrigation. By using recycled water at the cemetery, the District would also be able to increase water availability and reliability during dry periods. The obstacles for providing water to this user are the cost of the infrastructure (5 miles of new pipeline) and the cost of pumping water from sea level to an elevation of 1,100 feet.

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

As shown in Table 6-7, recycled water was not used in 2010 nor projected for use in 2015.

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

<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:	SAM
Name of Agency Operating the Recycled Water Distribution System:	Coastside County Water District

Table 6-7. Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual (DWR Table 6-5)

<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.
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6.5.5 Actions to Encourage and Optimize Future Recycled Water Use

In June 2015, Governor Jerry Brown passed Senate Bill 88 which exempts recycled water projects from the development and approval of building standards established in CEQA. In order to be exempt, the projects cannot affect wetlands or sensitive habitats and need to mitigate drought conditions. Because water recycling at the SAM WWTP will require a new pipeline across Pilarcitos Creek, a sensitive habitat, the SAM Recycled Water Project does not qualify for exemption from CEQA. However, Proposition 1, passed in November 2014, has encouraged the development of recycled water facilities by granting the state of California \$7.5 billion to appropriate to water quality, supply, and infrastructure improvement programs.

The primary entities of the Recycled Water Project are SAM as the recycled water provider, the District as the recycled water delivery agent, and OCP as the first, and currently only, customer for recycled water. However, there may be additional recycled water customers in the future. Because users pay for public utilities, the primary cost of the first phase of recycling is the main responsibility of its first user, OCP. This means that those costs must be affordable and within OCP's budget limitations.

Currently, the District does not offer recycled water to its customers. The primary obstacle the District faces in providing recycled water in its jurisdiction is the fact that the local wastewater authority is currently not producing recycled water and, therefore, not making recycled water available to the District to sell and distribute, and the high cost of required infrastructure to distribute recycled water. The District joined the Bay Area Recycled Water Coalition, a partnership of public agencies committed to developing recycled water as a resource for the residents of the San Francisco Bay area, as a means to procure funding for recycled water. The District requested, on behalf of the Mid-Coastside Region Water Reclamation Project, \$3.275 million dollars with a construction status listed as 2012. The funding source is the CALFED section of the Federal budget. Descriptions of the District's attempts to find outside funding from grants and loans can be found at: <http://www.samcleanswater.org/rw.htm>.

As shown in Table 6-8, the District does not include recycled water in its supply projections in this UWMP.

Table 6-8. 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 6-16)	Provide page location of narrative in UWMP



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6.6 DESALINATED WATER OPPORTUNITIES

Desalination is a process that removes dissolved minerals from seawater, brackish water or treated wastewater. Desalination would improve water quality and water supply reliability and may be considered a long-term option for the District, particularly if the opportunity arises to develop this resource on a regional basis. Technological advancements that reduce the energy intensity of this water supply option may make desalination more cost-effective in the future.

Recently, the Contra Costa Water District, East Bay Municipal Utility District, SFPUC, Santa Clara Valley Water District, and Zone 7 Water Agency have agreed that a 10 to 20 MGD desalination facility would be viable at Contra Costa Water District's Mallard Slough Pump Station. However, as of 2013, the project is still in the planning phase. According to the San Francisco Bay Hydrologic Region California Water Plan Update (2013), no other desalination projects have been pursued in this region.

6.7 EXCHANGES OR TRANSFERS

The District has had a direct supply from SFPUC's Hetch Hetchy system since the completion of the Crystal Springs Project in 1994. This ended the District's exclusive dependence on only local supplies. No additional water exchanges with other agencies are anticipated.

6.8 FUTURE WATER PROJECTS

The District has evaluated several projects for providing additional water supplies. The two future planned local water supply projects include:

- Diversions from San Vicente Creek, and
- Pilarcitos Creek Infiltration Well improvements.

These potential future water supply projects are summarized in Table 6-9 and described below.

Table 6-9. Retail: Expected Future Water Supply Projects or Programs (DWR Table 6-7)

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
Diversions from San Vicente Creek	No			2020	All Year Types	50-100
Pilarcitos Infiltration Well Field Improvements	No			2017	All Year Types	30-40

NOTES: Volumes are in MG.



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6.8.1 Diversions from San Vicente Creek

The San Vicente Creek Diversion and Pipeline Water Supply Project would entail the installation of a permanent diversion structure and pump station at the point of diversion, as well a new pipeline to convey San Vicente Creek water to the existing Denniston Reservoir pump station, and the expansion of the Denniston WTP. In addition, a new booster pump station and a new pipeline along Bridgeport Drive would augment water delivery into the existing distribution system. It is estimated that 50 to 100 MGY (150 to 300 AFY) may be available for diversion from San Vicente Creek if the required facilities are constructed.

With the completion of the San Vicente Creek Diversion Project, the overall reliability of the local District water supply system will increase through the maximization of local water supply usage, thereby providing more reliable service to District customers. The Project is scheduled to be fully completed by 2020.

6.8.2 Pilarcitos Creek Well Field Improvements

As described in Section 6.3, the District's license for use of the Pilarcitos Creek infiltration well field allows a maximum annual withdrawal of 117 MGY. During the 1970's and early 1980's, annual production from the wells during non-drought years was always above 60 MG, often above 80 MG, and sometimes over 100 MG. Since 2001, production has dropped below 40 MGY. It is estimated that annual production from this source could be increased by 30 to 40 MGY (92 to 122 AFY) by implementing a program to construct new wells to replace poorly producing wells and replace old inefficient pumps. The District plans to perform well rehabilitations in 2017.

6.9 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER

In years of normal precipitation, the District estimates that all four of its potable supply sources will have an average yield of 1,000 MGY. This assumes the following yields for each supply source:

- Up to 800 MGY from the SFPUC (Pilarcitos Lake and Upper Crystal Springs Reservoir);
- 150 MGY from the District's Denniston surface water;
- 5 MGY from the District's Denniston groundwater; and
- 45 MGY from the District's Pilarcitos Creek.

Table 6-10 summarizes the actual water supplies for the District. Table 6-11 summarizes the future projected water supplies for the District.



Table 6-10. 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)
Purchased or Imported Water	SFPUC	550	Drinking Water	
Groundwater	Denniston Wells	5	Drinking Water	
Surface water	Denniston Creek	69	Drinking Water	
Surface water	Pilarcitos Creek	42	Drinking Water	
Total		666		0

NOTES: Volumes are in MG.

Table 6-11. 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)
Purchased or Imported Water	SFPUC	800		800		800		800		800	
Groundwater	Denniston Wells	5		5		5		5		5	
Surface water	Denniston Creek	150		150		150		150		150	
Surface water	Pilarcitos Creek	45		45		45		45		45	
Total		1,000	0	1,000	0	1,000	0	1,000	0	1,000	0

NOTES: Volumes are in MG.

6.10 CLIMATE CHANGE IMPACTS TO SUPPLY

The issue of climate change has become an important factor in water resources planning in the State, and is frequently considered in urban water management planning purposes, though the extent and precise effects of climate change remain uncertain. As described by SFPUC in its Final Water Supply Availability Study for the City and County of San Francisco, there is convincing evidence that increasing concentrations of greenhouse gasses have caused and will continue to cause a rise in temperatures around the world, which will result in a wide range of changes in climate patterns. Moreover, there is evidence that a warming trend that occurred during the latter part of the 20th century will likely continue through the 21st 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. 6



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Based on these studies, climate change could result in the following types of water resource impacts, including impacts on the watersheds in the Bay Area (and those providing the District's local water supplies):

- 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;
- Long-term changes in watershed vegetation and increased incidence of wildfires that could affect water quality and quantity;
- 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.

Both SFPUC and BAWSCA participated in the 2013 update of the Bay Area Integrated Regional Water Management Plan (BAIRWMP), which includes an assessment of the potential climate change vulnerabilities of the region's water resources and identifies climate change adaptation strategies. In addition, SFPUC continues to study the effect of climate change on the RWS. These works are summarized below.

6.10.1 Bay Area Integrated Regional Water Management Plan

Climate change adaptation was established as an overarching theme for the 2013 BAIRWMP update. As stated in the BAIRWMP, identification of watershed characteristics that could potentially be vulnerable to future climate change is the first step in assessing vulnerabilities of water resources in the Bay Area Region. Vulnerability is defined as the degree to which a system is exposed to, susceptible to, and able to cope with or adjust to, the adverse effects of climate change. A vulnerability assessment was conducted in accordance with the DWR's *Climate Change Handbook for Regional Water Planning* and using the most current science available for the Region. The vulnerability assessment, summarized in Table 6-12, provides the main water planning categories applicable to the Region and a general overview of the qualitative assessment of each category with respect to anticipated climate change impacts.

6.10.2 SFPUC Climate Change Studies

SFPUC's assessment of the effects of climate change is an ongoing project requiring regular updating to reflect improvements in climate science, atmospheric/ocean modeling, and human response to the threat of greenhouse gas emissions. Climate change research by the SFPUC began in 2009 and continues to be refined. In its 2012 report "Sensitivity of Upper Tuolumne River Flow to Climate Change Scenarios," the SFPUC assessed the sensitivity of runoff into



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Hetch Hetchy Reservoir to a range of changes in temperature and precipitation due to climate change. Key conclusions from the report include the following:

- With differing increases in temperature alone, the median annual runoff at Hetch Hetchy would decrease by 0.7-2.1 percent from present-day conditions by 2040 and by 2.6-10.2 percent from present-day by 2100. Adding differing decreases in precipitation on top of temperature increases, the median annual runoff at Hetch Hetchy would decrease by 7.6-8.6 percent from present-day conditions by 2040 and by 24.7-29.4 percent from present-day conditions by 2100.
- In critically dry years, these reductions in annual runoff at Hetch Hetchy would be significantly greater, with runoff decreasing up to 46.5 percent from present day conditions by 2100 utilizing the same climate change scenarios.
- In addition to the total change in runoff, there will be a shift in the annual distribution of runoff. Winter and early spring runoff would increase and late spring and summer runoff would decrease.

Under all scenarios, snow accumulation would be reduced and snow would melt earlier in the spring, with significant reductions in maximum peak snow water equivalent under most scenarios.

Currently, the SFPUC is planning to conduct a comprehensive assessment of the potential effects of climate change on water supply. The assessment will incorporate an investigation of new research on the current drought and is anticipated to be completed in late 2016 or early 2017.

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Table 6-12. Summary of BAIWMP Climate Change Vulnerability Assessment

Vulnerability Areas	General Overview of Vulnerabilities
Water Demand	<p>Urban and Agricultural Water Demand – Changes to hydrology in the Region as a result of climate change could lead to changes in total water demand and use patterns. 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. Water treatment and distribution systems are most vulnerable to increases in maximum day demand.</p>
Water Supply	<p>Imported Water – Imported water derived from the Sierra Nevada sources and Delta diversions provide 66 percent of the water resources available to the Region. Potential impacts on the availability of these sources resulting from climate change directly affect the amount of imported water supply delivered to the Region.</p> <p>Regional Surface Water – Although future projections suggest that small changes in total annual precipitation over the Region will not change much, there may be changes to when precipitation occurs with reductions in the spring and more intense rainfall in the winter.</p> <p>Regional Groundwater – Changes in local hydrology could affect natural recharge to the local groundwater aquifers and the quantity of groundwater that could be pumped sustainably over the long-term in some areas. Decreased inflow from more flashy or more intense runoff, increased evaporative losses and warmer and shorter winter seasons can alter natural recharge of groundwater. Salinity intrusion into coastal groundwater aquifers due to sea-level rise could interfere with local groundwater uses. Furthermore, additional reductions in imported water supplies would lead to less imported water available for managed recharge of local groundwater basins and potentially more groundwater pumping in lieu of imported water availability.</p>
Water Quality	<p>Imported Water – For sources derived from the Delta, sea-level rise could result in increases in chloride and bromide (a disinfection by-product (DBP) precursor that is also a component of sea water), potentially requiring changes in treatment for drinking water. Increased temperature could result in an increase in algal blooms, taste and odor events, and a general increase in DBP formation.</p> <p>Regional Surface Water – Increased temperature could result in lower dissolved oxygen in streams and prolong thermocline stratification in lakes and reservoirs forming anoxic bottom conditions and algal blooms. Decrease in annual precipitation could result in higher concentrations of contaminants in streams during droughts or in association with flushing rain events. Increased wildfire risk and flashier or more intense storms could increase turbidity loads for water treatment.</p> <p>Regional Groundwater – Sea-level rise could result in increases in chlorides and bromide for some coastal groundwater basins in the Region. Water quality changes in imported water used for recharge could also impact groundwater quality.</p>
Sea-Level Rise	<p>Sea-level rise is additive to tidal range, storm surges, stream flows, and wind waves, which together will increase the potential for higher total water levels, overtopping, and erosion.</p> <p>Much of the bay shoreline is comprised of low-lying diked baylands which are already vulnerable to flooding. In addition to rising mean sea level, continued subsidence due to tectonic activity will increase the rate of relative sea-level rise.</p> <p>As sea-level rise increases, both the frequency and consequences of coastal storm events, and the cost of damage to the built and natural environment, will increase. Existing coastal armoring (including levees, breakwaters, and other structures) is likely to be insufficient to protect against projected sea-level rise. Crest elevations of structures will have to be raised or structures relocated to reduce hazards from higher total water levels and larger waves.</p>
Flooding	<p>Climate change projections are not sensitive enough to assess localized flooding, but the general expectation is that more intense storms would occur thereby leading to more frequent, longer and deeper flooding.</p> <p>Changes to precipitation regimes may increase flooding.</p> <p>Elevated Bay elevations due to sea-level rise will increase backwater effects exacerbating the effect of fluvial floods and storm drain backwater flooding.</p>
Ecosystem and Habitat	<p>Changes in the seasonal patterns of temperature, precipitation, and fire due to climate change can dramatically alter ecosystems that provide habitats for California's native species. These impacts can result in species loss, increased invasive species ranges, loss of ecosystem functions, and changes in vegetation growing ranges.</p> <p>Reduced rain and changes in the seasonal distribution of rainfall may alter timing of low flows in streams and rivers, which in turn would have consequences for aquatic ecosystems. Changes in rainfall patterns and air temperature may affect water temperatures, potentially affecting coldwater aquatic species.</p> <p>Bay Area ecosystems and habitat provide important ecosystem services, such as: carbon storage, enhanced water supply and quality, flood protection, food and fiber production. Climate change is expected to substantially change several of these services.</p> <p>The region provides substantial aquatic and habitat-related recreational opportunities, including: fishing, wildlife viewing, and wine industry tourism (a significant asset to the region) that may be at risk due to climate change effects.</p>
Hydropower	<p>Currently, several agencies in the Region produce or rely on hydropower produced outside of the Region for a portion of their power needs. As the hydropower is produced in the Sierra, there may be changes in the future in the timing and amount of energy produced due to changes in the timing and amount of runoff as a result of climate change.</p> <p>Some hydropower is also produced within the region and could also be affected by changes in the timing and amount of runoff.</p>

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CHAPTER 7

Water Supply Reliability Assessment

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 imported water available to SFPUC's retail and wholesale customers is constrained by hydrology, physical facilities, and the institutional parameters that allocate the water supply of the Tuolumne River. Due to these constraints, the SFPUC is very dependent on reservoir storage to firm-up its water supplies, especially during drought cycles.

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 both the Nunes WTP and the Denniston WTP and results from raw source water tests. 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 SFPUC Supplies

As stated in Chapter 6, approximately 88 percent of the District's water supply was purchased from the SFPUC from FY 2005/06 through FY 2014/15. The vulnerability of SFPUC's water supplies and the management strategies for addressing these vulnerabilities are discussed below.

7.1.1.1 Reliability of SFPUC's Regional Water System

SFPUC's WSIP provides goals and objectives to improve the delivery reliability of the RWS, including water supply reliability. The goals and objectives of the WSIP related to water supply are:

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Program Goal	System Performance Objective
Water Supply – <i>meet customer water needs in non-drought and drought periods</i>	<ul style="list-style-type: none"> • Meet average annual water demand of 265 MGD from SFPUC’s watersheds for retail and wholesale customers during non-drought years for system demands through 2018. • Meet dry-year delivery needs through 2018 while limiting rationing to a maximum 20 percent system-wide reduction in water service during extended droughts. • Diversify water supply options during non-drought and drought periods. • Improve use of new water sources and drought management, including groundwater, recycled water, conservation, and transfers.

The adopted WSIP had several water supply elements to address the WSIP water supply goals and objectives. The following provides the water supply elements for all year types and the dry-year projects of the adopted WSIP to augment all year type water supplies during drought. The SFPUC historically has met demand in its service area in all year types from its watersheds. They are the:

- Tuolumne River watershed;
- Alameda Creek watershed; and
- San Mateo County watersheds.

In general, 85 percent of the supply comes from the Tuolumne River through Hetch Hetchy Reservoir and the remaining 15 percent comes from the local watersheds through the San Antonio, Calaveras, Crystal Springs, Pilarcitos and San Andreas Reservoirs. The adopted WSIP retains this mix of water supply for all year types.

The adopted WSIP includes the following water supply projects to meet dry-year demands with no greater than 20 percent system-wide rationing in any one year:

- **Calaveras Dam Replacement Project:** Calaveras Dam is located near a seismically active fault zone and was determined to be seismically vulnerable. To address this vulnerability, the SFPUC is constructing a new dam of equal height downstream of the existing dam. The Environmental Impact Report was certified by the San Francisco City Planning Commission in 2011, and construction is now ongoing. Construction of the new dam is slated for completion in 2018; the entire project should be completed in 2019.
- **Alameda Creek Recapture Project:** The Alameda Creek Recapture Project will recapture the water system yield lost due to instream flow releases at Calaveras Reservoir or bypassed around the Alameda Creek Diversion Dam and return this yield to the RWS through facilities in the Sunol Valley. Water that naturally infiltrates from Alameda Creek will be recaptured into an existing quarry pond known as Surface Mining Permit-24 Pond F2. The project will be designed to allow the recaptured water to be pumped to the Sunol Valley Water Treatment Plant or to San



Antonio Reservoir. The project's Draft Environmental Impact Report will be released in the spring of 2016, and construction will occur from spring 2017 to fall 2018.

- **Lower Crystal Springs Dam Improvements:** The Lower Crystal Springs Dam Improvements were substantially completed in November 2011. While the project has been completed, permitting issues for reservoir operation have become significant. While the reservoir elevation was lowered due to Division of Safety of Dams restrictions, the habitat for the Fountain Thistle, an endangered plant, followed the lowered reservoir elevation. Raising the reservoir elevation now requires that new plant populations be restored incrementally before the reservoir elevation is raised. The result is that it may be several years before the original reservoir elevation can be restored.
- **Regional Groundwater Storage and Recovery Project:** The Groundwater Storage and Recovery Project is a strategic partnership between SFPUC and three San Mateo County agencies: the California Water Service Company (serving South San Francisco and Colma), the City of Daly City, and the City of San Bruno. The project seeks to balance the management of groundwater and surface water resources in a way that safeguards supplies during times of drought. During years of normal or heavy rainfall, the project would provide additional surface water to the partner agencies in San Mateo County, allowing them to reduce the amount of groundwater that they pump from the South Westside Groundwater Basin. Over time, the reduced pumping would allow the aquifer to recharge and result in increased groundwater storage of up to 20 billion gallons. The project's Final Environmental Impact Report was certified in August 2014, and the project also received Commission approval that month. The well station construction contract Notice to Proceed was issued in April 2015, and construction is expected to be completed in spring 2018.
- **2 MGD Dry-Year Water Transfer:** In 2012, the dry-year transfer was proposed between the Modesto Irrigation District and SFPUC. Negotiations were terminated because an agreement could not be reached. Subsequently, the SFPUC is having ongoing discussions with the Oakdale Irrigation District for a one-year transfer agreement with SFPUC for 2 MGD (2,240 AF).

To achieve its target of meeting at least 80 percent of its customer demand during droughts at 265 MGD, the SFPUC must successfully implement the dry-year water supply projects included in the WSIP.



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Furthermore, the permitting obligations for the Calaveras Dam Replacement Project and the Lower Crystal Springs Dam Improvements include a combined commitment of 12.8 MGD for instream flows on average. When this is reduced for an assumed Alameda Creek Recapture Project recovery of 9.3 MGD, the net loss of water supply is 3.5 MGD. SFPUC's participation in regional water supply reliability efforts, such as the Bay Area Regional Desalination Project (BARDP), additional water transfers, and other projects may help to make up for this shortfall.

In the WSIP 2015 Year in Review Newsletter, the WSIP was stated to be over 90 percent complete, and that all of the projects within San Francisco have been completed. Ultimately, these WSIP upgrades are critical to the Hetch Hetchy Regional Water System, and will help ensure the future seismic and delivery reliability of these critical regional pipelines.

7.1.1.2 Projected SFPUC System Supply Reliability

The SFPUC has provided information on the projected SFPUC system reliability based on the historical hydrologic period (see Table 3 in Appendix I). These projections assume that the wholesale customers are able to purchase 184 MGD from the RWS through 2040 and the implementation of the dry-year water supply projects included in the WSIP. The wholesale customers have adopted the Tier Two Water Shortage Allocation Plan (WSAP), the second component of the WSAP, which allocates the collective wholesale customer share amount each of the 26 wholesale customers. Compared to the reliability projections that were provided in the previous 2010 UWMP, these projections indicate higher shortages and lower wholesale allocations for dry years 2 and 3 and higher required rationing estimates in multi-year droughts (see Table 1 and Table 2 in Appendix I). These differences are due to the inclusion of the temporary constraint on the Crystal Springs Reservoir storage and an in-stream flow requirement below the Crystal Springs Reservoir, which was not included in the previous 2010 analysis.

7.1.1.3 Impact of Recent SFPUC Actions on Dry Year Reliability

In adopting the Calaveras Dam Replacement Project and the Lower Crystal Springs Dam Improvements Project, the SFPUC is committed to providing fishery flows below Calaveras Dam and Lower Crystal Springs Dam, as well as bypass flows below Alameda Creek Diversion Dam. The fishery flow schedules for Alameda Creek and San Mateo Creek represent a potential decrease in available water supply of an average annual 9.3 MGD and 3.5 MGD, respectively with a total of 12.8 MGD average annually. The Alameda Creek Recapture Project will replace the 9.3 MGD of supply lost to Alameda Creek fishery flows. Therefore, the remaining 3.5 MGD of fishery flows for San Mateo Creek will potentially create a shortfall in meeting SFPUC's demands of 265 MGD and slightly increase SFPUC's dry-year water supply needs.

The adopted WSIP water supply objectives include: (1) meeting a target delivery of 265 MGD through 2018; and (2) rationing at no greater than 20 percent system-wide in any one year of a drought. As a result of the fishery flows, SFPUC may not be able to meet these objectives between 2015 and 2018. Participation in the BARDP and additional water transfers may help manage the water supply loss associated with the fishery flows.



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As a result of the ISGs, the SFPUC has a responsibility to provide 184 MGD to its wholesale customers in perpetuity, regardless of demand. Therefore, the current projections for purchase requests through 2018 remain at 265 MGD, which includes wholesale and retail demand. However, in the last decade including the current drought, SFPUC deliveries have been below this level, as illustrated in Table 7-1.

Table 7-1. Water Deliveries in San Francisco Regional Water System Service Area

Fiscal Year	Total Deliveries, MGD
2005-06	247.5
2006-07	257.0
2007-08	254.1
2008-09	243.4
2009-10	225.2
2010-11	219.9
2011-12	220.5
2012-13	223.9
2013-14	222.3
2014-15	196.0

Source: SFPUC FY09-10 and FY 2014-15 J-Table Line 9 "Total System Usage" plus 0.7 MGD for Lawrence Livermore National Laboratory use and 0.4 MGD for Groveland. No groundwater use is included in this number. Non-revenue water is included.

Under the current drought to date, the SFPUC has called for, but has not mandated, a 10 percent system-wide reduction since January 2014. The SFPUC has not yet been compelled to declare a water shortage emergency and impose mandatory system-wide rationing because its customers have exceeded the 10 percent voluntary system-wide reduction in conjunction with the state-wide mandatory reductions assigned by the State Water Resources Control Board. If current drought conditions worsen between 2015 and 2018, and the SFPUC determines that system-wide rationing would need to be imposed, then the SFPUC would issue a declaration of a water shortage emergency in accordance with Water Code Section 350 and implement rationing in accordance with the WSA and WSAP.

7.1.1.4 Bay Area Water Conservation and Supply Agency

The District is a member of the Bay Area Water Supply and Conservation Agency (BAWSCA). BAWSCA provides regional water reliability planning and conservation programming for the benefit of its 26 member agencies that purchase wholesale water supplies from the SFPUC. Collectively, the BAWSCA member agencies deliver water to over 1.74 million residents and nearly 40,000 commercial, industrial, and institutional accounts in Alameda, San Mateo and Santa Clara Counties.

BAWSCA also represents the collective interests of these wholesale water customers on all significant technical, financial and policy matters related to the operation and improvement of SFPUC's RWS.



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7.1.1.4.1 Regional Water Demand and Conservation Projections

In September 2014, BAWSCA completed the Regional Water Demand and Conservation Projections Report (Demand Study). The goal of the Demand Study was to develop transparent, defensible, and uniform demand and conservation savings projections for each wholesale customer using a common methodology to support both regional and individual agency planning efforts. The Demand Study projections were incorporated into BAWSCA's Long-Term Reliable Water Supply Strategy (Strategy) discussed below.

Through the Demand Study process, BAWSCA and the wholesale customers (1) quantified the total average-year water demand for each BAWSCA member agency through 2030, (2) quantified passive and active conservation water savings potential for each individual wholesale customer through 2040, and (3) identified conservation programs for further consideration for regional implementation by BAWSCA. The Demand Study projected that by 2040 the collective active conservation efforts of the wholesale customers would yield an additional 16 MGD in savings beyond what has already been achieved for the BAWSCA service area. Based on the revised water demand projections, the identified water conservation savings, and other actions, the collective purchases of the BAWSCA member agencies from the SFPUC are projected to stay below 184 MGD through 2018.

As part of the Demand Study, each wholesale customer was provided with a demand model that can be used to support ongoing demand and conservation planning efforts, including UWMP preparation.

7.1.1.4.2 Long Term Reliable Water Supply Strategy

BAWSCA's Strategy was developed to quantify the water supply reliability needs of the BAWSCA member agencies through 2040, identify the water supply management projects and/or programs (projects) that could be developed to meet those needs, and prepare an implementation plan for the Strategy's recommendations. Successful implementation of the Strategy is critical to ensuring that there will be sufficient and reliable water supplies for the BAWSCA member agencies and their customers in the future.

Phase II of the Strategy was completed in February 2015 with release of the Strategy Phase II Final Report. The water demand analysis done during Phase II of the Strategy resulted in the following key findings:

- There is no longer a regional normal year supply shortfall; and
- There is a regional drought year supply shortfall of up to 43 MGD.

In addition, the project evaluation analysis done during Phase II of the Strategy resulted in the following key findings:

- Water transfers score consistently high across the various performance measures and within various portfolio constructs and thus represent a high priority element of the Strategy.



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- Desalination also potentially provides substantial yield, but its high effective costs and intensive permitting requirements make it a less attractive drought year supply alternative. However, given the limited options for generating significant yield for the region, desalination warrants further investment in information as a hedge against the loss of local or other imported supplies.
- The other potential regional projects provide tangible, though limited, benefit in reducing dry year shortfalls given the small average yields in drought years¹.

BAWSCA is now implementing the Strategy recommendations in coordination with BAWSCA member agencies. Strategy implementation will be adaptively managed to account for changing conditions and to ensure that the goals of the Strategy are met efficiently and cost-effectively. Due to the size of the supply and reliability need, and the uncertainty around yield of some Strategy projects, BAWSCA will need to pursue multiple actions and projects in order to provide some level of increased water supply reliability for its member agencies. On an annual basis, BAWSCA will reevaluate Strategy recommendations and results in conjunction with development of the work plan for the following year. In this way, actions can be modified to accommodate changing conditions and new developments.

7.1.1.5 Tier One Drought Allocations

In July 2009, the wholesale customers and San Francisco adopted the WSA, which includes a WSAP to allocate water from the RWS to retail and wholesale customers during system-wide shortages of 20 percent or less (the Tier One Plan). The WSAP has two components:

- The Tier One Plan, which allocates water between San Francisco and the wholesale customers collectively; and
- The Tier Two Plan, which allocates the collective wholesale customer share among the wholesale customers.

The Tier One Plan, which allocates water between San Francisco and the wholesale customers collectively, distributes water based on the level of shortage as shown in Table 7-2.

Table 7-2. Share of Available SFPUC Supplies Under Various Shortages

Level of System Wide Reduction in Water Use Required	SFPUC Share, percent	Wholesale Customers Share, percent
5 percent or less	35.5	64.5
6 percent through 10 percent	36.0	64.0
11 percent through 15 percent	37.0	63.0
16 percent through 20 percent	37.5	62.5

¹ While specific projects were not developed or evaluated for the Strategy, regional discussions on indirect/direct potable reuse have accelerated dramatically in the last year, making this a water supply management project BAWSCA is tracking closely.



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The Tier One Plan allows for voluntary transfers of shortage allocations between the SFPUC and any wholesale customer and between wholesale customers themselves. In addition, water “banked” by a wholesale customer, through reductions in usage greater than required, may also be transferred.

The Tier One Plan will expire at the end of the term of the WSA in 2034, unless mutually extended by San Francisco and the wholesale customers.

The Tier One Plan applies only when the SFPUC determines that a system-wide water shortage exists and issues a declaration of a water shortage emergency under California Water Code Section 350. Separate from a declaration of a water shortage emergency, the SFPUC may opt to request voluntary cutbacks from San Francisco and the wholesale customers to achieve necessary water use reductions during drought periods. During the current drought to date, the SFPUC has requested, but has not mandated, a 10 percent system-wide reduction since January 2014. The SFPUC has not yet been compelled to declare a water shortage emergency and implement the Tier One Plan because its customers have exceeded the 10 percent voluntary system-wide reduction in conjunction with the state-wide mandatory reductions assigned by the State Water Resources Control Board.

7.1.1.6 Tier Two Drought Allocations

In 2010, the wholesale customers negotiated and adopted the Tier Two Drought Implementation Plan (Tier Two Plan), which allocates the collective wholesale customer share among each of the 26 wholesale customers. This Tier Two Plan allocation is based on a formula that takes into account multiple factors for each wholesale customer including:

- Individual Supply Guarantee;
- Seasonal use of all available water supplies; and
- Residential per capita use.

The water supplies made available from the SFPUC will be allocated to the individual wholesale customers in proportion to each wholesale customer’s Allocation Basis, expressed in MGD, which in turn is the weighted average of two components. The first component is the fixed wholesale customer’s ISG as stated in the WSA. The second component is the Base/Seasonal Component, which is variable and is calculated using each wholesale customers total monthly water use from all available water supplies during the three consecutive years prior to the onset of the drought. The second component is accorded twice the weight of the first component in calculating the Allocation Basis. Minor adjustments to the Allocation Basis are then made to ensure a minimum cutback level, a maximum cutback level, and a minimum level of supply to meet health and safety needs for certain wholesale customers.

Each wholesale customer’s Allocation Factor, which represents its percentage allocation of the total available water supplies, is calculated from its proportionate share of the total of all wholesale customers’ Allocation Bases. The final shortage allocation for each wholesale customer is determined by multiplying the amount of water available to the wholesale customers’ collectively under the Tier One Plan, by the wholesale customer’s Allocation Factor.



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The Tier Two Plan requires that the Allocation Factors be calculated by BAWSCA each year in preparation for a potential water shortage emergency. As the wholesale customers change their water use characteristics (e.g., increases or decreases in SFPUC purchases and use of other water sources, changes in monthly water use patterns, or changes in residential per capita water use), the Allocation Factor for each wholesale customer will also change.

For long-term planning purposes, each wholesale customer has been provided with the Tier Two Allocation Factors calculated by BAWSCA based upon the most recent normal year to determine its share of available RWS supplies. However, actual allocations to each wholesale customer during a future shortage event will be calculated in accordance with the Tier Two plan at the onset of the shortage.

The current Tier Two Plan will expire in 2018 unless extended by the wholesale customers.

7.1.1.7 Projected SFPUC Supplies under Various Hydrologic Conditions

In drought years, the SFPUC will formally declare a water shortage between April 15 and April 30. At this time, the SFPUC will declare the magnitude of the water shortage and determine the need for voluntary or mandatory actions. On June 1, final drought allocations will be issued for the supply year beginning on July 1 through June 30. In addition, monthly water budgets will become effective July 1. Excess use charges will be implemented at the same time the monthly water budgets are implemented.

Since the District purchases anywhere from 70 percent to 90 percent of their water supply from the SFPUC, these agreements are critical to the District's drought planning and analysis. Table 7-3 summarizes the District's allocation from SFPUC under various hydrologic conditions.

Table 7-3. Projected SFPUC Supply Under Various Hydrologic Conditions

	Normal Year	Single Dry Year	Multiple Dry Years		
			Year 1	Year 2	Year 3
SFPUC RWS Shortage	0%	10%	10%	22%	22%
Wholesale Allocation, MGD	184	152.6	152.6	129.2	129.2
District's Allocation, MGD	2.18	1.82	1.82	1.65	1.65
District's Allocation, MGY	800	662	662	602	602

Source: Coastside County Water District Water Shortage Contingency Plan (Calculated January 2016).

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:



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- **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 7-4 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.

Table 7-4. Retail: Bases 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	2002	1,087	100%
Single-Dry Year	1977	806	74%
Multiple-Dry Years 1st Year	1988	806	74%
Multiple-Dry Years 2nd Year	1989	623	57%
Multiple-Dry Years 3rd Year	1990	575	53%

NOTES: Volumes are in MG.

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 Normal Year supplies are anticipated to be as follows:

- Up to about 800 MGY of purchased supplies from SFPUC;
- About 45 MGY from the District’s Pilarcitos Creek wells;



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- About 5 MGY of groundwater from the District’s Denniston Project; and
- About 150 MGY of surface water from the District’s Denniston Project.

The District plans to use its available local supplies first, and then purchase supplies from the SFPUC as needed to meet the Normal Year demands. As described in Chapter 4, the District’s Normal Year demands are from the Maddaus DSS Model’s projected demands with plumbing code.

As shown in Table 7-5, the District’s Normal Year supplies are adequate to meet projected Normal Year demands.

Table 7-5. Retail: Normal Year Supply and Demand Comparison (DWR Table 7-2)

	2020	2025	2030	2035	2040 (Opt)
Supply totals (autofill from Table 6-9)	1,000	1,000	1,000	1,000	1,000
Demand totals (autofill from Table 4-3)	671	661	648	669	692
Difference	329	339	352	331	308

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

7.3.2 Single Dry Year

The District’s Single Dry Year supplies are anticipated to be as follows:

- Up to about 662 MGY of purchased supplies from SFPUC (about a 17 percent reduction from Normal Year SFPUC supplies);
- About 20 MGY from the District’s Pilarcitos Creek wells (a 56 percent reduction from Normal Year supplies);
- About 5 MGY of groundwater from the District’s Denniston Project (a 0 percent reduction from Normal Year supplies); and
- About 100 MGY of surface water from the District’s Denniston Project (a 33 percent reduction from Normal Year supplies).

In Single Dry Years, the District plans to use its available local supplies first, and then purchase the maximum available supplies from the SFPUC to minimize required demand reductions by its customers. The District’s Single Dry Year demands are assumed to be the same as Normal Year demands.

As shown in Table 7-6, the District’s Single Dry Year supplies are adequate to meet projected Single Dry Year demands.



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Table 7-6. Retail: Single Dry Year Supply and Demand Comparison (DWR Table 7-3)

	2020	2025	2030	2035	2040 (Opt)
Supply totals	787	787	787	787	787
Demand totals	671	661	648	669	692
Difference	116	126	139	118	95

NOTES: Volumes are in MG.

7.3.3 Multiple Dry Year

The District's Multiple Dry Year potable supplies are anticipated to be as follows:

- First Year
 - District supplies will be the same as the Single Dry Year supplies (see discussion above).
- Second Year
 - Up to about 602 MGY of purchased supplies from SFPUC (about a 25 percent reduction from Normal Year SFPUC supplies);
 - About 8 MGY from the District's Pilarcitos Creek wells (an 82 percent reduction from Normal Year supplies);
 - About 5 MGY of groundwater from the District's Denniston Project (a 0 reduction from Normal Year supplies); and
 - About 50 MGY of surface water from the District's Denniston Project (a 67 percent reduction from Normal Year supplies).
- Third Year
 - Up to about 602 MGY of purchased supplies from SFPUC (about a 25 percent reduction from Normal Year SFPUC supplies);
 - About 5 MG from the District's Pilarcitos Creek wells (an 89 percent reduction from Normal Year supplies);
 - About 5 MG of groundwater from the District's Denniston Project (a 0 percent reduction from Normal Year supplies); and
 - About 25 MG of surface water from the District's Denniston Project (an 83 percent reduction from Normal Year supplies).

It should be noted that if the District implements Stage 3 of its water shortage contingency plan, the District would implement drought allocations for its residential customers and no longer provide raw water to its one temporary customer, the Skylawn Cemetery. Therefore, the District will likely take advantage of the 50 MGY interruptible supplies that it normally provides to the Skylawn Cemetery for irrigation purposes. These supplies would no longer be delivered to the



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Skylawn Cemetery and would then become available to the District to meet other more critical water demand needs.

As in Single Dry Years, in Multiple Dry Years, the District plans to use its available local supplies first, and then purchase the maximum available supplies from the SFPUC to minimize required demand reductions by its customers.

The District's projected Multiple Dry Year potable demands assume the following reductions:

- Demand reductions in the first year are assumed to be consistent with the Single Dry Year demands in which the District's Single Dry Year demands are assumed to be the same as Normal Year demands.
- Demands in the second year of a three-year multiple dry year period are assumed to be reduced from the first year of the three-year multiple dry period and are assumed to be reduced by 4 percent; these reductions are consistent with those assumed under Stage 1 of the District's Water Shortage Contingency Plan.
- Demands in the third year of a three-year multiple dry year period are assumed to be further reduced from the first and second years of the three-year multiple dry period and are assumed to be reduced by 8 percent; these reductions are consistent with those assumed under Stage 2 of the District's Water Shortage Contingency Plan.

As shown in Table 7-7 with a reduction in demands as a result of water conservation during Multiple Dry Years 2 and 3, the District's Multiple Dry Year supplies are adequate to meet projected Multiple Dry Year demands.

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

		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	787	787	787	787	787
	Demand totals	671	661	648	669	692
	Difference	116	126	139	118	95
Second year	Supply totals	665	665	665	665	665
	Demand totals	644	634	622	642	665
	Difference	21	31	43	23	0
Third year	Supply totals	637	637	637	637	637
	Demand totals	617	608	596	615	637
	Difference	20	29	41	22	0

NOTES: Volumes are in MG.



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7.4 REGIONAL SUPPLY RELIABILITY

The District's local water supply is being optimized and maximized through a number of actions. The purpose of these actions are to maximize the use of local water resources and minimize the need to import from other regions.

From 2009 to 2013, the District has dredged Denniston Creek to remove sediment. In 2009, the District was granted a permit to dredge 800 cubic yards of sediment the first year, and 400 cubic yards of sediment annually for the following four years. In 2013, the District's permit was amended to allow for the one-time work of clearing vegetation and dredging 1,000 linear feet of Denniston Creek upstream from the reservoir. The maintenance dredging projects have successfully dredged around the point of diversion and improved the rate of flow and quality of water diverted into the Denniston WTP.

In 2013, the District completed the Denniston Water Treatment Plant Improvement Project. The improvements did not expand the existing treatment capacity of the facilities, but allow the District's facilities to treat water of higher turbidity, and provide a more reliable and efficient treatment of local water supplies. Also, as discussed in *Section 6.8 Future Water Projects*, the District has two future planned local water supply projects including:

- Diversions from San Vicente Creek; and
- Pilarcitos Creek Infiltration Well improvements.

The development of these potential projects would further enhance the District's local supplies and minimize the need for imported supplies.



CHAPTER 8

Water Shortage Contingency Planning

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 updated WSCP was adopted by the District Board of Directors on September 13, 2016 and a copy is provided in Appendix J.

8.1 STAGES OF ACTION

The District’s WSCP provides five stages of response based on increasing severity, as progressively more serious conditions warrant. This type of response would be appropriate to 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 five stages of action as follows:

- Stage 1 – Water Shortage Advisory
 - Relies on voluntary cooperation
 - Expected reduction up to 5 percent
- Stage 2 – Water Shortage Warning
 - Mandatory restrictions on water use
 - Expected reduction up to 10 percent
- Stage 3 – Water Shortage Emergency
 - Mandatory restrictions and prohibitions
 - Expected reduction up to 20 percent
- Stage 4 – Severe Water Shortage Emergency
 - Mandatory restrictions and water allocations
 - Expected reduction up to 30 percent
- Stage 5 – Critical Water Shortage Emergency
 - Mandatory measures, penalties, and rate surcharges
 - Expected reduction up to 50 percent

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



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

Stage	Complete Both	
	Percent Supply Reduction ¹	Water Supply Condition
1	5%	Water Shortage Advisory
2	10%	Water Shortage Warning
3	20%	Water Shortage Emergency
4	30%	Severe Water Shortage Emergency
5	50%	Critical Water Shortage Emergency

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

The SFPUC will notify the District and other wholesale customers by April 15th, if there will be a water shortage. The magnitude of the water shortage will be determined by June 1st and the District's allocation from the SFPUC will become effective July 1st. Since the District is dependent on imported water, SFPUC's determination will be critical to implementing the Water Shortage Contingency Plan and determining which stage will be implemented.

The District monitors local precipitation to assist in determining the adequacy of local surface and groundwater sources. During periods of less than normal precipitation, the District will make a determination on how productive local sources will be for the upcoming fiscal year.

The District will take SFPUC's reduction and the District's projected reduction in local sources to determine the total reduction in production and the corresponding needed reduction in demand to be implemented on July 1st.

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 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 June 2015, the District implemented a Stage 2 - Water Shortage Emergency Warning with mandatory water use restrictions and prohibitions. The ordinance (Ordinance 2015-01) that was adopted based on declaring a Water Shortage Emergency Warning is included as Appendix D of the District's updated Water Shortage Contingency Plan.



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The District has developed a sample Drought Ordinance which it would refine based on actual conditions to be adopted at the time of a water shortage. The specific nonessential or unauthorized uses of water that are declared to be a waste of water at all times, as defined in Section 5 (General Prohibitions) of the sample Drought Ordinance, include the following:

- Use of water through any meter when the customer has been given 24-hour notice to repair broken or defective plumbing, sprinkler, watering or irrigation systems and has failed to effect such repairs.
- Use of water which results in flooding or runoff in gutters or streets.
- The use of non-recycled water for washing cars, buses, boats, trailers, motorcycles, vehicles, and other equipment, except for washing with a bucket and rinsing with a hand held hose equipped with a nozzle with a positive shutoff valve.
- Use of water through a hand-held hose for washing sidewalks, walkways, driveways, patios, parking lots, tennis courts, or other hard surfaced areas.
- Use of water for initially filling or refilling any swimming pool, sauna or hot tub constructed after the date of this ordinance.
- Use of water for construction purposes, such as dust control and consolidation of backfill.
- Service of water by restaurants except upon the specific request of the customer.
- Use of water for residential and commercial decorative landscaped areas, unless the plants are edible and are intended to be used as a source of food for customers. Golf courses are exempt from this prohibition.

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

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Water Shortage Contingency Planning



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 <i>(optional)</i>	Penalty, Charge, or Other Enforcement?
All	Landscape - Restrict or prohibit runoff from landscape irrigation		Yes
2	Landscape - Limit landscape irrigation to specific times	Prohibit irrigation between the hours of 8 a.m. to 5 p.m.	Yes
2	Landscape - Limit landscape irrigation to specific days	Limit to no more than 2 days per week	Yes
2	Landscape - Other landscape restriction or prohibition	Prohibit application of water to outdoor landscape during and within 48 hours after measurable rainfall	Yes
3	Landscape - Other landscape restriction or prohibition	Prohibit installation of new lawn (turf)	Yes
4	Landscape - Prohibit certain types of landscape irrigation	Prohibit irrigation except for the survival of approved trees and edible gardens	Yes
4	Landscape - Other landscape restriction or prohibition	Prohibit all new decorative landscape installations	Yes
2	CII - Lodging establishment must offer opt out of linen service		Yes
All	CII - Restaurants may only serve water upon request		Yes
2	CII - Other CII restriction or prohibition	Prohibit use of water for single pass through cooling systems except when using recycled or recirculating water	Yes
2	Water Features - Restrict water use for decorative water features, such as fountains	Prohibit use of water in a fountain or other decorative water feature, except where water is part of recirculating system	Yes
3	Other water feature or swimming pool restriction	Prohibit installation of new water features or swimming pools	Yes
5	Other water feature or swimming pool restriction	Close public pools and public showers	Yes
5	Other water feature or swimming pool restriction	Prohibit water used for recreational purposes (showers and restrooms at public and private parks and camping facilities)	Yes
All	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Require customers to repair broken or defective plumbing, equipment, appliances, sprinklers, watering or irrigation systems within 24 hours after delivery of notice	Yes
All	Other - Prohibit use of potable water for construction and dust control		Yes
2	Other - Prohibit use of potable water for washing hard surfaces	Prohibit cleaning of certain exterior surfaces, driveways, and sidewalks with potable water	Yes
All	Other	Prohibit use of hose that dispenses water to wash motorized vehicles, boats and trailers, except where the hose is fitted with a positive shut off nozzle or device attached to it	Yes
2	Other	Suspend routine flushing of water mains	Yes
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Prohibit on-site fleet, dealership and residential vehicle washing	Yes

NOTES: Restrictions not associated with a specific stage are considered prohibitions at all times.



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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. The procedure and penalties for violations of the provisions of the District's Water Waste Ordinance are described below.

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.

If the customer fails to take remedial action within the time specified in the written notice, the District may install a flow-restricting device on the customer's service line. In the event that a further violation is observed by the District, after installation of a flow-restricting device, the District may discontinue service for specified time periods.

The customer shall be responsible for paying the District's costs incurred in enforcement, including providing the on-site notification and temporarily terminating and restoring water service, on a time and material basis in accordance with the District's rate and fee schedule. The customer shall pay all fees and charges above, and the customer's account must be in good standing, in order for the District to proceed with the reconnection of water service after it has been temporarily terminated.

Once water use allocations are implemented, the District may impose excess use fees for residential customers who consumed more water than their allocation. The fees were determined based on an allocation formula that considered, among other things, the number of residents per residential housing unit. As a water district, the District has limited authority to fine customers for water waste and non-compliance with regulations.

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



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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>
1	Expand Public Information Campaign	
3	Improve Customer Billing	Implement system-wide monthly billing
1	Increase Frequency of Meter Reading	Implement a production and consumption monitoring and reporting plan
2	Increase Frequency of Meter Reading	Encourage meter readings by customers to track water usage
2	Decrease Line Flushing	Suspend routine flushing of water mains
1	Reduce System Water Loss	Encourage leak detection and repair for retail customers
2	Reduce System Water Loss	Emphasize leak detection and repair for the District's transmission and distribution system
2	Increase Water Waste Patrols	Establish and advertise a hotline to respond to questions and reports of water waste
4	Increase Water Waste Patrols	Schedule staff for enforcement and customer service on weekends
3	Moratorium or Net Zero Demand Increase on New Connections	Temporary moratorium on the activation of new connections
3	Implement or Modify Drought Rate Structure or Surcharge	Implement drought rates, surcharges, penalties
3	Other	Implement residential and non-residential water allocations
4	Other	Adjust allocations for a more severe water shortage
5	Other	Adjust allocations for a critical water shortage emergency



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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.

The District monitors water sales by category on a monthly basis. Water sales by category (e.g., residential, commercial, restaurant, etc.) for each month are compared to water sales in the same month in the previous year and are evaluated for trends based on a 12-month running average (based on total residential water sales, total non-residential water sales, and total overall water sales). Similarly, the District monitors water production by source on a monthly basis and evaluates predicted versus actual production by source on a monthly basis. The General Manager provides a report to the Board of Directors each month on monthly water sales and monthly water production.

The District currently has a mix of monthly and bi-monthly billing. It would be beneficial for both the District and customers to have all customers on monthly billing during mandatory rationing. Monthly billing gives the customer faster feedback on meeting reduction goals and gives the District time to notify and work with customers having difficulty meeting reduction goals.

For the District to go to monthly billing, it would require hiring additional staff to read meters and to process the customer service tasks. Another option for monthly billing is to install an advanced automated metering infrastructure. This is also commonly referred to as smart metering. This would allow for daily access to customer water use by being able to upload daily water meter data with a fixed network by cellular or radio technology. There are other features of smart metering that could be implemented as the District receives more water usage data from metering. Leak alerts, backflow alerts and tampering alerts are examples features the District could implement with smart metering.

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.

Successful water rationing programs result in reduced water sales and reduced revenues. However, the District's expenditures do not decline in proportion to reduced sales because a large part of the District's expenditures are related to fixed capital costs, maintenance and operations. In addition, the District will pay more for imported water because the SFPUC will raise their wholesale rates to cover their reduced water sales and their increased administrative costs.

During periods of rationing, the District's administrative costs and staffing costs will increase due to enforcement of new rules and complex billing structures. Consequently, retail water rates will increase during years of water shortages when rationing programs are implemented. The District has an emergency reserve that it can use to cover increased costs, until it can implement adjusted water rationing rates, surcharges and penalties.



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The District will need to follow Proposition 218 requirements for the drought rates, which will cause a slight delay in the actual implementation of the drought rates. Also causing a delay in drought rates will be waiting for decisions from the SFPUC on their rates and actions during water shortages.

8.7 RESOLUTION OR ORDINANCE

The District has developed a sample Drought Ordinance which it would refine based on actual conditions to be adopted at the time of a water shortage. The sample Drought Ordinance is included as Appendix A of the District's WSCP (included in Appendix J of this 2015 UWMP). Such an ordinance (Ordinance No. 2015-01) was approved by the District Board of Directors in June 2015 to establish and expand mandatory water use restrictions and prohibitions under Stage 2 – Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan. A copy of Ordinance No. 2015-01 is included in Appendix J of this 2015 UWMP.

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.

8.8.1 SFPUC Supplies

With respect to emergency response for SFPUC's RWS, the SFPUC has prepared the *SFPUC Regional Water System Emergency Response and Recovery Plan*, completed in 2003 and regularly updated. The purpose of this plan is to describe SFPUC's RWS emergency management organizations, roles and responsibilities within those organizations, and emergency management procedures. This contingency plan addresses how to respond to and to recover from a major RWS seismic event, or other major disaster. The SFPUC Emergency Response and Recovery Plan complements the other SFPUC emergency operations plans at the Department, Division and Bureau levels for major system emergencies.

The SFPUC has also prepared a *SFPUC-Suburban Customer Water Supply Emergency Operations and Notification Plan*. The plan was first prepared in 1996 and is regularly updated. The purpose of this plan is to provide contact information, procedures and guidelines to be implemented by the following entities when a potential or actual water supply problem arises: SFPUC's Water Supply and Treatment Division, Water Quality Bureau, and SFPUC's wholesale customers, BAWSCA, and SFPUC City Distribution Division (considered to be a customer for the purposes of this plan). For the purposes of this plan, water quality issues are treated as potential or actual supply problems. SFPUC's water transmission system is primarily gravity fed, from the Hetch Hetchy Reservoir to the City and County of San Francisco. Within San Francisco's in-city distribution system, the key pump stations have generators in place and all others have connections in place that would allow portable generators to be used.



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Although water conveyance throughout the RWS would not be greatly impacted by power outages because it is gravity fed, the SFPUC has prepared for potential regional power outages as follows:

- The Tesla disinfection facility, the Sunol Valley Water Treatment Plant, and the San Antonio Pump Station, have back-up power in place in the form of generators or diesel powered pumps. Additionally, both the Sunol Valley Water Treatment Plant and the San Antonio Pump Station would not be impacted by a failure of the regional power grid because it runs off of SFPUC's hydro-power generated by the RWS.
- Both the Harry Tracy Water Treatment Plant and the Baden Pump Station have back-up generators in place.
- Additionally, the WSIP includes projects which will expand SFPUC's ability to remain in operation during power outages and other emergency situations.

8.8.2 Local Supplies

If local sources were impacted by a drought or a natural disaster, the District would rely more on SFPUC's Upper Crystal Springs Reservoir, as a source of water. However, raw water from Upper Crystal Springs Reservoir must be pumped over the Cahill Ridge to the Nunes WTP, which requires electricity.

During a power outage or facility failure at the Crystal Springs Pump Station, the District would rely on the Denniston Project, Pilarcitos Lake and Pilarcitos Creek wells (Pilarcitos Creek wells can only be operated from November through March). If the water level in Pilarcitos Lake is below the outlet, with permission from the SFPUC, the District could set up a temporary pumping system to draw water out of Pilarcitos Lake to supply the District. The District's Nunes WTP has a generator that can operate the plant during a power failure and the District has a portable generator on a trailer that can be deployed where it is needed.

The District office and corporation yard have sufficient water and emergency rations to support a full crew for three days. An emergency generator is maintained in operable condition at all times at the District office and corporation yard.

8.8.3 Emergency Water Supply Agreement

The District and MWSD entered into an agreement on October 18, 2010 for the mutual benefit of both districts, to provide a temporary, interruptible supply of water for use during a water shortage emergency.

For the purposes of this agreement, emergency water supply is defined as a temporary and interruptible supply of water to help alleviate a water shortage emergency. The water shortage emergency is when ordinary demands and requirements of the District's water users cannot be satisfied without depleting its water supply to the extent that there would be insufficient water for human consumption, sanitation and fire protection. The water shortage emergency has to be due to a lack of water supply caused by circumstances outside the District's reasonable control or damage to the water system facilities, as a result of a "Force Majeure". For the purposes of this agreement, Force Majeure could consist of a fire, flood, earthquake, natural calamity or acts of God, and governmental action or inaction.



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The implementation of this agreement is still under review by both agencies, but the District would likely only receive an emergency water supply from the MWSD during a critical water shortage emergency, as defined in this Plan.

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).

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

	2016	2017	2018
Available Water Supply	806	623	575

NOTES: Volumes are in MG.

CHAPTER 9

Demand Management Measures



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 were 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 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

The District has been implementing water use efficiency programs and practicing conservation techniques since the 1970’s when water rationing was implemented due to drought. In 1991, the District became a voluntary signatory to the CUWCC’s Memorandum of Understanding (MOU). By becoming a signatory, the District agreed to implement Best Management Practices, as described in the CUWCC’s MOU regarding urban water conservation in California. Since becoming a signatory to the MOU, the District has implemented and promoted its water use efficiency programs to help customers reduce water demand.



Chapter 9

Demand Management Measures

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 an ordinance that prohibits the wasteful use of water during normal water years. 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 is included in Appendix J of this 2015 UWMP.

In addition, the District enacted an Indoor Water Use Efficiency Ordinance in 2010 that targets new and expanded water services. The ordinance, which went into effect on January 1, 2011, specifies water use efficiency standards for both commercial and residential customers. The ordinance was updated in 2014 to include changes to the 2013 California Plumbing Code. The District has applied this ordinance to 194 building plan reviews from fiscal year 2011 through fiscal year 2015. The estimated 2015 water savings is 0.13 MGY. Since 2011, it is estimated that this program has cumulatively saved 0.68 MG.

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

9.2.2 Metering

All customers are metered in the District's service area and all customers are charged a commodity or volumetric rate along with base charges. Advanced meter reading (AMR) technology has been installed on the top commercial customers' meters so that they can be billed monthly and be provided with more timely and complete water consumption data. A written meter plan has been submitted to the CUWCC, as required by the MOU.



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Demand Management Measures

Implementation of this DMM is expected to help the District achieve its water use targets, its revenue needs and verifiable water audits by providing accurate water use information to the customer and the District.

9.2.3 Conservation Pricing

The District has tiered rates for its residential customers and at least 70 percent of its revenue is generated from the volumetric rate charged to customers. The District's water rates consist of a base charge and a quantity charge paid per one hundred cubic feet (hcf or ccf). As described previously, all customer sectors in the District's service area are billed for water service based on actual metered consumption. On June 2015, the District adopted Resolution 2015-08, which established an increase in water rates and charges. The District's water rates adopted in Resolution 2015-08 are summarized in Table 9-1. A copy of the District's 2015 water rate schedule is provided in Appendix L.

Table 9-1. District Water Rates^(a)

Base Charge ^(b)	
Meter Size	Bi-Monthly Base Charge
5/8" x 3/4"	\$ 47.45
5/8" for 2 dwelling units	\$ 94.90
3/4"	\$ 71.32
3/4" for 2 dwelling units	\$ 142.63
1"	\$ 118.87
1-1/2"	\$ 229.56
2"	\$ 380.44
3"	\$ 832.27
4"	\$ 2,853.84
Quantity Charge for Residential Customers	
Quantity Delivered (Bi-Monthly)	Water Consumption Charge per hcf
1 - 4 hcf	\$ 8.35
5 - 16 hcf	\$ 9.33
17-30 hcf	\$ 12.03
31 or more hcf	\$ 15.94
Quantity Charge for All Other Customers	
\$ 10.28 per hcf	
<small>(a) Effective July 1, 2015</small> <small>(b) Base charge for fire service is \$10.39 per inch (service size).</small>	

The District changed the tiered rates in fiscal year 2015 to reflect the trend toward lower water consumption by single family residential customers and to comply with the cost of service requirements of Proposition 218.



Chapter 9

Demand Management Measures

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.

9.2.4 Public Education and Outreach

The District has an active public information and outreach program. In addition, the District participates with BAWSCA and SFPUC on regional outreach efforts regarding regional water system improvements and water use efficiency topics. To encourage the use of water efficient fixtures, the District became a promotional partner to EPA's WaterSense Program. The District utilizes as many outreach methods as possible, including the following:

- Newspaper Advertisements in the Half Moon Bay Review
- Messages on Billing Statements
- Website
- Public Speaking Venues
- High Bill Notification
- Digital (flash) Advertisements on the Website for the Half Moon Bay Review
- Annual Half Moon Bay Pumpkin Festival
- Electronic Newsletters
- Bulletin Board
- Social Media – Facebook, Twitter and Nextdoor
- Banners

The District participates in regional school education programs through BAWSCA designed for fourth and fifth grades to provide curriculum that meets California State Board of Education content standards for public schools. The District offers other educational materials that are age or grade appropriate to educators in our service area, including the following:

- The Story of Drinking Water
- California Water Story
- Water Cycle Poster
- California Water Map
- Water Cycle Brochures
- California Water Facts

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.



Chapter 9

Demand Management Measures

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.

A leak detection program typically consists of both visual inspections and an audible inspection. Visual inspections include 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. The District does not currently have an active leak detection program.

As discussed in Chapter 4 (Section 4.3), the District performs an annual water audit that conforms to AWWA Method 36 (M36). A copy of the District's FY 2014/2015 water audit that was validated by a third party is provided in Appendix F. In 2009, the District started to use the IWA/AWWA water audit method, as published in the third edition of AWWA's M36.

In 2008, the District replaced its El Granada pipeline which serves the north portion of the District's service area. After the replacement of this pipeline, the District experienced a reduction in the amount of real water losses.

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

A conservation coordinator is an on-going component of a District's water conservation program. The conservation coordinator is responsible for implementing and monitoring the District's water conservation activities.

The District has a Water Resources Analyst that performs the duties of the Water Conservation Coordinator. The District supplements this position with the use of consultants and by participating in regional water use efficiency programs with BAWSCA.

This DMM is performed on an ongoing, year-round basis. The effectiveness of this DMM will be evaluated in conjunction with the success of the District's water conservation efforts as a whole.

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.



Chapter 9

Demand Management Measures

These programs are described below.

9.3.1 Residential Conservation Programs

The District provides water efficient showerheads and aerators to single family and multi-family customers. The District also provides dye tablets and instructions on how to test toilets for a leaking flapper. In addition, the District provides automatic shut off nozzles for garden hoses at no charge during the summer months. The estimated 2015 water savings from distributing high efficiency (EPA WaterSense labeled) showerheads and aerators to residential customers is 0.2 MGY. Since 2011, it is estimated that this program has cumulatively saved approximately 4.76 MG of water.

In addition, the District offers a high efficiency washing machine rebate for residential customers. The District has partnered, through BAWSCA, with PG&E to offer a combined energy and water rebate. The District discontinued this rebate program in fiscal year 2014 because of administrative challenges. Since 2011, the cumulative water savings is estimated to be 3.60 MG.

In 2010, the District modified their rebate program to only offer rebates for the installation of high efficiency toilets that meet the EPA WaterSense specifications. The estimated 2015 water savings from residential toilet replacement is estimated to be 0.06 MGY. Since 2011, the estimated cumulative water savings is 2.24 MG.

In 2011, the District implemented a turf removal rebate program for single family and multi-family accounts. Initially there was a lot of interest but not a lot of successfully completed projects. The estimated 2015 water savings from the turf removal program is 0.18 MGY. The estimated cumulative water savings since 2011 is 0.19 MG.

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 Program

The District offers toilet and urinal rebates along with free pre-spray rinse nozzles for commercial, industrial, and institutional (CII) accounts. Restaurant table cards, informing customers that water is only served upon request, are made available free of charge to restaurants in the District's service area. In addition, the turf replacement rebate program is offered to the CII sector. The District has not estimated savings for the CII sector.

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



Chapter 9

Demand Management Measures

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. The District has implemented a number of water conservation measures that include, but are not limited to the following: public information outreach, rebate programs, and water conservation partnerships. Additional information regarding the District's conservation activities is provided in Appendix K.

9.5 MEMBERS OF THE CALIFORNIA URBAN WATER CONSERVATION COUNCIL

In 1991 (amended September 16, 1999), an 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 BMPs and make a cooperative effort to reduce the consumption of California's water resources. This MOU is administered by the CUWCC.

In 1991, the District has been a voluntary signatory of the CUWCC's MOU. Since becoming a signatory to the MOU, the District has implemented and promoted its water use efficiency programs to help customers reduce water demand.

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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 fiscal year for water supply and demand accounting, and therefore this 2015 UWMP includes data through June 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 the City of Half Moon Bay and San Mateo County as shown in Table 10-1.

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

City Name	60 Day Notice	Notice of Public Hearing
City of Half Moon Bay	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
County Name	60 Day Notice	Notice of Public Hearing
San Mateo County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Other agencies notified by the District included the following:

- San Francisco Public Utilities Commission (SFPUC);
- Bay Area Water Supply and Conservation Agency (BAWSCA); and
- Sewer Authority Mid-Coastside (SAM).

Public hearing notifications for adopting the Plan were published in the local newspaper (Half Moon Bay Review) and in the District's newsletter. Copies of the 60-day notice and published Notice of Public Hearing are included in Appendix D.



Chapter 10

Plan Adoption, Submittal, and Implementation

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 September 13, 2016. 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 made available for public inspection at the District's office, as well as on the District's website (www.coastsidewater.org).

This Plan was adopted by the District's Board of Directors on September 13, 2016. A copy of the adoption resolution is provided in Appendix M.

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 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 the City of Half Moon Bay and San Mateo County.

10.5 PUBLIC AVAILABILITY

No later than 30 days after submittal to DWR, copies of this Plan will be available at the Coastside County Water 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.coastsidewater.org).

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 plans will be submitted to DWR, the California State Library, the City of Half Moon Bay and San Mateo County within 30 days after adoption.

APPENDIX A

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

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
CA4110011	Coastside County Water District	7,360	666
TOTAL		7,360	666

NOTES: Volumes are in million gallons (MG) and includes potable and raw water.

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"/>	Individual UWMP	
<input type="checkbox"/>	Regional Urban Water Management Plan (RUWMP)	
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 type="checkbox"/>	UWMP Tables Are in Calendar Years
<input checked="" type="checkbox"/>	UWMP Tables Are in Fiscal Years

If Using Fiscal Years Provide Month and Date that the Fiscal Year Begins

7/1

Units of Measure Used in UWMP

Unit	MG
------	----

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

San Francisco Public Utilities Commission (SFPUC)

NOTES:

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040(opt)
	16,668	16,848	16,873	16,886	18,363	19,840
NOTES: Population estimates based on ABAG Plan Bay Area Projections 2013.						

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	326
Multi-Family		Drinking Water	30
Commercial		Drinking Water	38
Institutional/Governmental		Drinking Water	12
Landscape		Drinking Water	22
Landscape		Raw Water	50
Agricultural irrigation		Drinking Water	64
Other	Restaurants	Drinking Water	21
Other	Recreation	Drinking Water	2
Other	Parks/Beaches	Drinking Water	4
Other	Marine	Drinking Water	8
Other	Hotel	Drinking Water	33
Other	Portable and Fire	Drinking Water	2
Other	unbilled unmetered	Drinking Water	8
Losses	potable system losses	Drinking Water	46
TOTAL			666

NOTES: Volumes in MG.

SOURCE: Consumption by Use for FY 2014/15 (07/01/2014 through 06/30/2015) provided by the District.

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		318	304	290	303	317
Multi-Family		61	59	56	58	61
Commercial		36	37	37	37	38
Institutional/Governmental		12	12	12	13	14
Landscape		57	60	62	63	64
Agricultural irrigation		81	81	81	81	81
Other	Restaurants	14	14	15	15	15
Other	Recreation	2	2	2	2	2
Other	Parks/Beaches	4	4	4	4	4
Other	Marine	6	6	6	6	6
Other	Fire	0	0	0	0	0
Other	Hotel	24	26	26	27	27
Other	Portable	2	2	2	2	2
Losses		54	54	55	58	61
TOTAL		671	661	648	669	692

NOTES: Volumes are in MG. Demand projections are from the Maddaus DSS Model's projected demands with plumbing code.

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>	666	671	661	648	669	692
Recycled Water Demand* <i>From Table 6-4</i>	0	0	0	0	0	0
TOTAL WATER DEMAND	666	671	661	648	669	692

**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*
07/2014	46
<i>* Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.</i>	
NOTES: Volumes in MG; a copy of the District's 2015 Water Audit 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>Yes</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>Section 4.4 (page 4-5)</p>
<p>Are Lower Income Residential Demands Included In Projections?</p>	<p>Yes</p>
<p>NOTES:</p>	

Table 5-1 Baselines and Targets Summary					
<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	1999	2008	148	136	124
5 Year	2004	2008	150		
*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*		
109	136	0	0	0	0	109	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	Half Moon Bay Terrace Basin	3.2	0	0.67	2	4.71
TOTAL		3	0	1	2	5
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 <i>(optional)</i>						
Percentage of 2015 service area population covered by wastewater collection system <i>(optional)</i>						
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	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>
City of Half Moon Bay	Metered	241	Sewer Authority Mid-Coastside	Sewer Authority Mid-Coastside	Yes	No
Granada Community Services District	Metered	136	Sewer Authority Mid-Coastside	Sewer Authority Mid-Coastside	Yes	No
Total Wastewater Collected from Service Area in 2015:		377				
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 UWMP service area. The supplier will not complete the table below.										
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number (optional)	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2015 volumes			Recycled Outside of Service Area
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	
Sewer Authority Mid-Coastside	2100 foot ocean outfall, Pacific Ocean at a depth of 45 feet	2100 foot ocean outfall, Pacific Ocean at a depth of 45 feet	2,417,068,001	Ocean outfall	Yes	Secondary, Disinfected - 2.2	475	475	0	0
Total							475	475	0	0

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: SAM						Coastside County Water District					
Name of Agency Operating the Recycled Water Distribution System:											
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			0	0	0	0	0	0			
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)											
Total:			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>	
Total	0	0
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 6-16)	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
Total			0
NOTES:			

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

<input type="checkbox"/>	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
<input type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Agency
Diversions from San Vicente Creek	No			2020	All Year Types	50-100
Pilarcitos Infiltration Well Field Improvements	No			2017	All Year Types	30-40
NOTES: Volumes are in MG.						

Table 6-8 Retail: Water Supplies — Actual

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)
Purchased or Imported Water	SFPUC	550	Drinking Water	
Groundwater	Denniston Wells	5	Drinking Water	
Surface water	Denniston Creek	69	Drinking Water	
Surface water	Pilarcitos Creek	42	Drinking Water	
Total		666		0
NOTES: Volumes are in MG.				

Table 6-9 Retail: Water Supplies — Projected													
Water Supply		Projected Water Supply Report To the Extent Practicable											
		2020			2025			2030			2035		2040 (opt)
Additional Detail on Water Supply		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)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Purchased or Imported Water	SFPUC	800		800		800		800		800		800	
Groundwater	Denniston Wells	5		5		5		5		5		5	
Surface water	Denniston Creek	150		150		150		150		150		150	
Surface water	Pilarcitos Creek	45		45		45		45		45		45	
Total		1,000	0	1,000	0	1,000	0	1,000	0	1,000	0	1,000	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	2002	1,087	100%
Single-Dry Year	1977	806	74%
Multiple-Dry Years 1st Year	1988	806	74%
Multiple-Dry Years 2nd Year	1989	623	57%
Multiple-Dry Years 3rd Year	1990	575	53%
NOTES: Volumes are in MG.			

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 <i>(Opt)</i>
Supply totals <i>(autofill from Table 6-9)</i>	1,000	1,000	1,000	1,000	1,000
Demand totals <i>(autofill from Table 4-3)</i>	671	661	648	669	692
Difference	329	339	352	331	308
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	787	787	787	787	787
Demand totals	671	661	648	669	692
Difference	116	126	139	118	95
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	787	787	787	787	787
	Demand totals	671	661	648	669	692
	Difference	116	126	139	118	95
Second year	Supply totals	665	665	665	665	665
	Demand totals	644	634	622	642	665
	Difference	21	31	43	23	0
Third year	Supply totals	637	637	637	637	637
	Demand totals	617	608	596	615	637
	Difference	20	29	41	22	0
NOTES: Volumes are in MG.						

Table 8-1 Retail Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Percent Supply Reduction ¹	Water Supply Condition
1	5%	Water Shortage Advisory
2	10%	Water Shortage Warning
3	20%	Water Shortage Emergency
4	30%	Severe Water Shortage Emergency
5	50%	Critical Water Shortage Emergency
¹ 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?
All	Landscape - Restrict or prohibit runoff from landscape irrigation		Yes
2	Landscape - Limit landscape irrigation to specific times	Prohibit irrigation between the hours of 8 a.m. to 5 p.m.	Yes
2	Landscape - Limit landscape irrigation to specific days	Limit to no more than 2 days per week	Yes
2	Landscape - Other landscape restriction or prohibition	Prohibit application of water to outdoor landscape during and within 48 hours after measurable rainfall	Yes
3	Landscape - Other landscape restriction or prohibition	Prohibit installation of new lawn (turf)	Yes
4	Landscape - Prohibit certain types of landscape irrigation	Prohibit irrigation except for the survival of approved trees and edible gardens	Yes
4	Landscape - Other landscape restriction or prohibition	Prohibit all new decorative landscape installations	Yes
2	CII - Lodging establishment must offer opt out of linen service		Yes
All	CII - Restaurants may only serve water upon request		Yes
2	CII - Other CII restriction or prohibition	Prohibit use of water for single pass through cooling systems except when using recycled or recirculating water	Yes
2	Water Features - Restrict water use for decorative water features, such as fountains	Prohibit use of water in a fountain or other decorative water feature, except where water is part of recirculating system	Yes
3	Other water feature or swimming pool restriction	Prohibit installation of new water features or swimming pools	Yes
5	Other water feature or swimming pool restriction	Close public pools and public showers	Yes
5	Other water feature or swimming pool restriction	Prohibit water used for recreational purposes (showers and restrooms at public and private parks and camping facilities)	Yes
All	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Require customers to repair broken or defective plumbing, equipment, appliances, sprinklers, watering or irrigation systems within 24 hours after delivery of notice	Yes
All	Other - Prohibit use of potable water for construction and dust control		Yes
2	Other - Prohibit use of potable water for washing hard surfaces	Prohibit cleaning of certain exterior surfaces, driveways, and sidewalks with potable water	Yes
All	Other	Prohibit use of hose that dispenses water to wash motorized vehicles, boats and trailers, except where the hose is fitted with a positive shut off nozzle or device attached to it	Yes
2	Other	Suspend routine flushing of water mains	Yes
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Prohibit on-site fleet, dealership and residential vehicle washing	Yes

NOTES: Restrictions not associated with a specific stage are considered prohibitions at all times.

**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>
1	Expand Public Information Campaign	
3	Improve Customer Billing	Implement system-wide monthly billing
1	Increase Frequency of Meter Reading	Implement a production and consumption monitoring and reporting plan
2	Increase Frequency of Meter Reading	Encourage meter readings by customers to track water usage
2	Decrease Line Flushing	Suspend routine flushing of water mains
1	Reduce System Water Loss	Encourage leak detection and repair for retail customers
2	Reduce System Water Loss	Emphasize leak detection and repair for the District's transmission and distribution system
2	Increase Water Waste Patrols	Establish and advertise a hotline to respond to questions and reports of water waste
4	Increase Water Waste Patrols	Schedule staff for enforcement and customer service on weekends
3	Moratorium or Net Zero Demand Increase on New Connections	Temporary moratorium on the activation of new connections
3	Implement or Modify Drought Rate Structure or Surcharge	Implement drought rates, surcharges, penalties
3	Other	Implement residential and non-residential water allocations
4	Other	Adjust allocations for a more severe water shortage
5	Other	Adjust allocations for a critical water shortage emergency

NOTES:

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	806	623	575
NOTES: Volumes are in MG.			

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

APPENDIX C

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
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	Section 2.1 (page 2-1)
10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5.2	Section 2.5 (page 2-2)
10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	Plan Preparation	Section 2.5.2	Section 2.5.2.2 (page 2-4); Appendix D
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	Section 3.2 (page 3-1)
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	Section 3.3 (page 3-1)
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	Section 3.4.1; Table 3-2 (page 3-3)
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	Section 3.4.2 (page 3-3)
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	Section 3.4.1 (page 3-2)
10631(e)(1)	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)
10631(e)(3)(A)	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)
10631.1(a)	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)
10608.20(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 5.6 (page 5-4); Appendix G
10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5 and Appendix E	Sections 5.5, 5.6, 5.7 (page 5-3); Appendix G
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply to the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	Section 5.6 (page 5-5); Appendix G
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and Appendix E	Section 5.7 (page 5-5); Appendix G
1608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.8.2	Section 5.7 (page 5-5); Appendix G
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	N/A
10608.40	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
10631(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 6-18)
10631(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 6-4)
10631(b)(1)	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 6.2.3 (page 6-7)
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	Section 6.2.1 (page 6-4)
10631(b)(2)	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 6-4)

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

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location
10631(b)(2)	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	Section 6.2.1 (page 6-4)
10631(b)(3)	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	Section 6.2.4; Table 6-3 (page 6-9)
10631(b)(4)	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	Section 6.9; Table 6-11 (page 6-19)
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	Section 6.7 (page 6-17)
10631(g)	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	Section 6.8 (page 6-17)
10631(i)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	Section 6.6 (page 6-17)
10631(j)	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	Section 2.5.1 (page 2-3)
10631(j)	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
10633	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	Section 6.5.1 (page 6-11)
10633(a)	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	Section 6.5.2 (page 6-11); Table 6-4; Table 6-5
10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2.2	Section 6.5.2 (page 6-11); Table 6-5
10633(c)	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	Section 6.5.3 (page 6-13)
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	Section 6.5.4 (page 6-15)
10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4	Section 6.5.4 (page 6-15)
10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.5	Section 6.5.5 (page 6-16)
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	Sections 6.5.5 (page 6-16)
10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	Section 7.4 (page 7-14)
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	Section 7.1 (page 7-1)
10631(c)(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	Section 7.2 (page 7-9)
10631(c)(2)	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	Section 7.1 (page 7-1)
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	Section 7.1 (page 7-1)
10635(a)	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	Section 7.3 (page 7-10)
10632(a) and 10632(a)(1)	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	Section 8.1 (page 8-1)
10632(a)(2)	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	Section 8.9 (page 8-10)

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

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location
10632(a)(3)	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 8-8)
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	Section 8.2 (page 8-2)
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	Section 8.4 (page 8-5)
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	Section 8.3 (page 8-5)
10632(a)(7)	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)
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	Section 8.7 (page 8-8); Appendix J
10632(a)(9)	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)
10631(f)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Sections 9.2 and 9.3	Sections 9.2 and 9.3 (page 9-2)
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	N/A
10631(j)	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 9.5 (page 9-7)
10608.26(a)	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 10-2)
10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	Section 10.2 (page 10-1)
10621(d)	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)
10635(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)
10642	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
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Sections 10.2.1	Section 10.2 (page 10-1); Appendix D
10642	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 M
10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	Section 10.4 (page 10-2)
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	Section 10.4 (page 10-2)
10644(a)(2)	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)
10645	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

Agency and Public Notices

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December 31, 2015

Mr. Christopher DeGroot
Director of Water and Sewer Utilities
City of Santa Clara
1500 Warburton Ave
Santa Clara CA 95050-3792



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. DeGroot:

The Coastside County Water District (District) 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 that 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, the District coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP update. The District will be reviewing the UWMP and will make amendments and updates, as appropriate.

If you have questions or concerns regarding the review process, please contact Cathleen Brennan.

Sincerely,

Coastside County Water District

A handwritten signature in black ink, appearing to read "Cathleen Brennan", is written over a horizontal line.

Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Steven Ritchie
Assistant General Manager
San Francisco Public Utilities Commission
525 Golden Gate Ave
San Francisco CA 94102



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Ritchie:

The Coastside County Water District (District) 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 that 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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If you have questions or concerns regarding the review process, please contact Cathleen Brennan.

Sincerely,

Coastside County Water District

A handwritten signature in black ink that reads "Cathleen Brennan". The signature is written in a cursive style and is positioned above a horizontal line.

Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Jane Yuster
Superintendent
Cabrillo Unified School District
498 Kelly Ave
Half Moon Bay CA 94019



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Yuster:

The Coastside County Water District (District) 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 that 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,

Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Daryl Barrow
General Manager
Westborough Water District
2263 Westborough Blvd
South San Francisco CA 94080-5406



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Barrow:

The Coastside County Water District (District) 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 that 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, the District coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP update. The District will be reviewing the UWMP and will make amendments and updates, as appropriate.

If you have questions or concerns regarding the review process, please contact Cathleen Brennan.

Sincerely,

Coastside County Water District

A handwritten signature in black ink that reads "Cathleen Brennan".

Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Paul Willis
Public Works Director
Town of Hillsborough
1600 Floribunda Ave
Hillsborough CA 94010-6498



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Willis:

The Coastside County Water District (District) 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 that 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, the District coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP update. The District will be reviewing the UWMP and will make amendments and updates, as appropriate.

If you have questions or concerns regarding the review process, please contact Cathleen Brennan.

Sincerely,

Coastside County Water District

A handwritten signature in black ink that reads "Cathleen Brennan". The signature is written in a cursive style and is positioned above a horizontal line.

Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Julia Nussbaum
Manager
Stanford University
327 Bonair Siding
Stanford CA 94305-7270



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Nussbaum:

The Coastside County Water District (District) 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 that 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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If you have questions or concerns regarding the review process, please contact Cathleen Brennan.

Sincerely,

Coastside County Water District

A handwritten signature in black ink, appearing to read "Cathleen Brennan", is written over a horizontal line.

Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Patrick Walter
General Manager
Purissima Hills Water District
26375 West Fremont Road
Los Altos Hills CA 94022-2699



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Walter:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Cari Lemke
General Manager
North Coast County Water District
PO Box 1039
Pacifica CA 94044-6039



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Lemke:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Jeff Moneda
Public Works Director
Foster City/Estero Municipal Improvement District
610 Foster City Blvd
Foster City CA 94404-2299



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Moneda:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Carlos Martinez
City Manager
City of East Palo Alto
2200 University Ave
East Palo Alto CA 94303



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Martinez:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Jane Ratchye
Assistant Director of Utilities
City of Palo Alto
250 Hamilton Ave
Palo Alto CA 94301-2593



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Ratchye:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Gregg Hosfeldt
Assistant Public Works Director
City of Mountain View
PO Box 7540
Mountain View CA 94039-7540



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Hosfeldt:

The Coastside County Water District (District) 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 that 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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Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Nina Hawk
Director of Public Works
City of Milpitas
455 E. Calaveras Blvd
Milpitas CA 95034-5479



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Hawk:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Shelly Reider
Environmental Programs Manager
City of Millbrae
621 Magnolia Ave
Millbrae CA 94030-1832



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Reider:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Pam Lowe
Sr. Civil Engineer
City of Menlo Park
701 Laurel Street
Menlo Park CA 94025-3483



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Lowe:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Alex Ameri
Director of Public Works
City of Hayward
777 "B" Street
Hayward CA 94541-5007



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Ameri:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Art Morimoto
Assistant Public Works Director
City of Burlingame
501 Primrose Road
Burlingame CA 94010



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Morimoto:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Randy Breault
Director of Public Works
City of Brisbane
50 Park Lane
Brisbane CA 94005



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Breault:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Anthony Carrasco
District Manager
California Water Service Co.
641 N. Delaware Street
San Mateo CA 94401



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Carrasco:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Robert Shaver
General Manager
Alameda County Water District
43885 South Grimmer Blvd
Fremont CA 94538



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Shaver:

The Coastside County Water District (District) 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 that 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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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Tammy Rudock
General Manager
Mid-Penisula Water District
PO Box 129
Belmont CA 94002



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Rudock:

The Coastside County Water District (District) 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 that 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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Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Jeff Provenzano
Environmental Services Division Manager
City of San Jose
3025 Tuers Road
San Jose CA 95121



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Provenzano:

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Jim Burch
Deputy Director of Public Works
City of San Bruno
567 El Camino Real
San Bruno CA 94066-4299



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Burch:

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Patrick Sweetland
Director WWRD
City of Daly City
153 Lake Merced Blvd
Daly City CA 94015-1097



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Sweetland:

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Justin Chapel
Public Works Superintendent
City of Redwood City
1400 Broadway
Redwood City CA 94063



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Chapel:

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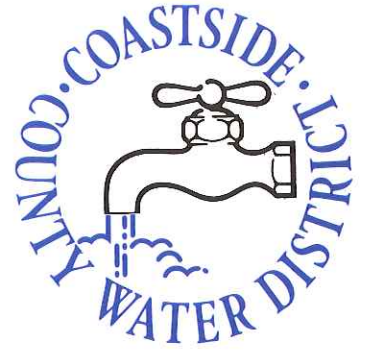
Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Jess Brown
Executive Director
San Mateo County Farm Bureau
765 Main Street
Half Moon Bay CA 94019



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Brown:

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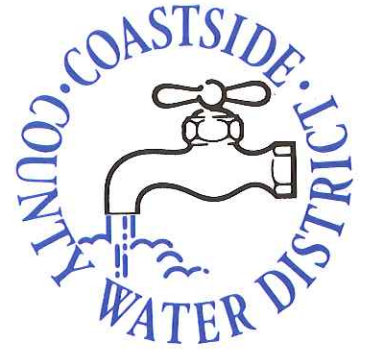
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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Dave Andrews
President
The Rotary Club of Half Moon Bay
PO Box 31
Half Moon Bay CA 94019



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Andrews:

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Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Walter T. Moore
President
Peninsula Open Space Trust
222 High Street
Palo Alto CA 94301



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Moore:

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Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Charise McHugh
President/CEO
Half Moon Bay Coastsides Chamber of Commerce
235 Main Street
Half Moon Bay CA 94019



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. McHugh:

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(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Steve McGrath
General Manager
San Mateo County Harbor District
400 Oyster Point Blvd, Suite 300
South San Francisco CA 94080



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. McGrath:

The Coastside County Water District (District) 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 that 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, the District coordinates with water management agencies, relevant public agencies and other water suppliers on the preparation of the UWMP update. The District will be reviewing the UWMP and will make amendments and updates, as appropriate.

If you have questions or concerns regarding the review process, please contact Cathleen Brennan.

Sincerely,

Coastside County Water District

A handwritten signature in black ink that reads "Cathleen Brennan". The signature is written in a cursive style.

Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Jo Chamberlain
Executive Director
Coastside Land Trust
PO Box 3205
Half Moon Bay CA 94019-3205



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Chamberlain:

The Coastside County Water District (District) 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 that 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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If you have questions or concerns regarding the review process, please contact Cathleen Brennan.

Sincerely,

Coastside County Water District

A handwritten signature in black ink that reads "Cathleen Brennan".

Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Kellyx Nelson
Executive Director
San Mateo Resource Conservation District
625 Miramontes Street, Suite 103
Half Moon Bay CA 94019



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Nelson:

The Coastside County Water District (District) 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 that 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,

Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Patrick Koepele
Executive Director
Tuolumne River Trust
111 New Montgomery, #205
San Francisco CA 94105



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Koepele:

The Coastside County Water District (District) 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 that 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,

Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Christine Lehnertz
General Superintendent
National Park Service Golden Gate National Parks
Fort Mason, Building 201
San Francisco CA 94123



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Lehnertz:

The Coastside County Water District (District) 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 that 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,

Coastside County Water District

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Cathleen Brennan

Water Resources Analyst

(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Magda Gonzalez
City Manager
City of Half Moon Bay
501 Main Street
Half Moon Bay CA 94019



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Gonzalez:

The Coastside County Water District (District) 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 that 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,

Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Steve Monowitz
Community Development Director
County of San Mateo
455 County Center, 2nd Floor
Redwood City CA 94063



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Monowitz:

The Coastside County Water District (District) 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 that 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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Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Beverli A. Mitchell
Manager
Sewer Authority Mid-Coastside
1000 N. Cabrillo Highway
Half Moon Bay CA 94019



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Mitchell:

The Coastside County Water District (District) 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 that 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,

Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Paul Cole
Assistant Fire Chief
Coastside Fire Protection District
1191 Main Street
Half Moon Bay CA 94019



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Cole:

The Coastside County Water District (District) 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 that 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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Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Nicole Sandkulla
Chief Executive Officer
Bay Area Water Supply and Conservation Agency
155 Bovet Road, Suite 650
San Mateo CA 94402



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Sandkulla:

The Coastside County Water District (District) 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 that 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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Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Clemens Heldmaier
General Manager
Montara Water and Sanitary District
PO Box 370131
Montara CA 94037



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Heldmaier:

The Coastside County Water District (District) 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 that 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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Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. Chuck Duffy
General Manager
Granada Community Services District
PO Box 335
El Granada CA 94018



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Duffy:

The Coastside County Water District (District) 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 that 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,

Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Ms. Martha Poyatos
Executive Director
LAFCO
455 County Center
Redwood City CA 94063



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Ms. Poyatos:

The Coastside County Water District (District) 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 that 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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Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

December 31, 2015

Mr. John Stufflebean
Director of Environmental Services
City of Sunnyvale
PO Box 3707
Sunnyvale CA 94088-3707



SUBJECT: Coastside County Water District Urban Water Management Plan 2015

Dear Mr. Stufflebean:

The Coastside County Water District (District) 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 that 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,

Coastside County Water District

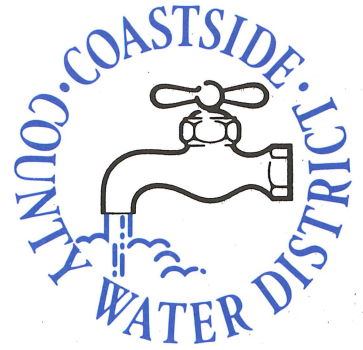
A handwritten signature in black ink that reads "Cathleen Brennan". The signature is written in a cursive style and is positioned above a horizontal line.

Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

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August 1, 2016

Ms. Magda Gonzalez
City Manager
City of Half Moon Bay
501 Main Street
Half Moon Bay CA 94019



SUBJECT: Urban Water Management Plan 2015 Public Hearing

Dear Ms. Gonzalez:

The Coastside County Water District will hold a public hearing on **Tuesday, September 13, 2016 at 7:00 p.m.** to receive public comments on and for the purpose of adopting the 2015 Urban Water Management Plan. The public hearing will be held at the District's Board Room located at 766 Main Street, Half Moon Bay.

A copy of the draft 2015 Urban Water Management Plan will be made available prior to the public hearing on the District's website (www.coastsidewater.org) and at the District office.

If you have comments, questions, or concerns, please contact Cathleen Brennan.

Sincerely,

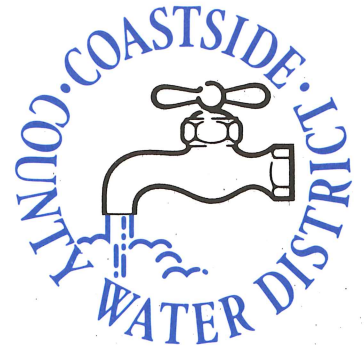
Coastside County Water District

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

August 1, 2016

Mr. Steve Monowitz
Community Development Director
County of San Mateo
455 County Center, 2nd Floor
Redwood City CA 94063



SUBJECT: Urban Water Management Plan 2015 Public Hearing

Dear Mr. Monowitz:

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Cathleen Brennan
Water Resources Analyst
(650) 276-0861 | cbrennan@coastsidewater.org

RECEIVED

FEB 17 2016

COASTSIDE COUNTY
WATER DISTRICT

WEDNESDAY, FEBRUARY 17, 2016

*****CAR-RT LOT**005
518 P2
COASTSIDE CO WATER DIST
766 MAIN ST
HALF MOON BAY CA 94019-1925



Half Moon Bay Review



CURRENTS

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CONCERTS ENLIVEN DOWNTOWN CROSSROADS 1B

CITY HALL

State of Half Moon Bay

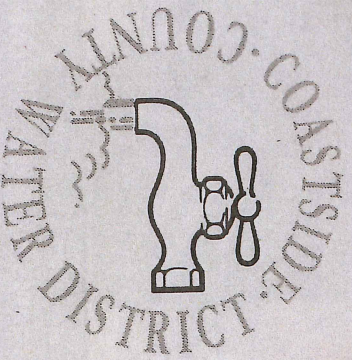
MAYOR RECAPS PROJECTS, CHALLENGES 4A



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COASTSIDE COUNTY
WATER DISTRICT
766 Main Street
Half Moon Bay, CA 94019
www.coastsidewater.org
(650) 726-4405

URBAN WATER MANAGEMENT PLAN

Coastside County Water District will be reviewing and updating the Urban Water Management Plan in 2016. We encourage all of our customers to participate in the review process. We will make any proposed revisions in the Plan available for public review and will also hold a public hearing.

The Plan was last updated in 2011. If you would like to learn more about the current plan, it is available on the District's website.

FOR INFORMATION ON THIS SPACE, PLEASE CONTACT THE REVIEW AT 726-4424

info@goldworkshmb.com
www.goldworkshmb.com
6104019

766 Main St., Half Moon Bay, CA 94019
phone: 650.726.2546
fax: 650.726.5243

www.coastsidewater.org
766 Main Street, Half Moon Bay, CA 94019
80 N. Cabrillo Hwy Suite J, Half Moon Bay, CA 94019
and many more... located at Strawflower Village by Safeway

2095592

5335619-059
at illd jo

XN023515

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...ence will be held at La Honda Elementary School, 450 Seal Ranch Road, La Honda, CA August 31st, 2016 at 2:00 p.m. for the purpose of acquainting all prospective bidders with the Contract Documents and the Project site.

LA HONDA PESCADERO UNIFIED SCHOOL DISTRICT
By: Amy Wooliever, Superintendent

DATED: August 19th, 2016
Publication Dates: 1) August 24th, 2016 2) August 31st, 2016

Published in the Half Moon Bay Review
August 24, 31, 2016
No. 9956

...of non-conforming width. The CDRC will make a decision, but will make a recommendation regarding the project's compliance with design review standards. The staff-level CDP will take place after September 8, 2016. The project is appealable to the California Coastal Commission. Project Planner: Dennis P. Aguirre

Applicant: Mark Macy
Case No.: PLN 2016-00201
Address: 12 Lewis Avenue, El Granada
Parcel No.: 047-152-230

...tion of a design review recommendation for construction of a new 2,596 sq. ft. residence with an attached 2 car garage on a 4,000 sq. ft. undeveloped parcel, as part of a Planning-level Coastal Development Permit and Certificate of Compliance (Type B). The applicant has proposed no tree removal and the CDRC will not render a decision. The CDRC will make a recommendation regarding the project's compliance with design review standards. The public hearing for the CDP will take place on September 8, 2016. The CDP is appealable to the California Coastal Commission. Project Planner: Daniel Leung

Applicant: Joe Daniel Miles
Case No.: PLN 2015-00527
Address: Main Street, Montara
Parcel No.: 036-047-030/04

...ion of a Design Review recommendation for construction of a new 2-story 2,600 sq. ft. family residence with an attached 2-car garage, including a 695 sq. ft. garage, on a legal 2,500 sq. ft. parcel, as part of a Coastal Development Permit (CDP) Merger (Merger). The two projects will be merged into one legal 5,000 sq. ft. parcel. The CDRC will not render a decision, but will make a recommendation regarding the project's compliance with design review standards. A public hearing for the CDP will take place after September 8, 2016. The CDP is appealable to the California Coastal Commission. The project includes the removal of four (4) trees and approximately 15,000 sq. ft. of grading. Project Planner: Camille

PUBLIC NOTICE

Notice of Public Hearing
Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019
(650) 726-4405
www.coastsidewater.org
When: Tuesday, September 13, 2016 at 7:00 p.m.
Where: 766 Main Street, Half Moon Bay 94019
2015 Urban Water Management Plan

California law (CWC § 10621) requires that Coastside County Water District Review and update its Urban Water Management Plan every five years. The Coastside County Water District's Board of Directors will hold a public hearing (CWC § 10642) to consider and receive comments and input on proposed revisions and updates to the Plan for 2015 through 2020. Upon conclusion of the public hearing, the Board of Directors of Coastside County Water District may revise, change, modify, and/or adopt the 2015 Urban Water Management Plan and the Water Shortage Contingency Plan.

Water Conservation Act of 2009 This public hearing will allow public comment on the District's compliance with Senate Bill SBx7-7 (Division 6 of the CWC, commencing with § 10608.26) and adopt a method for determining its urban water use target in the year 2020.

Water Shortage Contingency Plan This plan is required by California law (CWC § 10632) and is incorporated in the 2015 Urban Water Management Plan. The Coastside County Water District's Board of Directors will hold a public hearing to allow public input.

The proposed update to the 2015 Urban Water Management Plan, including the Water Shortage Contingency Plan will be available for public review on or before August 29, 2016 on the District's website (www.coastsidewater.org) and at the District's office prior to the public hearing.

Written comments should be sent to Coastside County Water District, Attn: Cathleen Brennan, 766 Main Street, Half Moon Bay 94019 by close of business on September 13, 2016. Please contact Cathleen Brennan at (650) 276-0861 with questions and comments.

Published in the Half Moon Bay Review
August 24, 31, Sept 7, 2016
No. 9953

...grieved person may appeal the decision of the Planning Commission to the City Council within ten (10) working days of the date of the decision. This project is located within the California Coastal Commission appeals jurisdiction. Therefore, final City action is appealable to the California Coastal Commission.

Published in the Half Moon Bay Review
August 31, 2016
No. 9962

PUBLIC NOTICE

FICTITIOUS BUSINESS NAME STATEMENT
File No. 270410

The following persons are doing business as: RIVAS & SONS PROPERTIES, 13850 Skyline Blvd, Woodside CA 94062. Ronald Anthony Rivas, 13850 Skyline Blvd, Woodside CA 94062. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on N/A.

This business is conducted by an individual.
s/Ronald Anthony Rivas
This statement was filed with Mark Church, County Clerk Recorder of San Mateo County on date indicated by file stamp.

ENDORSED FILED August 17, 2016
MARK CHURCH, County Clerk
Diana Siron
Deputy Clerk

NOTICE - This fictitious name statement expires five years from the date filed.

The filing of this statement does not of itself authorize the use in this state of a fictitious business name in violation of the rights of another under federal, state, or common law (see section 14400 et seq., business and professions code).

Published in the Half Moon Bay Review
August 24, 31, September 7, 14, 2016
No. 9957

PUBLIC NOTICE

FICTITIOUS BUSINESS NAME STATEMENT
File No. 270311

The following persons are doing business as: Grant Place, 815 South Grant Street, San Mateo CA 94402. Behnam Tabrizi and Nazanin Tabrizi, 1926 Emerson Street, Palo Alto CA 94301. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on N/A.
This business is conducted by an individual.

PUBLIC NOTICE

ORDER TO SHOW CAUSE FOR CHANGE OF NAME IN THE SUPERIOR COURT FOR THE STATE OF CALIFORNIA IN AND FOR THE COUNTY OF SAN MATEO NO. 16 CIV 00847

THE COURT FINDS that Petitioner Jaime Barriga Herrera has filed a Petition for Change of Name with the clerk of this court for an order changing Petitioner's name from Jaime Barriga Herrera to Jaime Barriga-Herrera. THE COURT ORDERS that all persons interested in this matter shall appear before this court at the hearing indicated below to show cause, if any, why this application for change of name should not be granted.
NOTICE OF HEARING: On Sept. 28, 2016, 9:00 a.m., in Department: Presiding Judge, Room 2D of this court, located at 400 County Center, Redwood City, California 94063.

IT IS FURTHER ORDERED that a copy of this order to show cause be published in the Half Moon Bay Review, a newspaper of general circulation printed in San Mateo County, California, once a week for four successive weeks prior to the date set for hearing on the petition.

Dated: August 11, 2016
s/John L. Grandsaert
Judge of the Superior Court
Endorsed: August 11, 2015
Filed by: Nima Mokhtarani, Deputy Clerk

Published in the Half Moon Bay Review
August 31, September 7, 14, 21, 2016

No. 9959

PUBLIC NOTICE

FICTITIOUS BUSINESS NAME STATEMENT
File No. 270300

The following persons are doing business as: Sea Glass Stitches, 422 Magellan Ave. Half Moon Bay CA 94019. Kathleen A. Davenport, 422 Magellan Ave. Half Moon Bay, CA 94019. The registrant(s) commenced to transact business under the fictitious business name(s) listed above on N/A.
This business is conducted by an individual.
s/Kathleen A. Davenport. This statement was filed with Mark Church, County Clerk Recorder

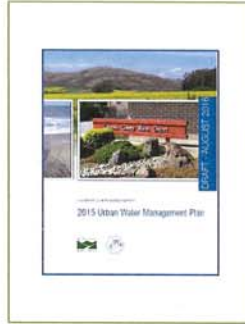
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**Coastside County Water District
Electronic Newsletter
September 4, 2016**

Notice of Public Hearing 2015 Urban Water Management Plan



The public hearing will include an update to the Urban Water Management Plan, including the Water Shortage Contingency Plan and the Water Conservation Act of 2009 urban water use targets.

Any questions or comments should be directed to Cathleen Brennan, Water Resources Analyst at Coastside County Water District.



Public Hearing

**Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019**

**Date: Tuesday, September 13, 2016
Time 7:00 pm**

Link to Draft Urban Water Management Plan [click here](#)

**Website: www.coastsidewater.org
Phone: (650) 726-4405**

Coastside County Water District, 766 Main Street, Half Moon Bay, CA 94019

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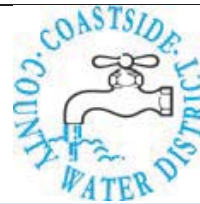
Sent by outreach@coastsidewater.org in collaboration with



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Notice of Public Hearing



Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019
(650) 726-4405
www.coastsidewater.org

Posted on Coastside County Water District website

When: Tuesday, September 13, 2016 at 7:00 p.m.

Where: 766 Main Street, Half Moon Bay, CA 94019

2015 Urban Water Management Plan

California law (CWC § 10621) requires that Coastside County Water District Review and update its Urban Water Management Plan every five years. The Coastside County Water District's Board of Directors will hold a public hearing (CWC § 10642) to consider and receive comments and input on proposed revisions and updates to the Plan for 2015 through 2020. Upon conclusion of the public hearing, the Board of Directors of Coastside County Water District may revise, change, modify, and/or adopt the 2015 Urban Water Management Plan and the Water Shortage Contingency Plan.

Water Conservation Act of 2009

This public hearing will allow public comment on the District's compliance with Senate Bill SBx7-7 (Division 6 of the CWC, commencing with § 10608.26) and adopt a method for determining its urban water use target in the year 2020.

Water Shortage Contingency Plan

This plan is required by California law (CWC § 10632) and is incorporated in the 2015 Urban Water Management Plan. The Coastside County Water District's Board of Directors will hold a public hearing to allow public input.

The proposed update to the 2015 Urban Water Management Plan, including the Water Shortage Contingency Plan will be available for public review on or before August 29, 2016 on the District's website (www.coastsidewater.org) and at the District's office prior to the public hearing.

Written comments should be sent to Coastside County Water District, Attn: Cathleen Brennan, 766 Main Street, Half Moon Bay 94019 by close of business on September 13, 2016.

Please contact Cathleen Brennan at (650) 276-0861 with questions and comments.

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APPENDIX E

Service Area Population Estimates and Projections

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DWR Approval of BAWSCA Population Methodology for Coastside County Water District
April 2016

From: Huff, Gwen@DWR [<mailto:Gwen.Huff@water.ca.gov>]
Sent: Thursday, April 14, 2016 11:59 AM
To: Michelle Maddaus <michelle@maddauswater.com>
Cc: cbrennan@coastsidewater.org
Subject: RE: Coastside BAWSCA Population methodology

Good morning, Michelle,

Thanks for sending the revised population methodology for Coastside Water District. This method and description of the method are thorough and address the requirements of the Water Code.

Gwen

Gwen Huff
Senior Environmental Scientist
Urban Water Use Efficiency Unit
Department of Water Resources
gwen.huff@water.ca.gov
(916) 651-9672

From: Michelle Maddaus [<mailto:michelle@maddauswater.com>]
Sent: Thursday, April 14, 2016 10:24 AM
To: Huff, Gwen@DWR
Cc: michelle@maddauswater.com; cbrennan@coastsidewater.org
Subject: Coastside BAWSCA Population methodology

Hi Gwen,

Please see below for a **revised** population write up specifically for Coastside Water District.

In developing the 2014 Regional Demand and Conservation Projections, BAWSCA member agencies and Maddaus Water Management evaluated several data sources available for historical and projected population and opted to use ABAG 2013 population data as it represented the most current population information for each BAWSCA member agency service area. Population estimates were provided by the Association of Bay Area Governments (ABAG) in their Plan Bay Area Projections 2013 report (<http://abag.ca.gov/planning/housing/projections13.html>) on a sub-regional jurisdictional level (not by water service area boundaries) in 5 year increments from year 1990 to 2040.

Maddaus Water Management worked directly with ABAG and Coastside Water District on numerous phone calls and data exchanges to specifically review the population for this service area. ABAG boundaries were aligned with Coastside service area boundaries as provided by the water agency. Coastside's population numbers were analyzed in detail by comparing both sets of boundaries. Historical population of the 2010 census by census block was also compared with ABAG

population by block, and then carefully aligned with the service area estimates by using detailed service area maps down to the street level. This detailed analysis of comparing the water agency service boundaries down with the ABAG maps and census 2010 boundaries was then further aligned with water use account data from Coastside Water District water meter records. The residential water data was verified in the area to make sure there was enough water to support for the calculated residential population for 2010. Through this residential water use versus 2010 population comparison analysis it was decided for the service area located inside the City of Half Moon Bay that the ABAG population values were representative of the service area and supported the residential water use for the area. Using ABAG population estimated values for inside the City of Half Moon Bay it was found that just under 67.4 percent of the water service area (11,181 people in 2010 live in the City of Half Moon Bay out of a total of 16,590 people in Coastside Water District service area).

The remaining area outside the City of Half Moon Bay was further analyzed in detail using water service maps all the way down to the street level and compared to ABAG boundaries. This data was also compared to the 2010 Census data for further verification of accuracy. This analysis determined a value of population that was served by Coastside's Water District outside the City of Half Moon Bay. El Granada is a census-designated place in the coastal area of northern San Mateo County, California. Aerial maps of the service area, census data for northern San Mateo County along with ABAG boundary maps were all aligned to determine where the development and therefore how many dwelling units were in this region. Through discussions with ABAG and Coastside along with reviewing census number of 2010 dwelling units, along with 2010 residential water accounts in the service area outside the City of Half Moon Bay. An estimate of the number of people for 2010 was determined by assuming an average household size per residential parcel of 2.6. The 2.6 household size is based on Census 2010 estimates for household size in the El Granada. The area outside the City of Half Moon Bay equated to 5,409 people in 2010 which is just over 32.6% percent of the service area and is located in the Half Moon Bay Unincorporated (El Granada area).

The two population values of inside the City of Half Moon Bay and the area in Half Moon Bay Unincorporated as described above were added together to arrive at the total water service area population. This process was again repeated for this Urban Water Management Plan report and double checked to validate historical population including the year 2015. The DWR population tool was also utilized to verify the historical population estimates were in alignment within 95% with the above described method.




Historical Demographics

Historical Population
Coastside County Water District

Navigation bar with buttons: [Previous Step](#) | **Historical Population** | [Historical Jobs](#) | [Next Step](#)

! Enter Historical Population Below

Historical Population			
 Historical Population Interpolate	Start Date	1999	End Date
	Date	Population	Comments
	1999	16,668	
	2000	16,668	
	2001	16,660	
	2002	16,652	
	2003	16,645	
	2004	16,637	
	2005	16,629	
	2006	16,621	
	2007	16,613	
	2008	16,606	
	2009	16,598	
	2010	16,590	
	2011	16,606	
	2012	16,621	
	2013	0	
2014	0		
2015	0		



Growth Projections

Population
Coastside County Water District

Previous Step
Growth Projections
POP
JOB
SFPOP
MFPO
NOGR
INSTP
Next Step

Enter projection data below

Population		
<p>Population</p> <p>Interpolate</p>	Units <input type="text" value="people"/>	
	Date	Data
	2013	16,637
	2014	16,652
	2015	16,668
	2016	16,704
	2017	16,740
	2018	16,776
	2019	16,811
	2020	16,848
	2021	16,853
	2022	16,858
	2023	16,863
	2024	16,868
	2025	16,873
	2026	16,875
	2027	16,878
	2028	16,881
	2029	16,883
	2030	16,886
	2031	17,181
	2032	17,476
	2033	17,772
	2034	18,067
	2035	18,363
	2036	18,658
	2037	18,953
	2038	19,249
	2039	19,544
	2040	19,840

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:

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

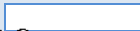


Audit Preparation Date:

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

Instructions

The current sheet. Enter contact information and basic audit details (year, units etc)

Reporting Worksheet

Enter the required data on this worksheet to calculate the water balance and data grading

Comments

Enter comments to explain how values were calculated or to document data sources

Performance Indicators

Review the performance indicators to evaluate the results of the audit

Water Balance

The values entered in the Reporting Worksheet are used to populate the Water Balance

Dashboard

A graphical summary of the water balance and Non-Revenue Water components

Grading Matrix

Presents the possible grading options for each input component of the audit

Service Connection Diagram

Diagrams depicting possible customer service connection line configurations

Definitions

Use this sheet to understand the terms used in the audit process

Loss Control Planning

Use this sheet to interpret the results of the audit validity score and performance indicators

Example Audits

Reporting Worksheet and Performance Indicators examples are shown for two validated audits

Acknowledgements

Acknowledgements for the AWWA Free Water Audit Software v5.0

If you have questions or comments regarding the software please contact us via email at: 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: **Coastside County Water District (4110011)**
Reporting Year: **2015** / 7/2014 - 6/2015

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.

Master Meter and Supply Error Adjustments

WATER SUPPLIED

Volume from own sources: + ? 7 113.160 MG/Yr
Water imported: + ? 7 493.610 MG/Yr
Water exported: + ? 8

Enter grading in column 'E' and 'J' -----> Pcnt: Value:
+ ? 3 -3.00% MG/Yr
+ ? 3 -1.00% MG/Yr
+ ? MG/Yr

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

WATER SUPPLIED: 615.256 MG/Yr

AUTHORIZED CONSUMPTION

Billed metered: + ? 10 561.780 MG/Yr
Billed unmetered: + ? 0.000 MG/Yr
Unbilled metered: + ? 10 0.020 MG/Yr
Unbilled unmetered: + ? 7.691 MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

AUTHORIZED CONSUMPTION: 569.491 MG/Yr

Click here: ?
for help using option buttons below

Pcnt: Value: 1.25% MG/Yr

Use buttons to select percentage of water supplied OR value

Pcnt: Value: 0.25% MG/Yr

6.100 MG/Yr
0.25% MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

45.765 MG/Yr

Apparent Losses

Unauthorized consumption: + ? 1.538 MG/Yr

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

Customer metering inaccuracies: + ? 6 6.100 MG/Yr
Systematic data handling errors: + ? 1.404 MG/Yr

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

Apparent Losses: 9.043 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? **36.722** MG/Yr

WATER LOSSES: 45.765 MG/Yr

NON-REVENUE WATER

NON-REVENUE WATER: 53.476 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains: + ? 8 79.5 miles
Number of active AND inactive service connections: + ? 6 7,307
Service connection density: ? 92 conn./mile main

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

Average length of customer service line: + ?

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

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

Average operating pressure: + ? 5 74.1 psi

COST DATA

Total annual cost of operating water system: + ? 7 \$8,466,331 \$/Year
Customer retail unit cost (applied to Apparent Losses): + ? 6 \$9.75 \$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses): + ? 7 \$4,306.61 \$/Million gallons Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 71 out of 100 *****

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

PRIORITY AREAS FOR ATTENTION:

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

1: Water imported

2: Customer metering inaccuracies

3: Customer retail unit cost (applied to Apparent Losses)

STAFF REPORT

To: Board of Directors
via David R. Dickson, General Manager

From: Cathleen Brennan, Water Resources Analyst

Agenda: April 12, 2016

Report Date: April 8, 2016

Subject: Water Audit for Fiscal Year 2013-2014

Attachment: Final Report: Executive Summary CCWD Water Audit Loss Control Program Implementation

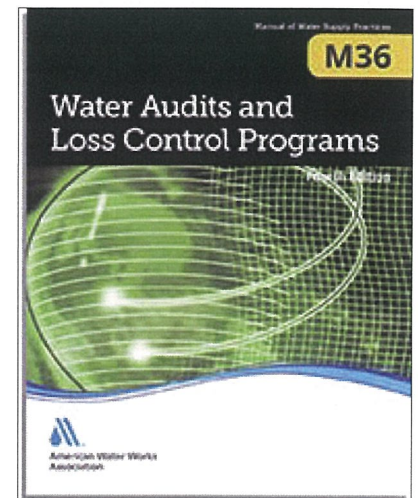
Informational Item

Background

On July 8, 2014, the Board authorized staff to contract with Water Systems Optimization, Inc. (WSO, Inc.) to complete an annual water audit and evaluate water loss control opportunities in our water distribution system for the District to implement as part of a water loss control program. WSO, Inc. completed their work in January of 2016.

In California, there are voluntary and regulatory requirements for implementing a water audit and water loss control programs using the current American Water Works Association (AWWA) methodology. These requirements include the following:

- *Regulatory Requirement* - California Water Code § 10608.34 (SB 555) requires urban water suppliers to submit an annual completed and validated water audit to the Department of Water Resources starting in 2017.
- *Regulatory Requirement* - It is a demand management measure of the California Urban Water Management Planning Act, which must be reported on every five years in the District's Urban Water Management Plan.
- *Regulatory Requirement* - Reducing water loss would lower our gross per capita water demand and help us achieve the mandated water use reductions under the 2009 California Water Conservation Act.
- *Voluntary Requirement* - It is a foundational best management practice (BMP 1.2 Water Loss Control) of the California Urban Water Conservation Council, of which the District is a member and signatory of their memorandum of understanding.



The water industry is experiencing a relatively fast rate of change in the management of water resources, especially in California. Increasing pressure to manage water supplies to maintain reliability, water quality, infrastructure and adequate supplies has resulted in new standards and regulations.

Summary of Audit Results

The audit period covered fiscal year 2014 and the focus of the top-down water audit was the District's distribution system (treated water).

System Attributes

Average system pressure: 74.1psi
 Apparent Losses: 11.618 MG
 Current Annual Real Losses (CARL): 39.181 MG
 Total Losses: 50.799 MG

Unavoidable Annual Real Losses (UARL): 41.28 MG
 Annual Cost of Apparent Losses (retail customer unit cost): \$111,354
 Annual Cost of Real (variable production cost) Losses: \$127,295
 Total Cost of Losses: \$238,649

Performance Indicators

Non-Revenue Water as percent by volume of water supplied: 7.6%
 Non-Revenue Water as percent by cost of operating system: 2.8%

Apparent Losses per service connection: 4.36 gallons/day
 Real Losses per service connection per day: 14.69 gallons/day
 Total Losses per connection per day: 19.05 gallons/day

Infrastructure Leak Index (ILI) [CARL/UARL] = 0.95

Component Analysis

Leakage Component	Description	Volume (MG)	Percent of Total Real Losses
Reported Leakage	Reported by public or discovered by staff during normal operations	3.9	10%
Unreported Leakage	Discovered through proactive leak detection program	0.0	0.0%
Background Leakage	Occurs throughout system at joints and fittings; acoustically undetectable	29.1	74%
Hidden Losses	Undetected and ongoing leakage that could be discovered through proactive leak detection; acoustically detectable	6.1	16%
Total Real Losses		39.2	100%

Audit Validation

The water audit data validity score is 68 points out of a possible 100. WSO, Inc. worked with staff to validate the system input volumes, the authorized consumption and apparent losses. The preferred performance indicators to evaluate the operational efficiency of the distribution system are the Infrastructure Leakage Index (ILI) and the Real Losses per service connection per day.

The ILI for this audit period is 0.95, which means that the actual volume of Real Losses is less than the technical minimum, according to AWWA's methodology. Current data from 68 California water utilities determined that the median California water utility loses about 36.6 gallons per day per service connection in real losses compared to the District's 14.7 gallons per day per service connection and has an ILI of 2.1 compared to the District's ILI of 0.95.

Recommendations for the Water Loss Control Program and Audit Validation

WSO, Inc. recommended nineteen specific actions to improve the accuracy of future water audits. Listed below, in no particularly order of preference, are the five most important recommendations.

1. Install finished (effluent) water meters at Nunes and Denniston water treatment plants.
This recommendation would help with validating how much water is actually sent to the distribution system (system input volume) from the treatment plants. Not all of the water that enters the treatment plant is fed into the distribution system.
2. Continue random testing of small domestic meters (5/8" through 1.5") annually, as is operationally and financially possible.
This recommendation would help with validating apparent losses. The District does not have its own test bench for implementing AWWA methodology for testing retail meters, so this recommendation is a challenge to implement. An alternative would be to randomly choose new meters before they are installed and send them off-site for testing before we install them in the service area.
3. Adopt a large domestic meter testing ($\geq 2"$) and tracking program that tracks the volumetric accuracy of important revenue generating meters.
This recommendation would help with validating apparent losses. Large meters are expensive, so it would be more cost effective to test in situ. In order to test a meter without removing it, there has to be test ports and/or a bypass in place. This should be added to our engineering specifications and drawings.
4. Consistently enter date-time stamps that reflect the times of leak discovery and containment as exactly as possible.

This recommendation would help with completing a leakage component analysis. Standardized leakage data collection is important to completing a component analysis of Real Losses and determining appropriate intervention.

5. Check all bypass pressure reducing valves (PRVs) for settings that achieve desired downstream pressures.

This recommendation may help with real losses if pressure fluctuations were reduced and pressure management resulted in a reduction in extremely high pressures (>100psi). The District is following up on WSO, Inc.'s findings regarding pressure in El Granada, with Kennedy Jenks' design work on the Denniston Booster Pump Station.

Summary

The first priority for the District is to have better confidence in the volume of treated water being sent to the distribution system. There is a suspicion that the Nunes WTP influent meter may be under-registering, especially during low flow events, which may be the reason for the ILI being less than 1.

The District checks the influent meter against SFPUC's raw water meters, but we have had issues with the raw water meters under-registering in the past. And since they are SFPUC's meters, we do not have control over testing and calibration or how quickly they can be put back on-line.

Testing the Nunes WTP influent meter using the recommended protocol is challenging due to the configuration of the plant. Adding a finished water meter to a system does not, in and of itself, solve a validation issue, but the District will be able to test the finished water (effluent) meter by isolating and filling one of the Half Moon Bay treated water tanks.

Thank you

I appreciate all of the assistance I received to complete this water audit and water loss study. This work impacted most everyone at the District either directly or indirectly. It involved field work, data review and meetings.

- ❖ Thank you to Joe Guistino, John Davis, Jon Bruce and Logan Duffy for help with pressure testing and evaluation.
- ❖ Thank you to Sean Donovan and Todd Schmidt for tours of the treatment plants and help with the validating system input volumes.
- ❖ Thank you to David Dickson and Mary Rogren for providing the authorized consumption data.



*CCWD Water Audit and Water Loss Control Program
Implementation*

Audit Period: Fiscal Year 2013-2014

**FINAL REPORT:
EXECUTIVE SUMMARY**

DECEMBER 2015



EXECUTIVE SUMMARY

Project Background

Water Systems Optimization (WSO) partnered with Coastside County Water District (CCWD) to conduct a thorough water audit and evaluate water loss control opportunities. In order to consider targeted water loss intervention strategies, WSO first determined the types and magnitudes of water loss that occurred in CCWD’s system during the audit period (July 1, 2013 to June 30, 2014, “FY13-14”). To this end, WSO completed an American Water Works Association water balance and performed a component analysis of Real Losses. WSO additionally investigated the validity of contributing data sources, as the utility of a water balance depends on the reliability of the data that informs it.

Summary of Volumetric Findings

CCWD’s FY13-14 water balance is presented below in Figure ES.1. Each volume in the water balance was individually calculated using all available data and examined for data integrity.

System Input Volume 730.6 MG	Water Exported 56.0 MG				Revenue Water 679.7 MG
	Authorized Consumption 624.2 MG	Billed Authorized Consumption 623.7 MG	Billed Metered Consumption 623.7 MG	Billed Unmetered Consumption 0.0 MG	
		Water Losses 50.8 MG	Unbilled Authorized Consumption 0.6 MG	Unbilled Metered Consumption 0.0 MG	Unbilled Unmetered Consumption 0.5 MG
	Apparent Losses 11.6 MG		Customer Metering Inaccuracies 9.9 MG		
			Unauthorized Consumption 1.7 MG		
			Systematic Data Handling Errors 0.0 MG		
	Real Losses 39.2 MG		Reported Leakage 3.9 MG		
			Unreported Leakage 0.0 MG		
			Background Leakage 29.1 MG		
			Hidden Losses 6.1 MG		
Water Supplied 675.0 MG				Non-Revenue Water 51.4 MG	

Figure ES.1: CCWD FY13-14 Water Balance

Definitions of water balance volumes and their application to CCWD’s system are provided below.

- **System Input Volume (SIV)** is the sum of all *potable* inputs into the distribution system, comprised of both the sources that a utility owns plus those that it purchases. CCWD's SIV is composed of all water from CCWD's own sources (Denniston wells) and SFPUC raw water imports.
- **Water Supplied** is equal to SIV minus exports; it encompasses all water input into CCWD's potable distribution system intended to serve CCWD treated water customers. CCWD's Water Supplied volume is its SIV minus an export to Skylawn raw water accounts.
- **Authorized Consumption** is the volume of water used by registered consumers, including residential customers; industrial, commercial, and agricultural users; and the utility itself. Water used for firefighting and infrastructure maintenance (e.g. distribution main flushing) is also considered Authorized Consumption. Authorization of use can be explicit or implicit. Authorized Consumption is categorized as billed or unbilled and metered or unmetered. CCWD's Authorized Consumption is primarily captured in the billing database, with a few supplemental estimates tracking unmetered consumption.
- **Apparent Losses** are the volumes of water that are successfully delivered to customers but not measured or recorded accurately. Often referred to as "paper losses," Apparent Losses come in three distinct forms: customer metering inaccuracies, unauthorized consumption, and systematic data handling errors.
- **Real Losses** are physical losses such as leaks, breaks, and overflows. Mathematically, Real Losses are what remain after Authorized Consumption and Apparent Losses have been subtracted from Water Supplied. Real Losses can also be modeled "bottom-up" using a component analysis of Real Losses. This modeling approach estimates the annual volume of Real Losses by examining the numerous leakage events during the year and estimating each leak's Real Loss volume. To arrive at a volume lost to each leak, repair documentation and modeling assumptions are employed to determine leak flow rate and leak duration.
- **Revenue Water** is the component of Authorized Consumption that generates revenue, primarily Billed Metered Authorized Consumption.
- **Non-Revenue Water** is water that does not generate revenue and consists of Real Losses, Apparent Losses, and Unbilled Authorized Consumption.

Water Balance Validation

WSO carefully examined the validity of contributing data sources in completing the FY13-14 water audit to ensure that the water balance is as reliable as possible. Additionally, all water balance volumes are subject to inherent error in measurement and estimation, so volumes are assigned a data validity score based on meter accuracy, the reliability of contributing data sources, and the rigor of data tracking practices.

The primary analyses involved in validating each water balance volume are briefly described below in Table ES.1. Throughout data compilation and analysis, WSO engaged with CCWD staff to document data generation and tracking protocols in order to identify the potential for introduction of volumetric errors. WSO's findings prompted the data management recommendations discussed in this report.

Table ES.1: Key Volume Validations

VOLUME	VALIDATION
System Input Volume	<ul style="list-style-type: none"> • treatment plant influent SCADA data analyzed for consistency and completeness • pumping and import records reviewed • treatment processes examined for potential water losses • in-series meter raw water meter reads compared
Authorized Consumption	<ul style="list-style-type: none"> • billing database analyzed for consistency, completeness, boundary sensitivity, and abnormal records • bills apportioned to align production and consumption • operational and fire-fighting estimates tallied
Apparent Losses	<ul style="list-style-type: none"> • sample of small meters tested for volumetric accuracy • small meter test results extrapolated to all customer meters to estimate meter stock accuracy

To improve the validity of future water audits, WSO recommends that CCWD study the accuracy of treatment plant influent meters, install effluent meters at the treatment plants, and test additional customer meters. Currently, WSO suspects that CCWD’s production meters are under-registering, as the balance of Water Supplied and Authorized Consumption results in an unrealistically low volume of Water Losses. Therefore, WSO recommends that CCWD view the results of the water balance cautiously.

Performance Indicators

Once a water balance has been populated, a series of performance indicators can be calculated that capture water distribution efficiency. These **standard AWWA performance indicators allow utilities to meaningfully track their Water Losses from year to year, and a select few indicators allow utilities to compare their performance to peer utilities.** CCWD’s FY13-14 performance indicators are presented in Table ES.2.

WSO recommends that performance indicators be evaluated as a suite, as no single performance indicator communicates a complete picture of efficiency. Additionally, WSO urges CCWD to employ percentage figures cautiously (e.g. Non-Revenue Water as a percent by volume of Water Supplied) because percentages are heavily influenced by their denominator. In the case of Non-Revenue Water as a percent by volume of Water Supplied, Water Supplied is the denominator and inevitably varies from year to year. Given this variability, simple percentages are not robust indicators of Water Losses. More consistent indicators – like Real Losses per service connection per day and the Infrastructure Leakage Index – are the preferred metrics of operational efficiency.

Table ES.2: FY13-14 Performance Indicators

	FY13-14	UNITS
FINANCIAL PERFORMANCE INDICATORS		
Non-Revenue as percent by volume of Water Supplied	7.6%	
Non-Revenue as percent by cost of operating system	2.8%	
annual cost of Apparent Losses	\$111,354	<i>valued at customer retail unit cost</i>
annual cost of Real Losses	\$127,295	<i>valued at variable production cost</i>
OPERATIONAL EFFICIENCY PERFORMANCE INDICATORS		
Apparent Losses per service connection per day	4.4	gal/conn/day
Real Losses per service connection per day	14.7	gal/conn/day
Real Losses per service connection per day per PSI pressure	0.2	gal/conn/day/PSI
Unavoidable Annual Real Losses (UARL)	41.3	MG/yr
Current Annual Real Losses (CARL)	39.2	MG/yr
Infrastructure Leakage Index (CARL/UARL)	0.95	

CCWD's ILI is less than 1.0, meaning that the actual volume of Real Losses is less than the technical minimum. The normalized Real Loss volume of 14.7 gallons per connection per day is also suspiciously low. **Because the metrics of Real Loss are abnormally low, WSO questions the accuracy of the water balance.** All existing data has been incorporated in the water balance, and WSO does not believe that any data is missing from the water balancing process. **WSO therefore posits that instrumentation inaccuracy is causing under-estimation of Real Losses.** Error compounding throughout the water balance process can cause unreliable results.

Comparison to State Dataset

WSO recently examined water audits submitted to the California Urban Water Conservation Council in fulfillment of Best Management Practice 1.2. In total, 68 utilities were included in the California set of water audits. Please note that some California utilities are not included in this set due to unrealistic audit submissions.

Analysis of this data set determined that **the median California utility loses 36.6 gallons per service connection per day to Real Losses and 7.0 gallons per service connection per day to Apparent Losses**, using 2012 as the study year. CCWD's normalized Real Losses volume is less than half the calculated median in California. Additionally, **the median California utility reports an ILI of 2.1**, compared to CCWD's ILI of 0.95. Please note that the audits analyzed to produce these median values were self-reported and therefore have not been validated. As a result, these performance indicator statistics should be viewed cautiously, as suggestive of the potential magnitude of Water Losses seen by California utilities but not indicative of exact values.

CCWD's figures are far below these median figures and present a picture of water loss that likely does not align with the actual performance of CCWD's system.

Component Analysis of Real Losses

In order to intervene against Real Losses, the total volume of Real Losses must first be divided into component volumes based on how CCWD interacts with the leakage. Knowing where and in what form leakage occurs allows intervention strategies to be more effectively and locally applied. **In order to break down Real Losses into distinct leakage volumes, WSO performed a component analysis of Real Losses.** The results of the component analysis are presented in Table ES.3.

The volume of Real Losses determined with a water balance informs the calculation of Hidden Losses (the ongoing leakage in the system that could be recovered through leak detection) in the component analysis of Real Losses. Without a reasonable estimation of Real Losses, the ultimate calculation of Hidden Losses will be inaccurate, if not impossible. Therefore, **WSO used repair data and system infrastructure information to quantify Reported Leakage, Unreported Leakage, and Background Leakage. WSO also calculated Hidden Losses but qualifies the results as probably inaccurate.**

Table ES.3: Component Analysis of Real Losses Volumes

LEAKAGE COMPONENT	DESCRIPTION	VOLUME (MG)	% OF TOTAL REAL LOSSES
Reported Leakage	discovered by customers and CCWD staff during normal operations	3.9	10%
Unreported Leakage	discovered through proactive leak detection	0.0	0%
Background Leakage	occurs throughout system at joints and fittings; acoustically undetectable	29.1	74%
Hidden Losses	undetected and ongoing leakage that could be discovered through leak detection	6.1	16%
TOTAL REAL LOSSES	all physical water losses	39.2	100%

Intervention Strategies

Each Real Loss component volume responds to specific intervention strategies. The standard tools for Real Loss control are presented in Figure ES.6.

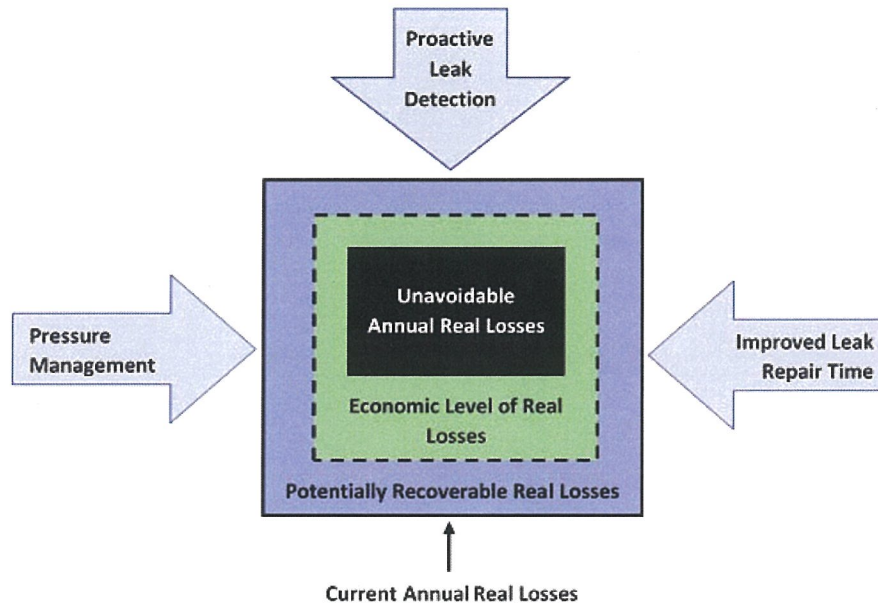


Figure ES.6: Real Loss Intervention Tools

Pressure management reduces all Real Loss component volumes and is the only way to lessen the volume lost to Background Leakage. Proactive leak detection addresses Hidden Losses, the volume of leakage that is undiscovered and ongoing in the system but makes enough noise to be found through acoustic leak detection. Improved leak repair times reduce Real Losses due to Reported and discovered Unreported Leakage by cutting the amount of time for which leaks are permitted to run.

However, for such intervention strategies to be effective, the volume of Real Losses must be known with a reasonable degree of accuracy. **Once CCWD has a more reliable water balance in place, interventions against Real Losses can be economically evaluated.**

Compiled Recommendations

WSO recommends that CCWD pursue the following opportunities to improve distribution efficiency and data collection and management. Enacting these recommendations will improve the accuracy and ease of future water audits. Recommendations are presented by relevant water balance volume but are otherwise unordered. The recommendations that WSO considers to be most important are highlighted in **blue**. Descriptions of each recommendation are provided in the body of this report (organized by relevant volume) and in a separate document pertaining exclusively to recommendations.

System Input Volume

1. **Install finished water meters at Nunes and Denniston treatment plants.**
2. Regularly test and calibrate treatment plant and other supply meters.
3. Review records of raw water meter performance and maintenance.

Authorized Consumption

4. Investigate meters identified by the consumption range analysis for potential right-sizing and revenue improvement.
5. Follow the billing data validation and apportionment outlined in WSO's reporting in performing future year-long water audits.

Apparent Losses

6. **Continue random testing of small meters by testing as many small meters annually as is operationally and financially possible.**
7. **Adopt a large meter testing and tracking program that tracks the volumetric accuracy of important revenue-generating meters.**
8. Inform future meter replacement programs with the economic analysis presented in WSO's reporting.
9. Pursue a consumption profiling study in order to customize the volumetric weighting factors applied in meter accuracy calculations and Apparent Loss analysis.

Water Balance

10. Test the volumetric accuracy of treatment plant influent meters through a full range of standard flows.
11. Perform a leak detection survey to measure actual leakage, thereby confirming (or refuting) the Real Loss volume derived from the water balance.

Component Analysis of Real Losses

12. **Consistently enter date-time stamps that reflect the times of leak discovery and containment as exactly as possible.**

13. Consider tracking leak flow rate estimations.
14. View field estimations of total water loss cautiously.

Pressure

15. **Check all bypass PRVs for settings that achieve desired downstream pressures.**
16. Log pressure immediately upstream and downstream of PRVs along the Zone 2-El Granada Zone boundary to identify any malfunctioning PRVs.
17. Reduce the number of PRVs controlling pressure from Zone 2 to the El Granada Zone.
18. Strategize to reduce excessively-high Zone 2 pressures.
19. Purchase slow start/stop pumps in future pump replacements.

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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	897	Million Gallons
	2008 total volume of delivered recycled water	-	Million Gallons
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period ^{1, 2}	10	Years
	Year beginning baseline period range	1999	
5-year baseline period	Year ending baseline period range ³	2008	
	Number of years in baseline period	5	Years
	Year beginning baseline period range	2004	
	Year ending baseline period range ⁴	2008	

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

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

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

NOTES:

SB X7-7 Table 2: Method for Population Estimates

Method Used to Determine Population (may check more than one)	
<input type="checkbox"/>	1. Department of Finance (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
<input type="checkbox"/>	2. Persons-per-Connection Method
<input type="checkbox"/>	3. DWR Population Tool
<input checked="" type="checkbox"/>	4. Other DWR recommends pre-review
NOTES: Population estimates based on ABAG data for City of Half Moon Bay and El Granada area. See Appendix E for description of methodology and approval of methodology by DWR.	

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	1999	16,668
Year 2	2000	16,668
Year 3	2001	16,660
Year 4	2002	16,652
Year 5	2003	16,645
Year 6	2004	16,637
Year 7	2005	16,629
Year 8	2006	16,621
Year 9	2007	16,613
Year 10	2008	16,606
<i>Year 11</i>		
<i>Year 12</i>		
<i>Year 13</i>		
<i>Year 14</i>		
<i>Year 15</i>		
5 Year Baseline Population		
Year 1	2004	16,637
Year 2	2005	16,629
Year 3	2006	16,621
Year 4	2007	16,613
Year 5	2008	16,606
2015 Compliance Year Population		
	2015	16,668
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>	
10 to 15 Year Baseline - Gross Water Use							
Year 1	1999	854			-		854
Year 2	2000	793			-		793
Year 3	2001	926			-		926
Year 4	2002	937			-		937
Year 5	2003	918			-		918
Year 6	2004	1,006			-		1,006
Year 7	2005	876			-		876
Year 8	2006	831			-		831
Year 9	2007	944			-		944
Year 10	2008	897			-		897
<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	-			-		-
10 - 15 year baseline average gross water use							898
5 Year Baseline - Gross Water Use							
Year 1	2004	1,006			-		1,006
Year 2	2005	876			-		876
Year 3	2006	831			-		831
Year 4	2007	944			-		944
Year 5	2008	897			-		897
5 year baseline average gross water use							911
2015 Compliance Year - Gross Water Use							
2015		666			-		666
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3							
NOTES: Distribution system volumes include all water delivered to the District's customers.							

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

Complete one table for each source.

Name of Source		Local Sources		
This water source is:				
<input checked="" type="checkbox"/>	The supplier's own water source			
<input type="checkbox"/>	A purchased or imported source			
Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Entering Distribution System	Meter Error Adjustment* <i>Optional (+/-)</i>	Corrected Volume Entering Distribution System	
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1999	311		311
Year 2	2000	304		304
Year 3	2001	293		293
Year 4	2002	278		278
Year 5	2003	286		286
Year 6	2004	316		316
Year 7	2005	231		231
Year 8	2006	159		159
Year 9	2007	192		192
Year 10	2008	141		141
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2004	316		316
Year 2	2005	231		231
Year 3	2006	159		159
Year 4	2007	192		192
Year 5	2008	141		141
2015 Compliance Year - Water into Distribution System				
2015		112	4	116
<i>* Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document</i>				
NOTES:				

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	
10-15 Year Baseline - Indirect Recycled Water Use									
Year 1	1999		-		-			-	-
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		-		-			-	-
5 Year Baseline - Indirect Recycled Water Use									
Year 1	2004		-		-			-	-
Year 2	2005		-		-			-	-
Year 3	2006		-		-			-	-
Year 4	2007		-		-			-	-
Year 5	2008		-		-			-	-
2015 Compliance - Indirect Recycled Water Use									
	2015		-		-			-	-
*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)				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1999	16,668	854	140
Year 2	2000	16,668	793	130
Year 3	2001	16,660	926	152
Year 4	2002	16,652	937	154
Year 5	2003	16,645	918	151
Year 6	2004	16,637	1,006	166
Year 7	2005	16,629	876	144
Year 8	2006	16,621	831	137
Year 9	2007	16,613	944	156
Year 10	2008	16,606	897	148
<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	-	-	
10-15 Year Average Baseline GPCD				148
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2004	16,637	1,006	166
Year 2	2005	16,629	876	144
Year 3	2006	16,621	831	137
Year 4	2007	16,613	944	156
Year 5	2008	16,606	897	148
5 Year Average Baseline GPCD				150
2015 Compliance Year GPCD				
2015		16,668	666	109
NOTES:				

SB X7-7 Table 6: Gallons per Capita per Day
Summary From Table SB X7-7 Table 5

10-15 Year Baseline GPCD	148
5 Year Baseline GPCD	150
2015 Compliance Year GPCD	109
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
148	118

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 type="checkbox"/>		Sacramento River	176	167
<input checked="" type="checkbox"/>	100%	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
Target <i>(If more than one region is selected, this value is calculated.)</i>				124
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 ¹	Calculated 2020 Target ²	Confirmed 2020 Target
150	143	124	124

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

NOTES:

SB X7-7 Table 8: 2015 Interim Target GPCD

Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	2015 Interim Target GPCD
124	148	136

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				
109	136	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	-	109	109	YES

NOTES:

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APPENDIX H

Groundwater Information

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Half Moon Bay Terrace Groundwater Basin

- Groundwater Basin Number: 2-22
- County: San Mateo
- Surface Area: 9,189 acres (14 square miles)

Basin Boundaries and Hydrology

The Half Moon Bay Terrace Groundwater Basin is located along the northern San Mateo coast about 20 miles south of San Francisco and 90 miles southwest of the Sacramento Valley. The Terrace is bounded by Martini Creek on the north, by the Pacific Ocean on the west, by Tunitas Creek on the south, and by the Montara Mountains on the east. Elevations within the basin range from sea level at the ocean to nearly 300 feet along the eastern boundary. Many creeks flow through the basin toward the Pacific Ocean, including Montara, San Vicente, Denniston, Pilarcitos, Purisima, and Lobitos Creeks. The region has a Mediterranean climate with most of the precipitation in the region occurring as rain during the winter and spring. Although the summer is generally dry, regional fog helps moderate the average temperature, reduces evapotranspiration, and meets some moisture demands from plants (MWSD 2012).

Hydrogeologic Information

Water-Bearing Formations

The basin is filled by sedimentary materials and underlain by Montara Mountain granite. Montara Mountain granite is part of a much larger Cretaceous-age magmatic arc complex known as the Salinian Block. The basin occupies a structural trough which has been filled with sediments transported from the adjacent hills (DWR 1999).

Holocene Alluvium. The alluvium consists of unconsolidated, moderately sorted sand and gravel. In the basin, coarse-grained alluvium is present in stream floodplains and as a fan deposit east of Half Moon Bay Airport (DWR 1999).

Pleistocene Marine Terrace Deposits. Marine terrace deposits are found along the coastline of the basin. The deposits consist of poorly to moderately consolidated marine, eolian, and alluvial sand, silt, gravel, and clay. The formation lies unconformably on top of the Purisima Formation (Brabb 1980).

Pliocene Purisima Formation. The Purisima Formation is a highly fractured, well-indurated, soft- to medium-hard, fossiliferous mudstone, siltstone, and sandstone. The formation rests nonconformably on top of Montara Mountain granitics and is believed to be hundreds of feet thick. The Purisima Formation crops out in the study area just west of Half Moon Bay Airport, and underlies most of the Upper Pleistocene marine terrace deposits (DWR 1999).

Cretaceous Montara Mountain Granitic Rock. The granite of Montara Mountain is a highly fractured medium to coarsely-crystalline rock. Exposures of the granite are commonly fractured and weathered to a depth of

100 feet. The granitic rock forms the mountains directly east of the coastline and underlies all of the younger geologic formations (DWR 1999).

Recharge Areas

A study of the watersheds of several creeks in and around the Half Moon Bay Terrace Groundwater Basin found that for areas of higher elevation, direct precipitation is largely responsible for groundwater recharge, whereas for the lower elevation areas most recharge occurs locally from streams (Balance Hydrologics 2010).

Groundwater Level Trends

Hydrographs from DWR monitoring wells in the north part of the basin indicate that the overall groundwater level trend during the period of record has been stable. The depths to groundwater fluctuate annually with the depth to groundwater generally greatest in summer months and shallowest in winter months.

Groundwater Storage

Groundwater in Storage. A 1987 study by Earth Sciences Associates and Luhdorff and Scalmanini Consulting Engineers estimated the usable groundwater in storage for the Half Moon Bay Airport and Pillar Point Marsh area to be about 1,300 acre-feet. This area is bounded by San Vicente Creek on the north, the community of El Granada on the south, the Seal Cove Fault on the west, and Montara Mountain on the east.

Groundwater Budget (Type C)

Due to lack of groundwater budget data for Half Moon Bay Terrace Groundwater Basin, a groundwater budget estimate has not been prepared. However, the Midcoast Groundwater Study Phase II identifies a sub-area of the Half Moon Bay Terrace Groundwater Basin, referred to as the Airport Subbasin, in which budget information was estimated. Groundwater pumping in the Airport Subbasin was estimated at 513 AFY. Average inflow was estimated at approximately 2,780 AFY which was found to equal average outflow (Kleinfelder 2009). Therefore, the Phase II Study finds that the Airport Subbasin is in long-term hydrologic balance.

Groundwater Quality

Characterization. Water quality information for the Half Moon Bay Terrace Groundwater Basin is limited. However, much of the groundwater in the northern part of the Basin is high in iron and manganese (Montgomery Watson 1996). Total dissolved solids data from 12 wells indicate a range of 160 to 460 milligrams per liter (mg/l) and an average of 283 mg/l. Additionally, according to the Midcoast Groundwater Study Phase III, conditions for sea water intrusion have not developed (Balance Hydrologics 2010).

Well Characteristics

Well yields (gal/min)		
Municipal/Irrigation	Range: 3 – 220	Average: 39 (based on 117 well completion reports [WCRs])
Total depths (ft)		
Domestic	Range: 30 – 910	Average: 160 (based on 915 WCRs)
Municipal/Irrigation	Range: 40 – 305	Average: 124 (based on 74 WCRs)

Active Monitoring Data

Agency	Parameter	Number of wells /measurement frequency
DWR	Groundwater levels	3 wells/semi-annually
Department of Health Services and cooperators	Groundwater levels	9 wells/biennially
DWR	Miscellaneous water quality	None
Department of Health Services and cooperators	Title 22 water quality	14 wells/annually

Basin Management

Groundwater management:	Montara Water and Sanitary District: Informally adopted findings from Montara-Moss Beach Water Well Environmental Impact Report
Water agencies	
Public	Coastside County Water District, Montara Water and Sanitary District
Private	Unknown

References Cited

- Balance Hydrologics Inc. 2010. Midcoast Groundwater Study Phase III, San Mateo County, California.
- Brabb EE. 1980. Preliminary geologic map of the La Honda and San Grgorio quadrangles, San Mateo County, California, Open-File Report OF-80-245, scale 1:24,000.
- California Department of Water Resources (DWR). 1999. Montara Water Supply Study for Montara Sanitary District San Mateo County, California.
- Kleinfelder. 2009. Midcoast Groundwater Study Phase II, San Mateo County, California, 2007. Summary and Errata dated April 2009.
- Montara Water and Sanitary District (MWSD). 2010. CASGEM Monitoring Plan.

Errata

Changes made to the basin description will be noted here.

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DRAFT

Basin: HALF MOON BAY TERRACE

Sub_Basin: N/A

Hydrologic Region: San Francisco Bay

Basin Number: 2-22

North Central Region Office (NCRO)

Date: 12/30/2013

Basin Area: 9189 acres (14.4 miles)

2010 Population: 19825

DATA COMPONENT RANKING VALUE TABLE

Data Component	Ranking Range	Units	Ranking Value	Confidence Adjustment	Average of Components	Adjusted Ranking Values
1. Population	1001 - 2500	persons/sq-mi	3			3
2. Population Growth	15.1 - 25	percent	3			3
3. Public Supply Wells	≥ 1.0	wells/sq-mi	5			5
4. Total Wells	> 20	wells/sq-mi	5	3.75		3.75
5. Irrigated Acreage	61 - 115	acres/sq-mi	2	1.5		1.5
6. GW Reliance	GW Use	< 0.03	acre-foot/acre	0	0	0
	% of Total Supply	< 0.1	percent	0		
7. Impacts*	--	--	0			0
8. Other Information**	--	--	0			0
Overall Basin Ranking Score	0 - 5.4	--				0.0

Overall Basin Priority: Very Low

Very Low Ranking Range	Low Ranking Range	Medium Ranking Range	High Ranking Range
0 - 5.4	5.4 - 12.5	12.6 - 19.7	> 19.7

Data Sources and Calculation Notes:

1. Population: Dept. of Finance 2010 census data.
2. Population Growth: Dept. of Finance 2010 census data projected to 2030.
3. Public Supply Wells: Dept. of Public Health, 2012 Drinking Water Supply Database.
4. Total Wells: DWR Well Master database.
5. Irrigated Acreage: DWR 2005 land use data.
6. Groundwater Reliance: DWR, 2005 land use data.
7. Documented Impacts: DWR Region staff review of DWR Bulletin 118-2003, GWMPs, or other readily available published information.
8. Other Information: DWR Region staff review of DWR Bulletin 118-2003, GWMPs, or other readily available published information.
9. Data component values were reduced by 25% due to data confidence, prior to calculating total GW basin ranking value. Overall Basin Ranking = Population + Population Growth + PSW + (Total Wells x .75) + (Irr Acreage x 0.75) + {[GW Use + (GW % x .75)]/2} + Impacts + Other

Notes on HALF MOON BAY TERRACE Basin

* Impacts: No impacts identified.

**Other Information: None

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Groundwater Elevation Monitoring Plan

Coasts County Water District

Water level monitoring plan for the Half Moon Bay Terrace
Groundwater Basin for submittal to the California
Department of Water Resources under the CASGEM Program
August 2011 (revised September 2011)

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1.0 Introduction

Coastside County Water District (District) is located on the coastline 30 miles south of San Francisco. The District's service area is on the coastal terrace between the Pacific Ocean and the Santa Cruz Mountain range. The District's service area boundaries include 14 square miles of land which extend 9.5 miles south to north and 1.5 miles west to east (see figure 1).

The District is a special district providing treated water to customers with its jurisdictional boundaries, which include the City of Half Moon Bay and unincorporated areas of Princeton, Miramar and El Granada.

2.0 Purpose

The purpose of this monitoring plan is to provide a description of the District's strategies to satisfy the requirements of the California Statewide Groundwater Elevation Monitoring (CASGEM) program. CASGEM was developed in accordance with Senate Bill 6 of November 2009 to establish a permanent, locally managed system to monitor groundwater elevation in California's alluvial groundwater basins and subbasins, as identified in California Department of Water Resources (DWR) Bulletin 118.

3.0 Groundwater Basin Description

The District's jurisdictional boundaries overlay the Half Moon Bay Terrace Basin (DWR Basin Number 2-22) of the San Francisco Bay Hydrologic Region. DWR Bulletin 118 does not contain a description for the Half Moon Bay Terrace Basin (see figure 2); the basin is not adjudicated and it has not been identified as being in an overdraft condition.

3.1 Airport Terrace Subbasin

The District utilizes groundwater from this basin from a sub-area referred to as the Airport Terrace Subbasin (see figure 3). The District refers to this source of water as the Denniston Well Field. This subbasin is also a source of groundwater for the Montara Water and Sanitary District and is 871 acres.

The County of San Mateo commissioned a three phased groundwater study for the unincorporated mid-coast area extending from the communities of Montara to Miramar. This study, Kleinfelder Midcoast Groundwater Study, describes the groundwater resources and could eventually lead to the development of a Groundwater Management Plan for the unincorporated mid-coast area of San Mateo County. This study describes the geologic formations in the mid-coast area as (1) coastal marine terrace or stream valley alluvial deposits where groundwater is stored in loose, unconsolidated, coarse grained sand and (2) upland granitic bedrock where groundwater is stored in weathered rock openings and in rock fractures. The Airport Terrace subbasin's geologic formation is the coastal marine terrace or stream valley alluvial deposits where groundwater is stored in loose, unconsolidated, coarse grained sand.

3.2 Lower Pilarcitos Creek Groundwater Basin (subbasin)

The District evaluated the possibility of expanding the use of groundwater to augment local water supplies. In 2003, the District contracted with Todd Engineers and Kennedy Jenks Consultants to study the Lower Pilarcitos Creek Groundwater Basin. The Lower Pilarcitos Creek Groundwater Basin is a subbasin of the Half Moon Bay Terrace Basin (see figure 4). The Lower Pilarcitos Creek Groundwater Basin aquifer is formed of marine terrace deposits, which is underlain by a thick tertiary age purisima formation. The marine terrace deposits are described as weakly consolidated, moderately weathered, well-sorted to poorly sorted sand and gravel.

The study concluded that the District could develop this source of groundwater and realize an increase in local water supply by a range of 396 to 795 AFY. The groundwater would need to be pumped to the local water treatment plant and blended with existing water supplies in order to meet drinking water standards. The District has not taken any action to develop this groundwater source, since the study was completed.

The District has destroyed all its monitoring wells in the Lower Pilarcitos Creek Subbasin, so the District does not plan on monitoring this subbasin as part of the CASGEM program.

4.0 Groundwater Level Monitoring

The District and the Montara Water and Sanitary District both utilize groundwater from the Half Moon Bay Terrace Basin and both Districts have applied to become monitoring entities. The District's monitoring (see figure 5) area does not reflect its full jurisdictional boundaries to avoid overlap between the District's and Montara Water and Sanitary District's monitoring areas. The District's monitoring area, under CASGEM, includes approximately 13 square miles of land. Within the District's monitoring area, only about 5 square miles of land is appropriate for groundwater elevation monitoring. Based on this small area, the District determined that one monitoring well would be representative of groundwater elevations within the monitoring area.

The District will monitor the groundwater elevations in the Airport Terrace Subbasin of the Half Moon Bay Terrace Basin. The monitoring frequency will be quarterly.

Monitoring Schedule		
Season	Location	Frequency
Winter	Well Number 6	Once
Spring	Well Number 6	Once
Summer	Well Number 6	Once
Fall	Well Number 6	Once

The Kleinfelder Midcoast Groundwater Study – April 2009 prepared for the Planning and Building Department for the County of San Mateo, concluded that the Airport Subbasin appears to be in a long-term hydrologic balance. Based on this study and on data gathered from production wells in this

subbasin, the District determined that seasonal (quarterly) monitoring would be adequate for the purposes of meeting the requirements of the CASGEM program.

4.1 Airport Terrace Subbasin

The District plans on converting an abandoned production well into a monitoring well for the purposes of satisfying the monitoring requirements of CASGEM. This existing well, known as Well Number 6, is in the Airport Terrace Subbasin (see figure 6) where the District currently utilizes groundwater from the Denniston Well Field. Since the District owns this well, there are no problems with gaining access to this site for monitoring.

The following are the coordinates for the monitoring well:

Latitude	37 30 52.21156
Longitude	122 29 21.47361
Land Surface Datum (LSD) in feet	66.53
Reference Point (RP) in feet	67.67

4.2 Monitoring Procedures

The District currently uses the Electric Sounding Tape Method for measuring elevations in production wells and will use this same method in the monitoring well for CASGEM.

This method consists of a probe, a cable with laser-marked graduations, and a cable reel. The hub of the cable reel contains batteries, electronics, a bright LED lamp, and a beeper. The operator lowers the probe into the well. When the probe contacts the surface of the water, the LED illuminates and the beeper sounds. The operator reads the depth-to-water measurement from graduations on the cable.

Before taking a measurement:

- Inspect the cable and the probe before using it in the field. Check the cable for wear, kinks, frayed electrical connections and possible stretch.
- Check the distance from the probe to the nearest foot marker on the cable, to ensure that this distance puts the sensor at the zero foot point for the cable. If it does not, a correction must be applied to all depth-to-water measurements. Record this in an equipment log book and on the field form.
- Prepare the field forms (see figure 7) and place any previous measured water-level data for the well into the field folder.
- After reaching the field site, check that the reference point (RP) is clearly marked on the well and is accurately described in the well file or field folder.
- Check the circuitry of the electric sounding cable before lowering the probe into the well. To determine the proper functioning of the tape mechanism, dip the electrode probe into tap water and observe whether the indicator indicates a closed circuit. For equipment with multiple indicators, confirm that the indicators operate simultaneously.

- Wipe off the electrode probe and the lower 5 to 10 feet of the tape with a disinfectant wipe, rinse with deionized or tap water, and dry.

Making a measurement:

- If the water level was measured previously at the well, use the previous measurement(s) to estimate the length of cable that should be lowered into the well.
- Lower the probe slowly into the well until the indicator shows that the circuit is closed and contact with the water surface is made. Avoid letting the tape rub across the top of the well casing. Place the tip of the index finger on the insulated cable at the RP and read the depth to water to the nearest 0.01 foot. Record this value in the column labeled "Tape at RP", with the appropriate measurement method code and the date and time of the measurement.
- Lift the probe slowly up a few feet and make a second measurement by repeating step 2 and record the second measurement with the time. Make all readings using the same deflection point on the indicator so that water levels will be consistent between measurements. If the second measurement does not agree with the first measurement within 0.02 of a foot, make a third measurement, recording this measurement with the time. If more than two readings are taken, record the average of all reasonable readings.

After making a measurement:

- Wipe down the probe and the cable that was submerged in the well water, using a disinfectant wipe and rinse thoroughly with deionized or tap water.
- Dry the cable and probe and rewind the cable onto the reel. Do not rewind or otherwise store a dirty or wet cable.

5.0 References

California Department of Water Resources, *California Statewide Groundwater Elevation Monitoring Program, Procedures for Monitoring Entity Reporting*, December 2010

California Department of Water Resources, *Department of Water Resources Groundwater Elevation Monitoring Guidelines*, December 2010

California Department of Water Resources, *Form 429 – Well Data*, April 1970

California Department of Water Resources, *Form 1213 - Groundwater Level Data Form Manual Measurements*, June 28 2010

Kleinfelder, *Midcoast Groundwater Study Phase II*, San Mateo County, California, prepared for County of San Mateo Planning and Building Department, January 8 2007 (revised October 2008) (Summary and Errata dated April 2009.)

Todd Engineers and Kennedy/Jenks Consultants, *Lower Pilarcitos Creek Groundwater Basin Study*, prepared for Coastside County Water District, June 2003

West Yost Associates and Coastside County Water District, *Coastside County Water District 2010 Urban Water Management Plan*, June 2011

Figure 1 - Coastside County Water District - Jurisdictional Boundaries

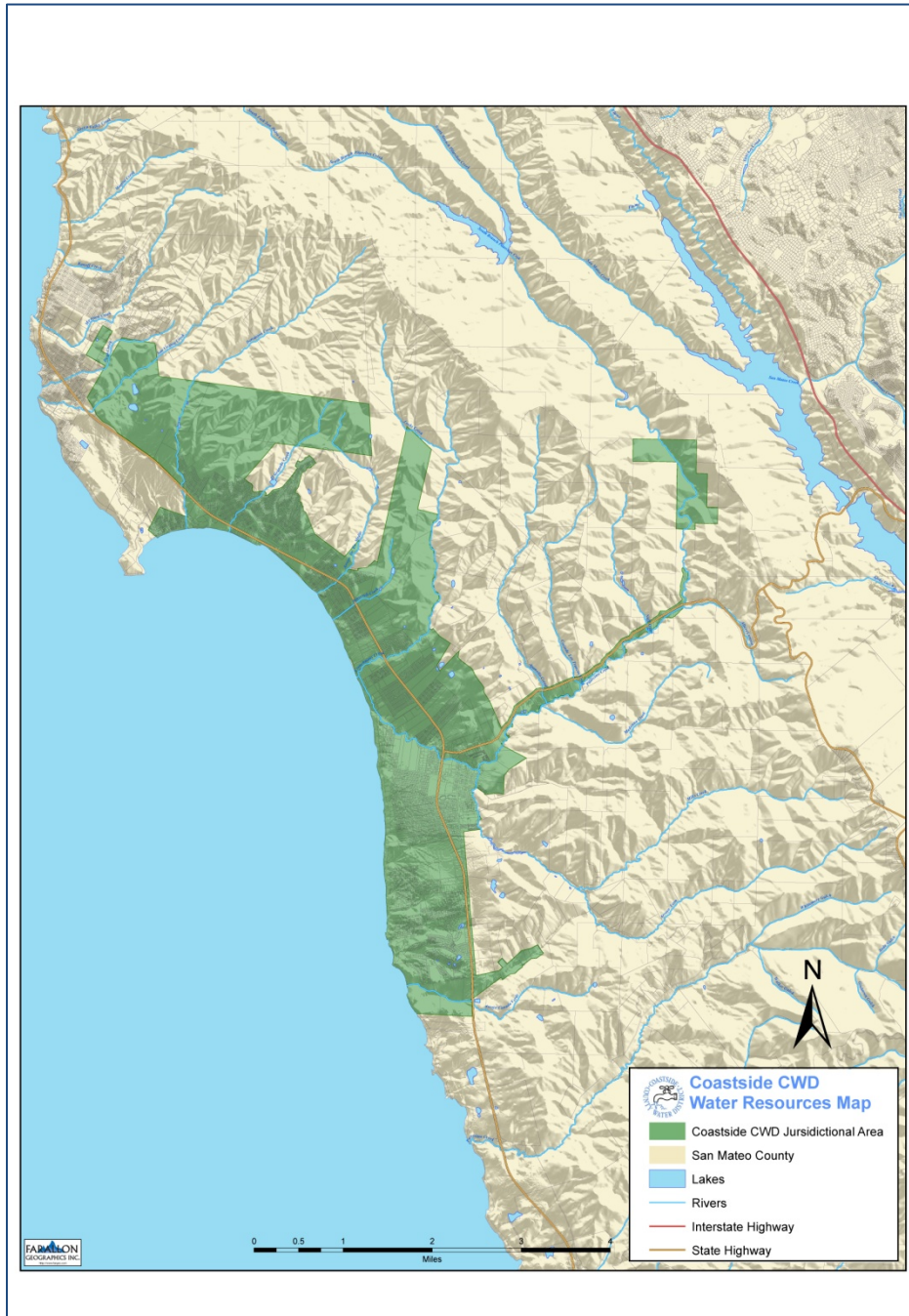


Figure 2 – Half Moon Bay Terrace Basin No. 2-22

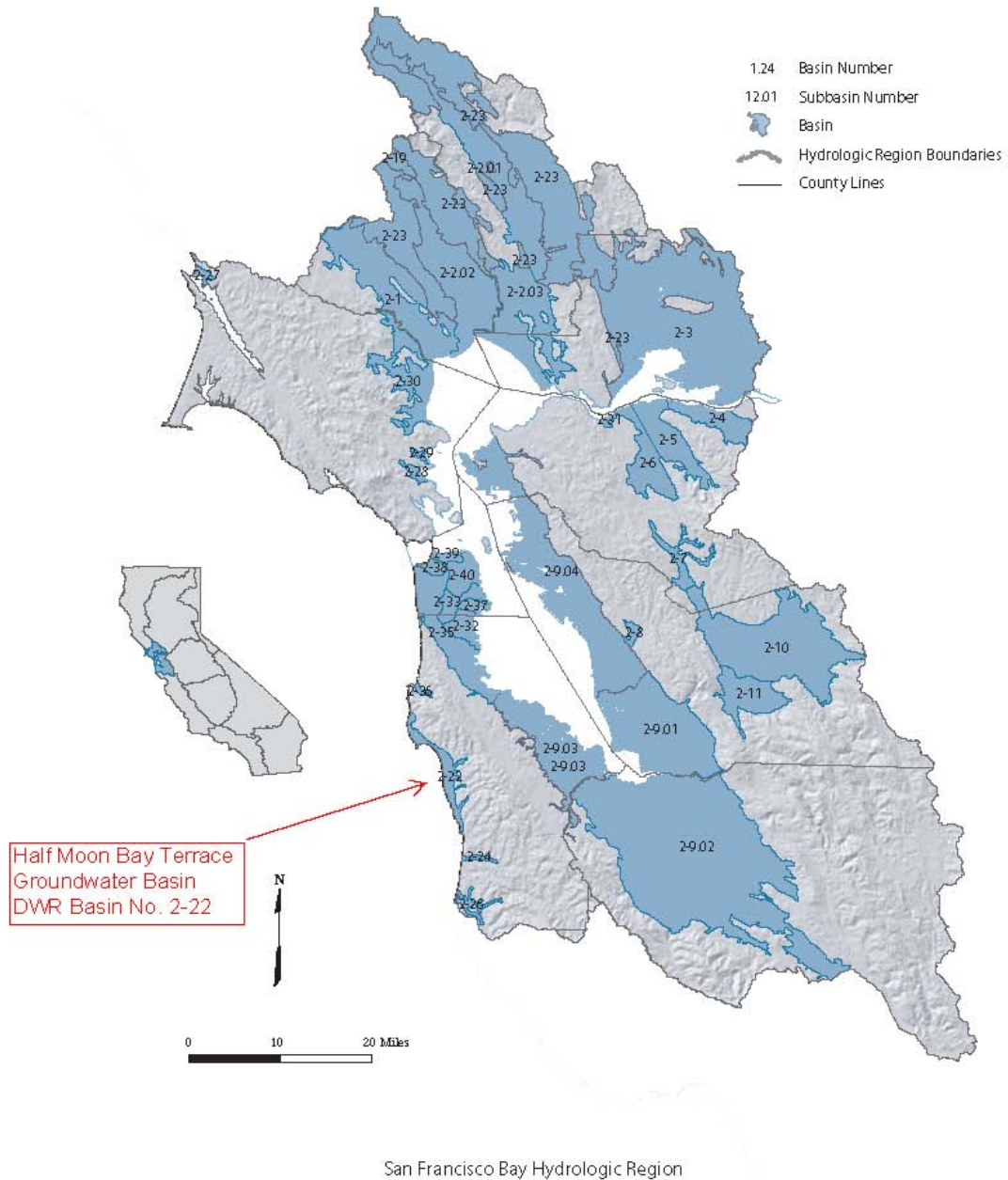


Figure 3 – Midcoast Subbasins – Airport Terrace Subbasin

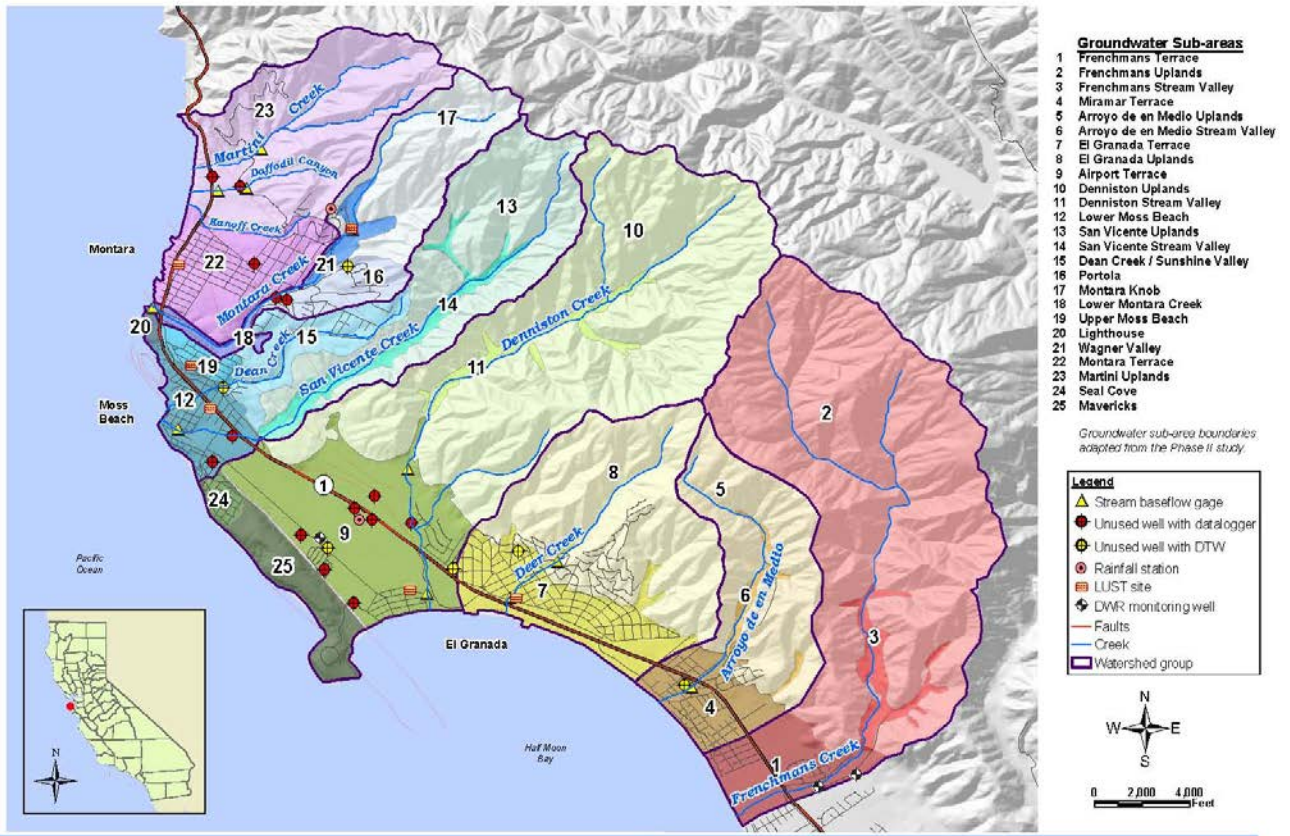


Figure 1. Monitoring network, Midcoast Groundwater Study Phase III, San Mateo County, California.



© 2010 Balance Hydrologics, Inc.

Figure 4 - Lower Pilarcitos Creek Groundwater Subbasin

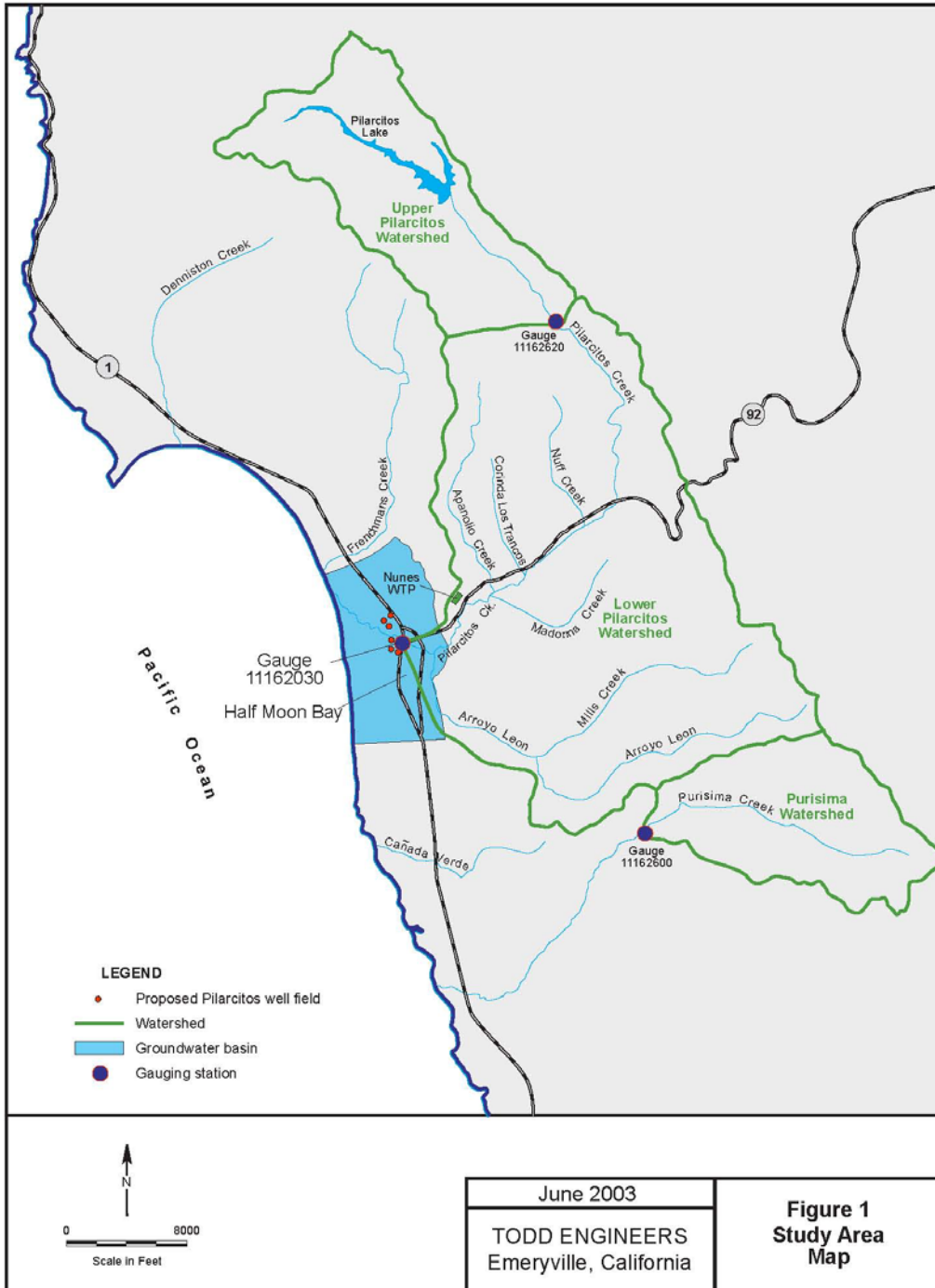


Figure 5 - Coastside County Water District Monitoring Area

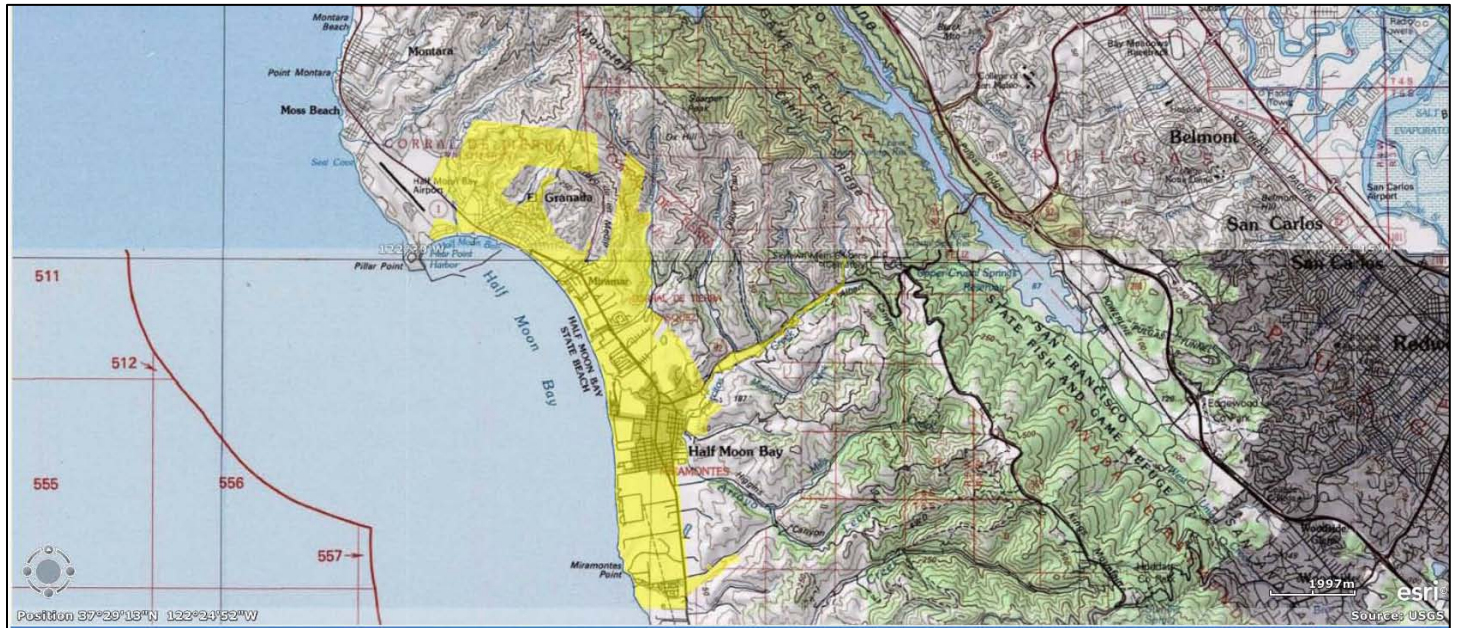


Figure 6 – CASGEM Monitoring Well (Well No. 6)

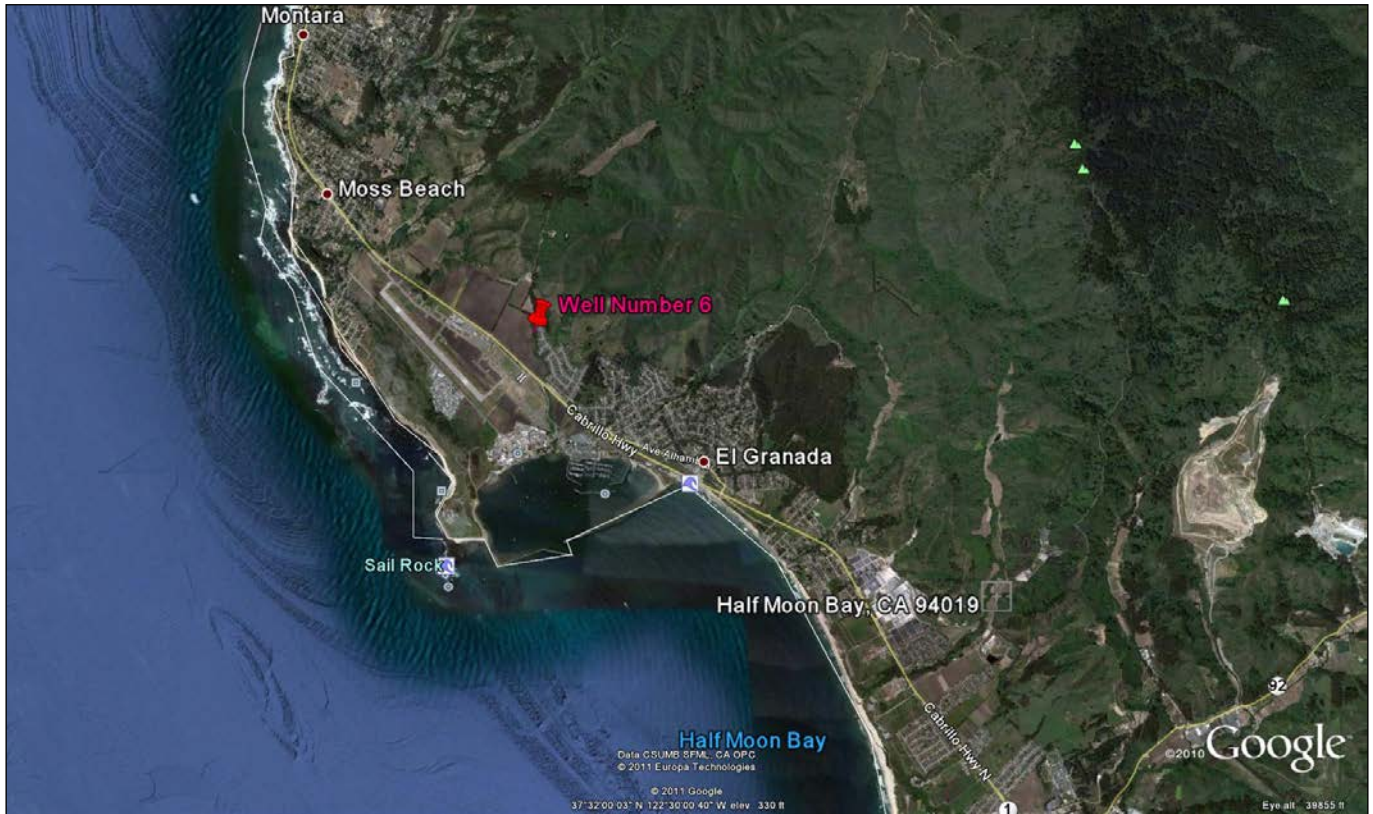


Figure 7 – Field Measurement Data Form

Groundwater Level Data Form - Manual Measurements									
Well ID Number	Well Name	State Well Number	County	Basin	Measuring Agency	Land Surface Datum (LSD) Elevation	RP to Land Surface Datum (LSD) in Feet	Reference Point (RP) Elevation	
	Well No. 6		San Mateo County	2.22 Half Moon Bay Terrace	Coastside County Water District	66.53	1.14	67.67	
No Measurement (NM)			Questionable Measurement (QM)				Measurement Method (MM)		
0. Discontinued		5. Unable to locate well		0. Caved in deepened		5. Air or pressure gauge measurement		0. Steel Tape	
1. Pumping		6. Well destroyed		1. Pumping				1. Electric Sounding Tape	
2. Pump house locked		7. Special		2. Nearby pump operating		6. Other		3. Other	
3. Tape hung up		8. Casing leaky or wet		3. Casing leaky or wet		7. Recharge operation			
4. Casing blocked		9. Inaccessible temporarily		4. Pumped recently		8. Oil in casing			
DATE	TIME	NM	QM	MM	Tape at RP	Tape at WS	RP to WS	LSD to WS	OBS
				1					
				1					
				1					
				1					
				1					
				1					
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APPENDIX I

SFPUC Water Supply Reliability

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January 5, 2016

Andree Johnson
Water Resources Specialist
Bay Area Water Supply and Conservation Agency
155 Bovet Road, Suite 650
San Mateo, CA 94402

Dear Ms. Johnson,

Attached please find the information you requested on the Regional Water System's supply reliability for use in the Wholesale Customer's 2015 Urban Water Management Plan (UWMP) updates. The SFPUC has assessed the water supply reliability under the following planning scenarios:

- Projected single dry year supply for base year 2015¹,
- Projected multiple dry year supply beginning with base year 2015, and
- Projected supply reliability for base year 2015 through 2040.

Table 1 summarizes deliveries to the Wholesale Customers for projected single dry year supply for base year 2015 and projected multiple dry year supply beginning base year 2015.

With regards to future demands, the SFPUC proposes to expand their water supply portfolio by increasing the types of water supply resources. Table 2 summarizes the water supply resources assumed to be available by 2040, as well as other assumptions affecting supply. These assumptions differ from those used in the reliability analysis for the previous 2010 UWMP update, and lead to slightly different reliability projections explained further below.

Concerning allocation of supply during dry years, the Water Shortage Allocation Plan (WSAP) was utilized to allocate shortages between the SFPUC and the Wholesale Customers collectively. The WSAP implements a method for allocating water between the SFPUC retail customers and wholesale customers collectively which has been adopted by the Wholesale Customers

¹ Fiscal Year 2015 is used as the base year to run the water supply reliability analysis in the Hetch Hetchy Local Simulation Model (HLLSM). This base year reflects a wholesale Supply Assurance of 184 million gallons per day, as well as Regional Water System reservoir and pipeline capacities and instream flow requirements as they exist in 2015 (pre-Water System Improvement Program [WSIP] completion).

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Ike Kwon
Commissioner

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General Manager



per the July 2009 Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County, and Santa Clara County. The wholesale customers have adopted the Tier Two Plan, the second component of the WSAP, which allocates the collective wholesale customer share among each of the 26 wholesale customers.

Finally, the SFPUC estimated the frequency and severity of anticipated shortages for the period 2015 (base year) through 2040. For this analysis, we assumed that the historical hydrologic period is indicative of future events and evaluated the supply reliability assuming a repeat of the actual historic hydrologic period 1921 through 2011. The results of this analysis are summarized in Table 3.

Compared to the reliability projections that were provided previously for the 2010 UWMP update, Table 1 indicates slightly higher shortages and lower Wholesale allocations for dry years 2 and 3. Also, Table 3 shows slightly higher estimates of required rationing in multi-year droughts as compared to those provided previously. These differences are due to the inclusion of a temporary constraint on Crystal Springs Reservoir storage and an in-stream flow requirement below Crystal Springs Reservoir, which are shown in Table 2, but were not included in the previous reliability analysis.

It is our understanding that you will pass this information on to the Wholesale Customers. If you have any questions or need additional information, please do not hesitate to contact me at (415) 554-0792.

Sincerely,

A handwritten signature in cursive script that reads "Paula Kehoe".

Paula Kehoe
Director of Water Resources

Table 1: Projected Deliveries for Three Multiple Dry Years

	Base Year 2015 (Non-Dry)	One Critical Dry Year	Deliveries During Multiple Dry Years		
			Year 1	Year 2	Year 3
System-Wide Shortage	0%	10%	10%	22%	22%
Wholesale Allocation (MGD)	184.0	152.6	152.6	129.2	129.2
MGD = million gallons per day					

Table 2: Water Supply Modeling Assumptions for Fiscal Years 2015 through 2040

	2015	2020	2025	2030	2035	2040
Water Supply Resource						
Westside Basin Groundwater (AF/yr)		8,100	8,100	8,100	8,100	8,100
Districts Transfer (AF/yr)		2,240	2,240	2,240	2,240	2,240
Crystal Springs Reservoir Capacity (20.3 BG) ¹			x	x	x	x
Calaveras Reservoir at Full Capacity		x	x	x	x	x
Alameda Creek Recapture (9.3 MGD)		x	x	x	x	x
Reservoir Operation Affecting Supply						
Crystal Springs Reservoir Release for In-Stream Flow to San Mateo Creek (3.5 MGD) ²	x	x	x	x	x	x
Calaveras Reservoir Release and Alameda Creek Diversion Dam Bypass for In-Stream Flow to Alameda Creek (9.3 MGD)		x	x	x	x	x
AF/yr = acre-feet per year, BG = billion gallons, MGD = million gallons per day, x = in operation						
Notes:						
1. Schedule for restoration of Crystal Springs Reservoir storage is tied to permitting requirements for endangered plants.						
2. Release from Crystal Springs Reservoir to meet minimum in-stream flow requirement in San Mateo Creek began in January 2015.						

Table 3: Projected System Supply Reliability Based on Hydrologic Period

Fiscal Year	Wholesale Demand (MGD)					
	184.0	184.0	184.0	184.0	184.0	184.0
	Projected Wholesale Allocation (MGD)					
	2015	2020	2025	2030	2035	2040
1920-21	184.0	184.0	184.0	184.0	184.0	184.0
1921-22	184.0	184.0	184.0	184.0	184.0	184.0
1922-23	184.0	184.0	184.0	184.0	184.0	184.0
1923-24	184.0	184.0	184.0	184.0	184.0	184.0
1924-25	152.6	184.0	184.0	184.0	184.0	184.0
1925-26	184.0	184.0	184.0	184.0	184.0	184.0
1926-27	184.0	184.0	184.0	184.0	184.0	184.0
1927-28	184.0	184.0	184.0	184.0	184.0	184.0
1928-29	184.0	184.0	184.0	184.0	184.0	184.0
1929-30	184.0	184.0	184.0	184.0	184.0	184.0
1930-31	184.0	184.0	184.0	184.0	184.0	184.0
1931-32	129.2	152.6	152.6	152.6	152.6	152.6
1932-33	184.0	184.0	184.0	184.0	184.0	184.0
1933-34	184.0	184.0	184.0	184.0	184.0	184.0
1934-35	152.9	184.0	184.0	184.0	184.0	184.0
1935-36	184.0	184.0	184.0	184.0	184.0	184.0
1936-37	184.0	184.0	184.0	184.0	184.0	184.0
1937-38	184.0	184.0	184.0	184.0	184.0	184.0
1938-39	184.0	184.0	184.0	184.0	184.0	184.0
1939-40	184.0	184.0	184.0	184.0	184.0	184.0
1940-41	184.0	184.0	184.0	184.0	184.0	184.0
1941-42	184.0	184.0	184.0	184.0	184.0	184.0
1942-43	184.0	184.0	184.0	184.0	184.0	184.0
1943-44	184.0	184.0	184.0	184.0	184.0	184.0
1944-45	184.0	184.0	184.0	184.0	184.0	184.0
1945-46	184.0	184.0	184.0	184.0	184.0	184.0
1946-47	184.0	184.0	184.0	184.0	184.0	184.0
1947-48	184.0	184.0	184.0	184.0	184.0	184.0
1948-49	184.0	184.0	184.0	184.0	184.0	184.0
1949-50	184.0	184.0	184.0	184.0	184.0	184.0
1950-51	184.0	184.0	184.0	184.0	184.0	184.0
1951-52	184.0	184.0	184.0	184.0	184.0	184.0
1952-53	184.0	184.0	184.0	184.0	184.0	184.0
1953-54	184.0	184.0	184.0	184.0	184.0	184.0
1954-55	184.0	184.0	184.0	184.0	184.0	184.0
1955-56	184.0	184.0	184.0	184.0	184.0	184.0
1956-57	184.0	184.0	184.0	184.0	184.0	184.0
1957-58	184.0	184.0	184.0	184.0	184.0	184.0
1958-59	184.0	184.0	184.0	184.0	184.0	184.0
1959-60	184.0	184.0	184.0	184.0	184.0	184.0
1960-61	152.6	184.0	184.0	184.0	184.0	184.0

Fiscal Year	Wholesale Demand (MGD)					
	184.0	184.0	184.0	184.0	184.0	184.0
	Projected Wholesale Allocation (MGD)					
	2015	2020	2025	2030	2035	2040
1961-62	129.2	152.6	152.6	152.6	152.6	152.6
1962-63	184.0	184.0	184.0	184.0	184.0	184.0
1963-64	184.0	184.0	184.0	184.0	184.0	184.0
1964-65	184.0	184.0	184.0	184.0	184.0	184.0
1965-66	184.0	184.0	184.0	184.0	184.0	184.0
1966-67	184.0	184.0	184.0	184.0	184.0	184.0
1967-68	184.0	184.0	184.0	184.0	184.0	184.0
1968-69	184.0	184.0	184.0	184.0	184.0	184.0
1969-70	184.0	184.0	184.0	184.0	184.0	184.0
1970-71	184.0	184.0	184.0	184.0	184.0	184.0
1971-72	184.0	184.0	184.0	184.0	184.0	184.0
1972-73	184.0	184.0	184.0	184.0	184.0	184.0
1973-74	184.0	184.0	184.0	184.0	184.0	184.0
1974-75	184.0	184.0	184.0	184.0	184.0	184.0
1975-76	184.0	184.0	184.0	184.0	184.0	184.0
1976-77	152.6	184.0	184.0	184.0	184.0	184.0
1977-78	129.2	152.6	152.6	152.6	152.6	152.6
1978-79	184.0	184.0	184.0	184.0	184.0	184.0
1979-80	184.0	184.0	184.0	184.0	184.0	184.0
1980-81	184.0	184.0	184.0	184.0	184.0	184.0
1981-82	184.0	184.0	184.0	184.0	184.0	184.0
1982-83	184.0	184.0	184.0	184.0	184.0	184.0
1983-84	184.0	184.0	184.0	184.0	184.0	184.0
1984-85	184.0	184.0	184.0	184.0	184.0	184.0
1985-86	184.0	184.0	184.0	184.0	184.0	184.0
1986-87	184.0	184.0	184.0	184.0	184.0	184.0
1987-88	152.6	184.0	184.0	184.0	184.0	184.0
1988-89	129.2	152.6	152.6	152.6	152.6	152.6
1989-90	129.2	152.6	152.6	152.6	152.6	152.6
1990-91	129.2	132.5	132.5	132.5	132.5	132.5
1991-92	129.2	132.5	132.5	132.5	132.5	132.5
1992-93	129.2	132.5	132.5	132.5	132.5	132.5
1993-94	184.0	184.0	184.0	184.0	184.0	184.0
1994-95	184.0	184.0	184.0	184.0	184.0	184.0
1995-96	184.0	184.0	184.0	184.0	184.0	184.0
1996-97	184.0	184.0	184.0	184.0	184.0	184.0
1997-98	184.0	184.0	184.0	184.0	184.0	184.0
1998-99	184.0	184.0	184.0	184.0	184.0	184.0
1999-00	184.0	184.0	184.0	184.0	184.0	184.0
2000-01	184.0	184.0	184.0	184.0	184.0	184.0
2001-02	184.0	184.0	184.0	184.0	184.0	184.0
2002-03	184.0	184.0	184.0	184.0	184.0	184.0
2003-04	184.0	184.0	184.0	184.0	184.0	184.0

Fiscal Year	Wholesale Demand (MGD)					
	184.0	184.0	184.0	184.0	184.0	184.0
	Projected Wholesale Allocation (MGD)					
	2015	2020	2025	2030	2035	2040
2004-05	184.0	184.0	184.0	184.0	184.0	184.0
2005-06	184.0	184.0	184.0	184.0	184.0	184.0
2006-07	184.0	184.0	184.0	184.0	184.0	184.0
2007-08	184.0	184.0	184.0	184.0	184.0	184.0
2008-09	184.0	184.0	184.0	184.0	184.0	184.0
2009-10	184.0	184.0	184.0	184.0	184.0	184.0
2010-11	184.0	184.0	184.0	184.0	184.0	184.0

MGD = million gallons per day

APPENDIX J

Water Shortage Contingency Plan

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RESOLUTION 2016-12

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE COASTSIDE COUNTY WATER DISTRICT AUTHORIZING THE ADOPTION OF AN UPDATED WATER SHORTAGE CONTINGENCY PLAN

WHEREAS, Section 10632 of the California Water Code requires the Coastside County Water District to maintain a water shortage contingency analysis within its Urban Water Management Plan; and

WHEREAS, Section 350-359 of the California Water Code provides authority for a water agency to declare a water shortage emergency and implement regulations to manage the water shortage emergency; and

WHEREAS, the District maintains a Water Shortage Contingency Plan that is a guidance document for management of water shortages within the Coastside County Water District; and

WHEREAS, Section 10632 (b) of the California Water Code requires that, starting with the 2015 Urban Water Management Plan, water suppliers shall define water features that are artificially supplied with water; and

WHEREAS, the Board of Directors, after a notified public hearing, adopted Resolution 2016-01 on March 8, 2016 approving an updated Water Shortage Contingency Plan and including it in the 2015 Urban Water Management Plan, which included a definition of artificially supplied water features, among other updates; and

WHEREAS, because of an error in the notice of public hearing and a desire to further update the Water Shortage Contingency Plan, the District desires to adopt a revised Water Shortage Contingency Plan; and

WHEREAS, the Water Shortage Contingency Plan was revised to correct Table 4 - Projected Water Supply During Dry Years to reflect Year 3 of Multiple Dry Years with a local water supply of 35 million gallons; and

WHEREAS, the District posted notice of its intent to modify its Water Shortage Contingency Plan and offered opportunity for public comment on the intended modifications;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Coastside County Water District as follows:

1. The updated Water Shortage Contingency Analysis and Plan, included in the 2015 Urban Water Management Plan as appendix J, is hereby adopted and ordered to be filed with the California Department of Water Resources with the District's 2015 Urban Water Management Plan.
2. The General Manager shall recommend to the Board of Directors regarding additional procedures, rules, and regulations to carry out the effective and equitable allocation of water resources during a water shortage.

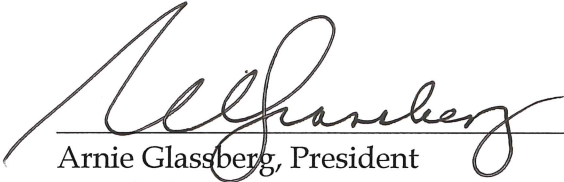
PASSED AND ADOPTED this 13th day of September, 2016 by the following votes of the Coastside County Water District's Board of Directors:

AYES: Directors Coverdell and Feldman and President Glassberg

NOES: Vice-President Reynolds

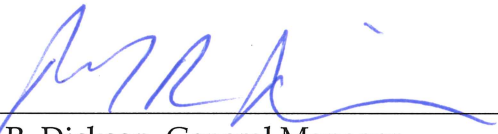
ABSENT: Director Mickelsen

ABSTAIN:



Arnie Glassberg, President
Board of Directors
Coastside County Water District

Attest:



David R. Dickson, General Manager
Secretary of the District
Coastside County Water District

WATER SHORTAGE CONTINGENCY PLAN

Coastside County Water District

Water Shortage Contingency Plan



Coastside County Water District

766 Main Street
Half Moon Bay, CA 94019
(650) 726-4405 | www.coastsidewater.org

July 2016

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Acronyms, Abbreviations and Definitions

Ac-ft	Acre feet
Ac-ft/year	Acre feet per year
AMI	Advanced Automated Metering Infrastructure
BAWSCA	Bay Area Water Supply and Conservation Agency
cf	Cubic foot
cfs	Cubic foot per second
CWC	California Water Code
District	Coastside County Water District
g/cycle	Gallons per cycle
GPCD	Gallons per day per capita
gpf	Gallons per flush
gpm	Gallons per minute
MG	Million gallons
MGD	Million gallons per day
MOU	Memorandum of Understanding
MWSD	Montara Water and Sanitary District
Plan	Water Shortage Contingency Plan
RWS	Regional Water System
SFPUC	San Francisco Public Utilities Commission
Swimming Pool or Pool	Means any structure intended for swimming or recreational bathing that contains water over 18 inches deep. "Swimming pool" includes in ground and aboveground structures and includes, but is not limited to, hot tubs, spas, and non -portable wading pools.
UWMP	Urban Water Management Plan
Water Feature	Means any above ground or below grade outdoor structure that contains water and is used for decoration, recreation, or noise abatement.
WF	Water Factor is the number of gallons needed for each cf of laundry

Introduction

This plan provides guidelines for Coastside County Water District to manage water supply and demand in the event of a water supply disruption. This plan addresses both progressive situations, such as those that are weather related, and more drastic and immediate situations, including facility emergencies and natural disasters. This revised Water Shortage Contingency Plan is an update of the Plan that was adopted in 2011.

Requirement

The Urban Water Management Planning Act (CWC § 10632) requires water agencies to provide water shortage contingency planning and analysis and to include that analysis in their Urban Water Management Plan.

Authority

California Water Code (CWC § 350-359) provides the authority for a water agency to declare a water shortage emergency through its governing body. The water agency has the power to implement and enforce regulations and restrictions to manage the water shortage emergency. The water agency shall adopt regulations and restrictions that conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation and fire protection.

Objective

The objective of the Plan is to establish actions and procedures for managing water supply and demand during water shortages. The overall intent of this plan is to develop strategies to minimize non-essential uses of water and to conserve remaining supplies for the greatest public benefit, with particular regard to domestic use, sanitation and fire protection. Implementation of the Plan will help the District maintain essential public health and minimize adverse impacts on economic activity and environmental resources during periods of water shortage.

Service Area

Coastside County Water District is a coastal community in San Mateo County. The District has approximately seven thousand water service connections that provide potable water to roughly seventeen thousand people in the City of Half Moon Bay and the unincorporated communities of El Granada, Miramar and Princeton by the Sea. The local area supports approximately four thousand jobs and seven thousand households.

Climate

The service area of the District has a mild climate typical of central and northern California. The rainy season is October through April with an annual average water year precipitation of 26 inches. The Pacific Ocean influences the climate along the coast with wind typical during the day and fog typical in the morning and evenings. The average temperature is 55 degrees Fahrenheit and the average maximum and average minimum temperatures are 62 and 47 respectively. The annual average reference evapotranspiration for the area is almost 33 inches.

The upper Pilarcitos Creek watershed, which supplies water for the SFPUC's Pilarcitos Lake and the District's Pilarcitos Creek infiltration wells, has an average water year precipitation of

39.5 inches. The District relies on imported water from the Hetch-Hetchy watershed in the Sierra Nevada Mountain Range. The Hetch-Hetchy watershed has an average water year precipitation of approximately 35.6 inches. Two minor watersheds that supply runoff, to what the SFPUC considers to be local reservoirs, are the Crystal Springs Reservoir with an average water year precipitation of approximately 27.1 inches and the Calaveras Reservoir with an average water year precipitation of approximately 21.8 inches.

Water Shortage

A water shortage occurs when a geographic area experiences water demand that can't be met by current water supply. This can be caused by drought, natural disaster or water system failure.

The term drought is used to indicate a water shortage but a drought is a meteorological occurrence, which describes less precipitation than average for a specific geographic area. It is possible for a geographic area to be in a drought but not have a water shortage. If a geographic area has extensive water storage compared to their demand, they may have enough water storage to make up for the deficit in precipitation for a defined period of time. It is also possible for a geographic area to have normal precipitation but find itself in a water shortage because demand is greater than the normal amount of precipitation and storage can meet.

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

Water Shortage Impacts

Public Health

The District must balance the basic needs for health and safety for the residential population against the needs of the commercial, industrial, institutional and agricultural customers. Water is required for non-residential customers to sustain employment, the economic stability of the community and the services used by the residential community.

Risks to public health from a water shortage include impacts on water supply and raw water quality. As reservoir levels drop, water temperatures rise and the concentration of contaminants increase. The result is an increased risk of algal blooms, along with a negative impact on odor and taste. Impacts on food production can range from a collapse in fisheries to a decline in irrigated agriculture and grazing land.

Recreation

Most of the recreation in the District's service area is focused on the coastline. Day use of beaches and parks could be impacted, if there isn't enough water for restrooms. Hiking in the local hillsides may be restricted, if fire danger becomes a threat from human activity. Golf is a popular recreational sport for both local and visiting populations. If local golf courses are not able to irrigate their greens, it could result in a diminished golfing experience and fewer visitors coming to the area to play golf.

Wildfire

Wildlands in California can be strongly affected by drought. Moisture content decreases and plant materials become fuels that increase fire risk and can intensify wildfire behavior. A significant portion of the District's raw water transmission infrastructure is surrounded by open space wildlands vulnerable to fire. The northern section of the District's service area is heavily wooded with eucalyptus trees, which are known for their fuel potential. The local climate is influenced by cool temperatures and fog most of the year, so the risk of a wildfire is low during normal water years, but during an extended drought, the risk of wildfires is a recognized threat by both the community and the local fire protection district.

During a catastrophic wildfire, in a normal or drought period, the District's infrastructure would not be able to provide enough water to suppress a wildfire in the rural or open space areas. At best, during a catastrophic wildfire, the District's infrastructure may be able to prevent structures from being destroyed and provide protection for some of the urban boundaries.

Infrastructure

If local sources were impacted by a drought or a natural disaster, the District would rely more on Upper Crystal Springs Reservoir, as a source of water. Raw water from Upper Crystal Springs Reservoir must be pumped over the Cahill Ridge to the Nunes Water Treatment Plant, which requires electricity.

During a power outage or facility failure at the Crystal Springs Pump Station, the District would rely on the Denniston Project, Pilarcitos Lake and Pilarcitos Creek infiltration wells (Pilarcitos Creek infiltration wells can only be operated from November through March). If the water level in Pilarcitos Lake is below the outlet, with permission from the SFPUC, the

District could set up a temporary pumping system to draw water out of Pilarcitos Lake to supply the District. Nunes Water Treatment Plant has a generator that can operate the plant during a power failure and the District has a portable generator on a trailer that can be deployed where it is needed.

During droughts and water shortages, annual flushing of the distribution system will need to cease. This could impact water quality in the long term, with complaints of colored water during planned and unplanned distribution system work.

The District office and corporation yard have sufficient water and emergency rations to support a full crew for three days. An emergency generator is maintained in operable condition at all times at the District office and corporation yard.

Livestock

The City of Half Moon Bay and surrounding unincorporated areas have an agricultural base with many property owners who maintain livestock. In addition, there are recreationally based operations that have horseback riding and stables. The District must consider the needs of livestock when implementing any mandatory rationing.

Water Features and Pools

Water features and swimming pools that use potable water either as part of or as their entire water source shall be regulated during a water shortage emergency.

Surrounding Rural Areas

The most recent drought has shown that multiple years of drought have an impact on local surface and groundwater sources in the rural areas contingent to the District's service area. Since the District is not able to provide water to these rural areas, the District will refer these property owners to the Office of Emergency Services of San Mateo County.

Assessing Water Supply and Water Demand

Description of Water Sources

The District currently has three water supply sources, which consist of imported water, local surface water and local groundwater. Production from a specific water supply source can vary year to year, due to a variety of reasons. But during drought conditions, the District will rely more on imported water from the SFPUC sources. A brief description of each source is provided below in Table 1.

Local		Imported-Purchased			Total
Denniston Creek Project		Pilarcitos Creek	SFPUC		
Surface Water	Groundwater Wells	Infiltration Wells	Pilarcitos Lake (Stone Dam)	Upper Crystal Springs Reservoir	
17%	3%	5%	39%	35%	100%
21 years of fiscal year data – updated 2015					

San Francisco Public Utilities Commission (SFPUC)

The District purchases roughly 75 percent of its total water supply from the SFPUC. On average, 39 percent of the District’s annual water supply comes from Pilarcitos Lake and 36 percent comes from Upper Crystal Springs Reservoir. Purchases from the SFPUC are limited to approximately 2.175 MGD, until at least 2018, based on agreements with the SFPUC.

Pilarcitos Lake is a local reservoir owned and operated by the SFPUC. It is located in the coastal foothills north of the City of Half Moon Bay. It is totally dependent upon local precipitation and runoff.

Upper Crystal Springs Reservoir is a local reservoir owned and operated by the SFPUC. It is located in the foothills east of the City of Half Moon Bay. This reservoir is dependent upon imported water from the Regional Water System (RWS) and is supplemented by local runoff and local precipitation.

Pilarcitos Creek Infiltration Wells

The District produces 5 percent of its water supply from an infiltration well field located in Pilarcitos Creek Canyon. The District can pump from November 1st through March 31st of each year, as described in the license for diversion from the State Water Resources Control Board. The license also limits diversions to 1.5 cfs or 360 ac-ft/year. During drought conditions, supply from this source is extremely low since the wells are dependent upon Pilarcitos Creek (sub-surface) flow. Pilarcitos Creek flows are influenced by local runoff and by the SFPUC’s operation of Pilarcitos Dam on upper Pilarcitos Creek.

Denniston Creek Project

The Denniston Project has two water supply sources: Denniston groundwater and Denniston Creek. Denniston groundwater comes from the Airport Subbasin of the Half Moon Bay Terrace

Basin. On average, the District obtains 17 percent of its total water supply from Denniston surface water and 3 percent of its supply from Denniston groundwater. During drought years the production from Denniston Creek is extremely low because of the small watershed area and because the water is shared with an agricultural user with senior water rights. In addition, production from the Denniston well field may decrease during drought periods. Denniston groundwater is only used to supplement surface water diversions.

Facilities Description

The District has two surface water treatment plants with a combined treatment capacity of 5.5 MGD. The Nunes Water Treatment Plant, located within the City of Half Moon Bay, treats raw water from Upper Crystal Springs Reservoir, Pilarcitos Lake and Pilarcitos Creek infiltration wells. The Denniston Water Treatment Plant, located in the County of San Mateo, treats raw water from Denniston Creek and groundwater. The District has eleven treated water storage tanks for a total of 8 MG of treated water storage.

Description of Demand

On average, 61 percent of the District’s water sales are to the residential sector. The second major water use sector is commercial, with an average of 17 percent of annual water sales. Agriculture is the third major water use sector with an average of 12 percent of annual water sales. Table 2 summarizes the average demand and percentage of total demand by sales class.

Sales Class	Average Demand	Percentage
Agriculture	84	12
Commercial/ Institutional	116	17
Residential	422	61
Irrigation	69	10
Portable Meters	3	<1%
Total Average Demand (MG)	694	100%
Average Annual Demand (MGD)	1.90	
Based on a 10 year Average		

Historic Water Shortage Records

The District has experienced water shortages in the past due to drought conditions. District customers have been very responsive to water rationing programs that have been implemented during critically dry periods in the past. Mandatory water rationing was in effect for all of 1977, 1978, 1988, 1990, 1991, and 1992 as well as four months in 1989 and 1993. Mandatory water restrictions were adopted in August of 2014 and are currently planned to continue through October of 2016.

The residential sector has been particularly responsive to drought measures imposed by the District. In 1977, residential consumption dropped by 33 percent, the first year in which water rationing was instituted. Subsequent dry years, in which rationing was instituted, also saw significant reductions in residential water use: 1989, 24 percent; 1990, 40 percent; 1991,

32 percent; and 22 percent in 1993. In 2015, District customers reduced their consumption by 19 percent when compared to sales in 2013.

There were three consecutive dry water years (2007-2008-2009) with 2007 being critically dry. Voluntary 10 percent rationing was implemented and the District experienced a 17 percent reduction in total sales between 2007 and 2009. A significant difference between the water shortages in the 1970's and 1990's, compared to the most recent water shortages, is that the District did not have Upper Crystal Springs Reservoir as a source of water during the 1970's and 1990's water shortages. Upper Crystal Springs Reservoir became available to the District in 1994. During recent water shortages, the District relied upon the available water storage in Upper Crystal Springs Reservoir.

The State Water Resources Control Board adopted mandatory water conservation goals in 2015 along with specific end user requirements and outdoor restrictions. Coastside County Water District's goal was an 8 percent reduction in water production from June 2015 through February of 2016 compared to the same months of 2013. At the time this Plan was prepared, the District was exceeding the 8 percent conservation goal and the State Water Resources Control Board extended the mandatory conservation goals and restrictions through October of 2016.

After multiple consecutive dry years, it may be necessary to maintain voluntary or mandatory rationing within the District's service area for an additional year, once precipitation has returned to normal or above normal. It may take a couple of consecutive normal water years to allow surface water storage and ground water storage to recover.

During past water shortage emergency periods, residential accounts were allocated an average number of billing units per cycle per person. According to the District's Ordinance No. 26 (1990), permanent residents were allocated 7 units per billing cycle (approximately 87 gallons per day per person). In Ordinance No. 28 (1991), the District allocated 8 units per billing cycle per person (100 gallons per day per person). The most recent drought that started in 2012 focused on outdoor water use restrictions and prohibitions to meet water savings goals.

Table 3 summarizes the historic water shortage episodes or periods in the District’s recent past and the resulting rationing status.

Table 3 – Recent Historic Water Shortage Episodes				
Year	Production (MG)	Rationing Status	Inches Precipitation Water Year	Percent of Mean Precipitation
1976	475	Voluntary	14.72	55
1977	356	Mandatory	14.61	55
1978	450	Mandatory	34.15	128
1987	733	No Rationing	18.16	68
1988	632	Voluntary	20.17	76
1989	637	Mandatory	24.51	92
1990	593	Voluntary	16.45	62
1991	479	Mandatory	20.76	78
1992	548	Mandatory	24.19	91
1993	644	Mandatory	33.22	125
2007	932	Voluntary	18.78	71
2008	848	Voluntary	20.41	77
2009	761	Voluntary	20.48	77
2012	671	No Rationing	15.82	61
2013	745	Voluntary	19.56	74
2014	746	Mandatory	8.99	36
2015	656	Mandatory	16.00	61
2016	Not Available	Mandatory	Not Available	Not Available
Rainfall Data NOAA NCDC Station 43714				

Water Waste

The District originally adopted an ordinance (No. 1997-01) in 1997 that establishes rules and regulations prohibiting wasteful water use during a normal water supply situation and providing enforcement. This ordinance was updated in 2008 (2008-01) to conform to the California Urban Water Conservation Council's memorandum of understanding (MOU) for best management practices. This existing water waste ordinance can be used during stage 1.

During times of mandatory rationing, this ordinance will not apply. The District will need to implement, with the Board of Directors approval, additional and specific regulations to prevent water waste during periods of mandatory rationing.

Impacts on Revenues and Expenditures

Successful water rationing programs result in reduced water sales and reduced revenues. However, the District's expenditures do not decline in proportion to reduced sales because a large part of the District's expenditures are related to fixed capital costs, maintenance and operations. In addition, the District will pay more for imported water because the SFPUC will raise their wholesale rates to cover their reduced water sales and their increased administrative costs.

During periods of rationing, the District's administrative costs and staffing costs will increase due to enforcement of new rules and complex billing structures. Consequently, retail water rates will increase during years of water shortages when rationing programs are implemented. The District has an emergency reserve that it can use to cover increased costs, until it can implement and realize the benefit of adjusted water rationing rates, surcharges and penalties.

The District will need to follow Proposition 218 requirements for the drought rates, which will cause a slight delay in the actual implementation of the drought rates. Also causing a delay in drought rates will be waiting for decisions from the SFPUC on their rates and actions during water shortages.

Agreements

San Francisco Regional Water System (RWS)

The District purchases water from the SFPUC along with 25 other public and private water retailers. There are drought implementation plan agreements between the SFPUC and the SFPUC's wholesale customers, known as Tier One, and among the wholesale customers, known as Tier Two. Tier One is part of the 2009 Water Supply Agreement (WSA). These agreements allocate available water from the RWS during system wide shortages of 20 percent or less. The current Tier Two Plan is due to expire in 2018, unless extended by the wholesale customers.

In drought years, the SFPUC will formally declare a water shortage between April 15th and April 31st. At this time, the SFPUC will declare the magnitude of the water shortage and determine the need for voluntary or mandatory actions. On June 1st, final drought allocations will be issued for the supply year beginning on July 1st through June 30th. In addition, monthly water budgets will become effective July 1st. Excess use charges will be implemented at the same time the monthly water budgets are implemented.

Since the District purchases anywhere from 70 percent to 90 percent of our water supply from the SFPUC, these agreements are critical to the District's drought planning and analysis. Table 4 summarizes the District's allocation from the SFPUC and the District's estimated local supply. The total projected water supply, during a single dry year and multiple dry years, includes purchased and local supplies.

	Average Year	Single Dry Year	Multiple Dry Years		
			Year 1	Year 2	Year 3
SFPUC Regional Water System Shortage	0%	10%	10%	22%	22%
SFPUC Wholesale Allocation (MGD)	184	152.6	152.6	129.2	129.2
SFPUC Coastside CWD's Allocation (MGD)	2.18	1.82	1.82	1.65	1.65
SFPUC Coastside CWD's Allocation (MG/Year)	800	662	662	602	602
Coastside CWD's Local Sources (MG/Year)	200	125	125	63	35
Total Projected Water Supply (MG/Year)	1000	787	787	665	637
Calculated July 2016					

The Tier Two allocation formula can be described with the following components to arrive at an allocation factor:

- 33.3% weight applied to individual agency's Individual Supply Guarantee (with slight variations for Hayward, San Jose and Santa Clara).
- 66.6% weight applied to a Base/Seasonal calculation using 3 year average monthly production values for all supply sources.
- 10% minimum cutback and maximum cutback equal to no more than the average cutback plus 20%.
- Guaranteed sufficient supply of water to East Palo Alto to meet health and safety needs for its community.

- Residential per capita use.

Each wholesale customer's allocation factor, which represents its percentage allocation of the total available water supplies, is calculated from its proportionate share of the total of all wholesale customers' allocation bases. The final shortage allocation for each wholesale customer is determined by multiplying the amount of water available to the wholesale customers' collectively under the Tier One Plan, by the wholesale customer's allocation factor.

The Tier Two Plan requires that the allocation factors be calculated by BAWSCA each year in preparation for a potential water shortage emergency. As the wholesale customers change their water use characteristics (e.g., increases or decreases in SFPUC purchases and use of other water sources, changes in monthly water use patterns, or changes in residential per capita water use), the Allocation Factor for each wholesale customer will also change.

For long-term planning purposes, each wholesale customer has been provided with the Tier Two allocation factors calculated by BAWSCA based upon the most recent normal year to determine its share of available RWS supplies. However, actual allocations to each wholesale customer during a future shortage event will be calculated in accordance with the Tier Two Plan at the onset of the shortage.

Agreement for Emergency Water Supply

The District and Montara Water and Sanitary District (MWSD) entered into an agreement, as of October 18, 2010, for the mutual benefit of both districts, to provide a temporary, interruptible supply of water for use during a water shortage emergency.

For the purposes of this agreement, emergency water supply is defined as a temporary and interruptible supply of water to help alleviate a water shortage emergency. The water shortage emergency is when ordinary demands and requirements of the District's water users cannot be satisfied without depleting its water supply to the extent that there would be insufficient water for human consumption, sanitation and fire protection. The water shortage emergency has to be due to a lack of water supply caused by circumstances outside the District's reasonable control or damage to the water system facilities, as a result of a "Force Majeure". For the purposes of this agreement, Force Majeure means; fire, flood, earthquake, natural calamity or acts of God, and governmental action or inaction.

The implementation of this agreement is still under review by both agencies, but the District would likely only receive an emergency water supply from the MWSD during a critical water shortage emergency, as defined in this Plan.

Utility Billing

The District has a mix of monthly and bi-monthly billing. It would be beneficial for both the District and customers to have all customers on monthly billing during mandatory rationing. Monthly billing gives the customer faster feedback on meeting reduction goals and gives the District time to notify and work with customers having difficulty meeting reduction goals.

For the District to go to monthly billing, it would require hiring additional staff to read meters and to process the customer service tasks. Another option for monthly billing is to install an advanced automated metering infrastructure (AMI). This is also commonly referred to as smart metering. This would allow for daily access to customer water use by being able to upload daily water meter data with a fixed network by cellular or radio technology. There are other features of smart metering that could be implemented as the District receives more water usage data from metering. Leak alerts, backflow alerts and tampering alerts are examples features the district could implement with smart metering.

Impacts on revenue and expenditures, from migrating to monthly billing, could improve the District's statement of cash flow and its ability to cover short term liabilities. It could also benefit the customer by creating more manageable monthly payments instead of larger bi-monthly payments.

Determination of a Water Shortage

The SFPUC will notify the District and other wholesale customers by April 15th, if there will be a water shortage. The magnitude of the water shortage will be determined by June 1st and the District's allocation from the SFPUC will become effective July 1st. Since the District is dependent on imported water, the SFPUC's determination will be critical to implementing the Water Shortage Contingency Plan and determining which stage will be implemented.

The District monitors local precipitation to assist in determining the adequacy of local surface and groundwater sources. During periods of less than normal precipitation, the District will make a determination on how productive local sources will be for the upcoming fiscal year.

The District will take the SFPUC reduction and the District's projected reduction in local sources to determine the total reduction in production and the corresponding needed reduction in demand to be implemented on July 1st.

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 to mandate water conservation. The District would then implement the stage of action that met the conservation requirements mandated by the state.

Approach to Demand Reduction

This plan provides five stages of response based on increasing severity. This type of response would be appropriate to a drought or other water shortages. The five stages are listed in Table 5:

Stage	Stage Name	Water Shortage Measurement
1	Water Shortage Advisory	0%-5%
2	Water Shortage Emergency Warning	5%-10%
3	Water Shortage Emergency	10%-20%
4	Severe Water Shortage Emergency	20%-30%
5	Critical Water Shortage Emergency	30%-50%

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 following is a brief written description of a general escalation of actions that would be considered for possible adoption by the District at the different stages of water shortage.

Stage 1: Water Shortage Advisory

The public is informed as early as meaningful data are available that a possible shortage may occur. The District’s water waste ordinance would be enforced to the maximum extent possible. The District would request voluntary water conservation to encourage behavior changes and a reduction in irrigation. District staff would assess local sources and begin to prepare for implementation of mandatory rationing. This stage relies heavily on voluntary cooperation and support of customers to meet consumption reduction goals.

At Stage 1, the District should consider the following actions:

- Implementation of a public information campaign
- Coordination with the Bay Area Water Supply and Conservation Agency
- Coordination with the San Francisco Public Utilities Commission
- Coordination and communication actions with all District staff
- Implementation of a production and consumption monitoring and reporting plan
- Planning for the continuation and escalation of water shortage conditions
- Encouraging leak detection and repair for retail customers
- Educating the public on water waste prohibitions

An example of the public message for Stage 1 – Water Shortage Advisory

“Due to significantly less than normal precipitation this water year, we are asking customers to voluntarily conserve water with a goal of achieving a 5 percent reduction in water consumption. Conserving water now will help keep water storage at adequate levels, if the water shortage should continue or worsen.”

Stage 2: Water Shortage Emergency Warning

If water supply conditions worsen, this stage would begin to implement mandatory restrictions on water use. This stage would be a transitional stage to prepare customers and the District for a Water Shortage Emergency.

At Stage 2, the District should consider the following actions:

- Continuing with actions from Stage 1
- Escalating the public information campaign
- Implementing restrictions on water features and swimming pools
- Encouraging meter reading by customers to track water usage
- Performing outreach to major customers, regarding water supply status
- Designating days, times and duration that irrigation is allowed, if voluntary measures are not meeting goals
- Studying the impacts to revenue and developing a budget strategy for mitigating decreases in revenue
- Informing the City of Half Moon Bay and the County of San Mateo of water supply status
- Informing the Coastside Fire Protection District of water supply status and request cooperation in reducing training exercises that use water
- Prohibiting the cleaning of certain exterior surfaces with potable water
- Prohibiting the cleaning of driveways and sidewalks with potable water
- Suspending routine flushing of water mains
- Emphasizing leak detection and repair for the District's transmission and distribution system
- Establishing and advertising a hotline to respond to questions and reports of water waste

An example of the public message for Stage 2 – Water Shortage Emergency Warning

“Water supply conditions have worsened and it is now necessary to impose mandatory restrictions on water use. The District encourages customers to conserve water and to help the District achieve a 10 percent reduction in water consumption. Conserving water now will help maintain an adequate water supply to meet the public health and safety needs of the community.”

Stage 3: Water Shortage Emergency

This stage would escalate mandatory restrictions and prohibitions. The District would strongly consider transitioning into water allocations (water budgets). Restrictions would emphasize reducing or prohibiting decorative landscape irrigation for commercial, institutional and residential customers. Implementation of penalties and surcharges would be considered for non-compliance with mandatory restrictions. The District would continue to study the impacts to revenue and expenditures and consider adopting a budget strategy.

At Stage 3, the District should consider the following actions:

- Continuing with actions taken in stages 1 and 2

- Implementing residential and non-residential water allocations (water budgets)
- Implementation of system-wide monthly billing
- Temporary moratorium on the activation of new connections
- Implementing drought rates, surcharges and penalties
- Prohibiting the installation of new lawn (turf)
- Prohibiting the installation of new water features
- Prohibiting the installation of new swimming pools
- Providing information on legal gray water use
- Contacting the Coastside Fire Protection District and consider eliminating fire training exercises that use water
- Evaluating water waste prohibitions and expanding them
- Consider enhancing the District's leak repair program and possibly contracting out some leak repair activities

An example of the public message for Stage 3 – Water Shortage Emergency

“A serious water shortage emergency exists and it is necessary to conserve the available water supply for public health and safety, while trying to minimize negative impacts to the local economy. The District needs the cooperation from all its customers to achieve a 20 percent reduction in water consumption.”

Stage 4: Severe Water Shortage Emergency

This stage would include mandatory restrictions and water allocations. At this stage all decorative landscape irrigation would be prohibited and residential allocations would be severely reduced from the previous stage.

At Stage 4, the District should consider the following actions:

- Continuing with actions taken in stages 1, 2 and 3
- Adjusting residential and commercial allocations for a more severe water shortage
- Prohibiting all new decorative landscape installations
- Prohibiting irrigation except for the survival of approved trees and edible gardens
- Scheduling staff for enforcement and customer service on the weekends
- Prohibiting on-site fleet, dealership and residential vehicle washing
- Prohibiting the use of portable meters, except for public agencies
- Deferring certain capital improvement projects that don't result in a potential water savings

An example of the public message for Stage 4 – Severe Water Shortage Emergency

“A severe water shortage emergency exists and it is necessary to conserve water to the maximum extent possible. The District needs the cooperation from all its customers to achieve a 30 percent reduction in water consumption.”

Stage 5: Critical (catastrophic) Water Shortage Emergency

This stage is the most severe. The need for demand reduction could include a combination of mandatory measures, penalties and rate surcharges. Allocations would be implemented to

meet the minimum health and safety standards. This could be used as the last stage of a progressive situation, such as a drought of increasing severity, or to address an immediate crisis, such as; a facility failure, natural disaster or power failure.

At Stage 5, the District should consider the following actions:

- Continuing with actions from stages 1, 2, 3 and 4
- Adjusting allocations for a critical water shortage emergency
- Providing special notification to major users and the hospitality industry in the area
- Closing public pools and public showers
- Prohibiting water used for recreational purposes (showers and restrooms at public and private parks and camping facilities)
- Purchasing bottled water to provide to customers for nominal charge or free of charge
- For extended catastrophic emergencies, consider the use of a portable treatment plant (membrane) to treat groundwater, brackish water or saltwater to supplement water supplies
- Requesting emergency water supplies from neighboring water agencies

An example of the public message for Stage 5 – Critical Water Shortage Emergency

“A critical water shortage emergency exists and there is only water to meet the most basic needs of the community. The hardship to residential and commercial customers is severe and the District appreciates the cooperation of its customers to meet a 50 percent reduction in water consumption.”

Reduction by Sales Category

In developing the allocations among the different sales categories and stages, the need for public health and a sustainable economy were considered. During a water shortage, the priority for public health, sanitation and safety are given priority over other water uses.

A population of 16,668 for the service area was assumed in the calculations for the residential component, as illustrated in Table 6. Table 6 represents the residential allocation at the different stages.

Stage	Percent of Allocation	GPCD
0	100	69
1	95	66
2	90	62
3	85	59
4	75	51
5	50	35

Table 6 illustrates per person allocations and the percent of a normal year’s allocation. The most severe water shortage stage allocates approximately 35 gallons per day per person. This table shows the progression of reducing residential demand during the different water

shortage stages and confirms that enough water has been allocated to meet the basic domestic sanitation needs of the residential population.

With high efficiency fixtures and significant hardship, 35 gallons per day per person should provide enough water to meet the health and safety standards for residential customers. There will be some individuals with special medical needs that will need additional water allocated and any rationing scenarios implemented will need to take into account customers with special needs.

Table 7 illustrates how a dwelling with high efficiency fixtures could meet the most severe water shortage allocation of 35 gallons per day per person.

Fixture	Multiplier	Efficiency	Gallons
Toilet	5 Flushes	1.28 gpf	6
Shower	8 minutes	2.0 gpm	16
Clothes Washer	3 loads per week	4.5 WF	2
Kitchen Sink	4 minutes	1.8 gpm	7
Dishwasher	1 load per week	6.5 g/cycle	1
Bathroom Sink	2 minutes	1.5 gpm	3
Total			35

For non-residential customers, a percent reduction from a chosen base year would be the method for reducing water demand. This method is commonly used as a method for non-residential customers because it is considered easy to understand and to administer. The negatives of this method are that it can be perceived as penalizing customers that are water efficient because they will be asked to reduce consumption from a base consumption that is already water efficient. The hardship for non-residential customers can be significant in stages 3, 4 and 5.

To some extent, financial rationing will be in place for all customers because rates will be higher and special penalties and charges will be in place for customers that use more water than they are allocated. Financial rationing gives an added incentive to reduce water consumption.

Another rationing method that will be used for all customers are specific use restrictions which prohibit certain uses of water; such as surface washing, vehicle washing, new connections and irrigation restrictions. This method is used in instances where other rationing methods might not be effective or there is the need for an immediate reduction in water use. This method is time and staff intensive because it requires patrolling the service area to look for violations, tracking violations and following up on compliance.

Table 8 illustrates an example of a water supply allocation by sales class at the different stages of water shortage. The baseline (zero deficiency) is based on the most recent five year average demand by sales class. This table represents the analysis that must be done during every water shortage episode and at every water shortage stage because each water shortage episode has unique considerations based on the severity and cause of the water shortage.

Each sales class or sector is listed with the percent of normal allocation and the allocation in million gallons. Based on the severity of the water deficiency and the resulting allocations, a plan can be developed to meet the necessary reductions. The actions and measures described for each stage are intended to meet the required reduction.

Table 8 - Example of Water Supply Allocations by Sales Class

	Base Year 0% Deficiency		Stage 1 5% Deficiency		Stage 2 10% Deficiency		Stage 3 20% Deficiency		Stage 4 30% Deficiency		Stage 5 50% Deficiency	
	Annual Allocation		Annual Allocation		Annual Allocation		Annual Allocation		Annual Allocation		Annual Allocation	
	%	MG	%	MG	%	MG	%	MG	%	MG	%	MG
SF Residential	100	380	95	361	90	342	85	323	73	277	50	190
Commercial	100	43	95	41	90	39	90	39	80	34	55	24
Restaurant	100	17	95	16	90	15	90	15	80	14	55	9
Hotel Motel	100	30	95	28	90	27	90	27	80	24	55	16
Schools	100	13	95	12	90	12	90	12	75	10	50	7
MF Residential	100	42	95	40	90	38	90	38	75	32	50	21
Beaches Parks	100	4	95	4	90	4	90	4	80	4	50	2
Agriculture	100	84	95	80	90	76	90	76	80	67	50	42
Recreation	100	2	95	2	90	2	90	2	80	2	55	1
Marine	100	7	95	6	90	6	90	6	80	5	55	4
Irrigation	100	11	95	10	85	9	50	6	10	1	0	0
<i>Irrigation (raw water customer)</i>	<i>100</i>	<i>58</i>	<i>95</i>	<i>55</i>	<i>85</i>	<i>49</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>
Portable Meters	100	3	95	3	90	3	0	0	0	0	0	0
Sales Subtotal	100	694	95%	659	89%	621	79%	546	68%	470	46%	317
Non Revenue Water	100%	60	100%	60	100%	60	100%	60	100%	60	100%	60
Gross Total Demand	100%	754	95%	719	90%	681	80%	606	70%	530	50%	377
Demand Reduction		0		35		73		148		224		377
TOTAL GROSS MGD		2.1		2.0		1.9		1.7		1.5		1.0

Enforcement

During prior water shortage periods, the District implemented excess use fees to residential customers who consumed more water than their allocation. These fees were determined based on an allocation formula that considered, among other things, the number of residents per residential housing unit. Other enforcement measures used by the District include the installation of flow restrictors on a water service and turning off water service for specified time periods. As a water district, Coastside County Water District has limited authority to fine customers for water waste and non-compliance with regulations.

Appendices

Appendix A

Sample Drought Ordinance with Allocations

ORDINANCE NO. [REDACTED]

COASTSIDE COUNTY WATER DISTRICT

AN ORDINANCE ESTABLISHING RULES AND REGULATIONS FOR RATIONING WATER DURING A WATER SHORTAGE EMERGENCY AND ESTABLISHING PENALTIES FOR VIOLATIONS THEREOF

BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE COASTSIDE COUNTY WATER DISTRICT AS FOLLOWS:

Section 1: Findings and Determinations

This ordinance is adopted in light of the following facts and circumstances, which are hereby found and declared by the Board of Directors.

Whereas, the District obtains the majority of its water from the San Francisco Public Utilities Commission (SFPUC) and is substantially dependent on the SFPUC supply throughout the year and particularly in dry years.

Whereas, the SFPUC has, on [REDACTED], found that due to [REDACTED] low water supplies within the reservoirs and anticipated low levels of inflow into such reservoirs, water consumption must be decreased and has declared a water shortage emergency.

Whereas, the SFPUC has adopted a water conservation program under which the amount of water allocated to the District will be reduced by approximately [REDACTED] during fiscal year [REDACTED].

Whereas, the District's local sources of water, which supplement the water supplies purchased from SFPUC, are also below normal as a result of [REDACTED] of below normal precipitation.

Whereas, the actions of the SFPUC, and the reduced amount of water available from local sources, a water shortage emergency exists within the area served by the District.

Whereas, the rules, regulations and restrictions set forth in this ordinance are intended to conserve the water supply of the District for the greatest public benefit with particular regard to domestic use, sanitation and fire protection.

Whereas, according to the District's Water Shortage and Drought Contingency Plan, conditions exist to implement Stage [REDACTED], as developed under authority of California Water Code Section 10632.

Whereas, the specific uses prohibited or restricted by this ordinance are nonessential, and if allowed would constitute wastage of District water, and should be prohibited pursuant to the District's authority under California Water Code section 350 – 359 et seq., California Water Code Section 31026 et seq., and the common law.

Whereas, the actions taken hereinafter are exempt from the provisions of Section 21000 et seq. of the Public Resources Code as a project undertaken as immediate action necessary to prevent or mitigate an emergency pursuant to Title 14, California Code of Regulations Section 15269 and as a project undertaken to assure the maintenance, restoration or enhancement of a natural resource pursuant to Title 14, California Code of Regulations Section 15307.

Section 2: Definitions

- A. "District" means Coastside County Water District
- B. "General Manager" means the General Manager of the District.
- C. "Person" means any person, firm, partnership, association, corporation, company, organization or governmental entity.
- D. "Customer" means any person, whether within or without the geographic boundaries of the District, who uses water supplied by the District.
- E. "Billing Unit" means a quantity of water equal to 100 cubic feet (ccf) or 748 gallons.
- F. "Account" means a metered or unmetered water service.

Section 3: Prohibition of Nonessential Water Use

It shall be unlawful for any person to use water obtained from the water system of the District for nonessential uses as hereinafter defined in Sections 4 and 5.

Section 4: Allocations

- A. Use of water in excess of the following allocation is hereby determined to be nonessential:
 - 1. Residential Accounts
 - a. Basic Allocation: The allocation for each billing period (monthly or bi-monthly) shall be:
 - 1. Minimum Allocation: Residential customers shall be granted an allocation based on the number of permanent, full-time residents. A customer shall submit evidence, satisfactory to the General Manager, of the number of permanent, full-time residents. The minimum allocation for a billing period is determined as follows:

Number of full-time permanent residents per living unit	Bi-Monthly Allocation (in billing units)	Monthly Allocation (in billing units)
One person	(insert ccf)	(insert ccf)
Second Person	(insert ccf)	(insert ccf)
Each Additional Person	(insert ccf)	(insert ccf)
For example, the minimum bi-monthly allocation for a living unit with three permanent, full-time residents would be (insert ccf) billing units.		

2. Maximum Allocation: No residential customer shall be entitled to an allocation of more than (insert ccf) billing units during a bi-monthly billing period.

3. Allocation for Livestock: Residential customers shall be entitled to an allocation for livestock: The allocation for a billing period is determined as follows:

Livestock	Gallons Per Day
Horse	12
Cow	20-45
Pig	5
Sheep/Goat	2
Poultry/Fowl	15/Q100
University of New Hampshire Cooperative Extension "water conservation on dairy and livestock farms"	

2. Non-Residential Customers

(fill in percent) of the base year (insert base year) during the corresponding billing period is allowed.

3. Dedicated Irrigation Customers

(fill in percent) of the base year (insert base year) during the corresponding billing period is allowed.

4. Raw Water Customers Under Contract

During a water emergency, customers under special contract shall not receive any water.

5. Allocation Where No Past History Exists

When water records are not available, individual allocations will be calculated on the basis of the current occupancy.

Section 5: General Prohibitions

The following uses of water are hereby determined to be nonessential:

- A. Use of water through any meter when the customer has been given 24 hours notice to repair broken or defective plumbing, sprinkler, watering or irrigation systems and has failed to effect such repairs.
- B. Use of water which results in flooding or runoff in gutters or streets.
- C. The use of non-recycled water for washing cars, buses, boats, trailers, motorcycles, vehicles, and other equipment, except for washing with a bucket and rinsing with a hand held hose equipped with a nozzle with a positive shutoff valve.
- D. Use of water through a hand-held hose for washing sidewalks, walkways, driveways, patios, parking lots, tennis courts, or other hard surfaced areas.
- E. Use of water for initially filling or refilling any swimming pool, sauna or hot tub constructed after the date of this ordinance.
- F. Use of water for construction purposes, such as dust control and consolidation of backfill.
- G. Service of water by restaurants except upon the specific request of the customer.
- H. Use of water for residential and commercial decorative landscaped areas, unless the plants are edible and are intended to be used as a source of food for customers. Golf courses are exempt from this prohibition.

Section 6: Exceptions

Written applications for an exception to water use restrictions (Section 5) or for an adjustment to an allocation (Section 4) may be made to the General Manager on a form provided by the District.

The General Manager may grant an exception or adjust an allocation if he finds that (1) failure to do so would adversely affect the health, sanitation, fire protection or safety of the customer or the public, or (2) failure to do so would cause an unnecessary and undue hardship to the customer or the public, such as loss of jobs in the community. The General Manager may condition the exception or adjustment upon the customer's adopting practical water conservation measures.

A customer may appeal a decision of the General Manager to the Board of Directors. To do so, he or she must submit a written statement of the reasons for the appeal, together with evidence for support.

Section 7: Excess Water Use Charge

A. An excess use charge shall be imposed on water used in excess of a customer’s allocation, during each billing period, as follows:

Amount in Excess of Allocation	Excess Use Charge
Up to 10% over allocation	(insert multiplier) times the applicable regular unit rate
10.01% -20% over allocation	(insert multiplier) times the applicable regular unit rate
20.01% - 25% over allocation	(insert multiplier) times the applicable regular unit rate
25.01% or more over allocation	(insert multiplier) times the applicable regular unit rate

B. The excess use charges are in addition to the basic rate for water used.

C. One billing unit will be subtracted from the consumption amount used to calculate excess use charges to account for the fact that meter reads are based on whole numbers, so the previous billing period’s usage could be carried over to the next billing period, if it was less than 1ccf.

Section 8: Rates

A. The District shall recover the cost of increased rates imposed by the SFPUC.

Water Shortage Rates		
Sales Class	Consumption Range	\$/ccf
Non Residential		
	1+	\$ (insert dollar amount)
Residential		
	0-8	\$ (insert dollar amount)
	9-25	\$ (insert dollar amount)
	26-40	\$ (insert dollar amount)
	41+	\$ (insert dollar amount)

B. The District shall institute a water shortage surcharge to recover the increased costs of operations, maintenance and additional staffing needed for enforcement of rules and regulations. This surcharge is in addition to meter base charges.

Water Shortage Surcharge		
Meter Size	Monthly	Bi-Monthly
5/8 "	\$ (insert dollar amount)	\$ (insert dollar amount)
5/8 " (serving 2 dwelling units)	\$ (insert dollar amount)	\$ (insert dollar amount)
3/4 "	\$ (insert dollar amount)	\$ (insert dollar amount)
3/4 " (serving 2 dwelling units)	\$ (insert dollar amount)	\$ (insert dollar amount)
1 "	\$ (insert dollar amount)	\$ (insert dollar amount)
1- 1/2 " (1.5 ")	\$ (insert dollar amount)	\$ (insert dollar amount)
2 "	\$ (insert dollar amount)	\$ (insert dollar amount)
3 "	\$ (insert dollar amount)	\$ (insert dollar amount)
4 "	\$ (insert dollar amount)	\$ (insert dollar amount)

Section 9: Enforcement

A. Installation of Flow Restricting Devices

In lieu of, or in addition to, the penalties provided for in Section 356 and Section 31029 of the California Water Code, the District may, after one written warning, install a flow restricting device on the service line of any customer violating any of the provisions of this ordinance, including use of water in excess of the allocation set out on Section 4.

B. Charges for Installation of Flow Restricting Devices and Restoration of Service

Meter Size	Installation Charge	Removal Charge
5/8" to 1"	(insert charge)	(insert charge)
1-1/2" to 2"	(insert charge)	(insert charge)
3" and larger	(insert charge)	(insert charge)

First installation to be a minimum of 3 days; succeeding installations shall be a minimum of 10 days.

C. Discontinuance of Water Service

Continued water consumption in excess of the allocation may result in the discontinuance of water service by the District. A charge of (insert charge) shall be paid prior to reactivating the service.

Section 10: Effective Date

All provisions of this ordinance shall become effective immediately. Excess use charges shall become effective, and shall be included in billing statements commencing with billing statements mailed on or after July 1, (insert year).

Section 11: Severability

If any provision of this ordinance is held to be invalid, or unenforceable in particular circumstances, such invalidity shall not affect the remainder of the ordinance which shall continue to be of full force and effect and the Board declares this ordinance to be severable for that purpose.

Section 12: Publication

The Secretary is hereby directed to arrange for this ordinance to be published in a newspaper of general circulation in the District.

Passed and Adopted this (insert date) day of (insert month), (insert year) by the following vote:

Ayes:

Noes:

Absent:

President, Board of Directors
Coastside County Water District

Attest:

Secretary

Appendix B

Emergency Contact List

The complete and current emergency contact list can be found in the District's **Readiness Emergency Response & Emergency Communications Plan**.

Emergency Contact List			
Category		Contact	Phone Number
Public Safety			
	General Emergency		911
	HMB Substation		650-726-8288
	County Dispatch		650-363-4951
	Sheriff		650-726-4435
	County HAZMAT		650-802-4259
			650-363-4305
	Coastside Fire Protection District	Chief	650-726-5213
			650-740-7248
Utilities			
	PG&E		650-726-6882
			650-222-6049
			800-468-4743
			800-743-5000
	Sewer Authority Mid-Coastside		650-726-0124
	San Francisco Public Utilities Commission	Engineer	650-872-5900
		Water Quality	650-652-3102
		Paul Gambon	650-808-3811
			650-302-1733
		Pilarcitos Caretaker	415-518-2666
	USA		800-277-2600
	AT&T	Field Repair	800-332-1321
		Half Moon Bay Central	650-726-0027
		Test Center	800-924-9632
		Dispatch	510-498-8023
	Montara Water And Sanitary District		650-728-3545
State Contacts			
	California Department of Public Health	Eric Lacy	510-620-3453
		Ryan Thissen	510-620-3461
	California Regional Water Quality Control Board		510-622-2300
		Lou Gonzles	510-622-2365
	Governor's Office of Emergency Services		916-845-8510
	California Department of Transportation	Local Yard	650-726-4604
San Mateo County			
	San Mateo County Office of Emergency Service	Homeland Security	650-363-4790
	San Mateo County Harbor District		650-726-4723
	San Mateo County Public Works	Steve Fischer	650-599-7281
	San Mateo County Environmental Health	Greg Smith	650-372-6279
	Office of Emergency Services	Brian Molver	650-363-4448
Schools			
	Cabrillo Unified School District		650-363-4790
			650-712-7160
City of Half Moon Bay			
	City Manager		650-726-8270
	Public Works Department		650-726-8260
Laboratories			
	San Mateo County Public Health Laboratory		650-573-2500
	Monterey County Department of Public Health		831-755-4516

Appendix C

Reference Materials

ABAG, 2013 Housing Projections, Coastside County Water District service area

ABAG, 2013 Population Projections, Coastside County Water District service area

City and County of San Francisco, Water Supply Agreement between the City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County and Santa Clara County, Tier 1 and Tier 2, July 2009

City of Santa Cruz, City of Santa Cruz Water Department, Water Shortage Contingency Plan March 2009

Coastside County Water District, Coastside County Water District Readiness Emergency Response and Emergency Communication Plan June 2010

Coastside County Water District, Coastside County Water District Water System Emergency Response Plan 2014

State of California, California Natural Resources Agency and the Department of Water Resources, California Drought Contingency Plan November 2010

State of California, Department of Water Resources, Office of Water Use Efficiency and Transfers State of California Urban Drought Guidebook 2008 Updated Edition

Appendix D

Sample Drought Ordinance without Allocations

ORDINANCE NO. XXXX-XX
AN AMENDED AND RESTATED ORDINANCE OF
THE COASTSIDE COUNTY WATER DISTRICT

An ordinance establishing and expanding mandatory water use restrictions and prohibitions under Stage 2- Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan

Be it ordained by the Board of Directors of the Coastside County Water District (District) as follows:

Section 1: Findings and Determinations

This ordinance is adopted in light of the following facts and circumstances, which are hereby found and declared by the Board of Directors.

WHEREAS, California is experiencing one of the most severe droughts on record; and

WHEREAS, the District implemented Stage 1 – Water Shortage Advisory of its Water Shortage Contingency Plan on October 8, 2013 informing the public of a possible water shortage and requesting voluntary water conservation; and

WHEREAS, Governor Brown declared a drought state of emergency on January 17, 2014, and called on all Californians to do their part to reduce their water use; and

WHEREAS, the wholesale water provider for a significant portion of the District's water supply, the San Francisco Public Utilities Commission (SFPUC), requested 10 percent voluntary water use reduction system-wide on January 31, 2014; and

WHEREAS, the District requested 10 percent voluntary water use reduction from all customers on February 11, 2014; and

WHEREAS, Governor Brown issued a proclamation of a continued state of emergency on April 25, 2014 to mitigate the effects of drought conditions upon the people and property of California, and called on residents to refrain from wasting water; and

WHEREAS, the District adopted Resolution 2014-02 on May 13, 2014 urging heightened water use efficiency by customers in response to drought conditions, and

WHEREAS, the State Water Resources Control Board (SWRCB) adopted drought emergency regulations on July 15, 2014 (Resolution No. 2014-0038) that imposed mandatory actions by urban water suppliers that became effective July 28, 2014; and

WHEREAS, the District was required to comply with the 2014 SWRCB drought emergency regulations as an urban water supplier, and one of the mandatory actions requires the District to implement all requirements and actions of the stage of its Water Shortage Contingency Plan that impose mandatory restrictions on outdoor irrigation of ornamental landscapes or turf with potable water; and

WHEREAS, the District is an urban water supplier that has an adopted Water Shortage Contingency Plan that is considered sufficient by the California Department of Water Resources by review of the District's 2010 Urban Water Management Plan; and

WHEREAS, Stage 2 – Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan describes a menu of options including mandatory restrictions on outdoor water use, irrigation and prohibiting cleaning of exterior surfaces with potable water; and

WHEREAS, by Resolution No. 2014-06, adopted on August 12, 2014, the District implemented Stage 2 – Water Shortage Emergency Warning of its Water Shortage Contingency Plan; and

WHEREAS, by Ordinance No. 2014-02, adopted on August 12, 2014, the District established mandatory water use prohibitions and restrictions under Stage 2-Water Shortage Emergency Warning of its Water Shortage Contingency Plan; and

WHEREAS, the SWRCB extended and expanded the drought emergency regulations on March 17, 2015 (Resolution No. 2015-0013) that imposes mandatory actions by urban water suppliers that became effective March 27, 2015; and

WHEREAS, Governor Brown issued Executive Order B-29-15 on April 1, 2015, that, in part, directed the SWRCB to impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage, to increase enforcement against water waste, and to implement additional restrictions on the outdoor use of potable water; and

WHEREAS, the SWRCB expanded and modified its drought emergency regulations on May 5, 2015 (Resolution 2015-0032) to achieve a statewide 25 percent reduction in potable urban water usage and the emergency regulations went into effect on May 18, 2015; and

WHEREAS, the SWRCB determined that the District had an average July-September 2014 R-GPCD of less than 65, and that the District shall reduce its total potable water production by 8 percent for each month as compared to the amount used in the same month in 2013; and

WHEREAS, the SFPUC's request for all customers to reduce water consumption by 10 percent system-wide, remains in place; and

WHEREAS, the actions taken hereinafter are exempt from the provisions of Section 21000 et seq. of the Public Resources Code as a project undertaken as immediate action necessary to prevent or mitigate an emergency pursuant to Title 14, California Code of Regulations Section 15269 and as a project undertaken to assure the maintenance, restoration or enhancement of a natural resource pursuant to Title 14, California Code of Regulations Section 15307.

Section 2: Definitions

Agricultural use: Use that meets the definition of Government Code section 51201, subdivision (b).

Customer: Any person, whether within or without the geographical boundaries of the District, who uses water supplied by the District.

District: Coastside County Water District.

General Manager: The General Manager of Coastside County Water District or the General Manager's designee.

Graywater: Untreated household waste water which has not come in contact with toilet waste, as regulated by the 2013 California Plumbing Code Chapter 16 Section 1602.

Irrigation station: A group of sprinklers controlled by the same valve to correspond to a hydrozone, also referred to as a circuit.

Low volume irrigation systems: Any irrigation system that applies irrigation water at low pressure through a system of tubing or lateral lines and low volume emitters such as drip, driplines, microspray, and bubblers with a very low flow rate (≤ 2 gallons per hour [gph]) measured in gallons per hour, and that is designed to apply small volumes of water very slowly at or near the root zone of plants. This includes but is not limited to properly functioning drip irrigation systems and soaker hoses.

Measurable rainfall: Climatological conditions that result in ≥ 0.1 (greater than or equal to one tenth) of an inch of precipitation in any continuous 4 (four) hour period.

Ornamental landscape: Any landscaping where the primary function is of maintaining aesthetic value. An ornamental landscape may serve other purposes but the primary purpose is visual.

Person: Any customer, tenant, property owner, governmental entity, firm, association, organization, company or business using water.

Recycled water: Treated reclaimed wastewater from a publically owned treatment plant.

Turf: Grasses grown for ornamental or recreational use which are mowed regularly. It is also referred to as lawn.

Water: Any water delivered by or originating from Coastside County Water District's transmission and distribution system.

Section 3: Prohibited and Restricted Activities in Promotion of Water Conservation

- A. To promote water conservation, each of the following actions is 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:
 - 1. The application of water to outdoor landscapes and turf in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, storm-water drainage infrastructure, or structures;

2. The use of a hose that dispenses water to wash motorized vehicles, boats and trailers, except where the hose is fitted with a positive shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;
3. The application of water to driveways and sidewalks;
4. The use of water in a fountain or other decorative water feature, except where the water is part of a recirculating system;
5. The application of water to outdoor landscapes during and within 48 hours after measurable rainfall; and
6. The application of water to ornamental turf on public street medians.

B. To prevent the waste and unreasonable use of water and to further promote water conservation, each of the following actions is prohibited:

1. The use of water that causes flooding or pooling due to super-saturation of the ground or soil;
2. The use of water when the customer has been given written notice by the District to repair broken or defective plumbing, equipment, appliances, sprinklers, watering or irrigation systems, and has failed to effect such repairs for 24 hours after delivery of the notice;
3. The indiscriminate running of water or washing with water that causes runoff;
4. The use of water for single pass through cooling systems. The use of potable water ice making machines and other mechanical equipment that utilizes a single-pass cooling system to remove and discharge heat to the sewer. Water used for all cooling purposes shall be recycled or re-circulated; and
5. The use of water from any fire hydrant, unless specifically authorized by the District, except by regularly constituted fire protection agencies for fire suppression purposes or for other specifically authorized uses, including water distribution flushing, fire flow testing, and filling of District approved vehicles for sewer system flushing, and street sweeping purposes.

C. Specific Non-Residential End-User Requirements and Prohibitions in Promotion of Water Conservation:

1. 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; and

2. Operators of hotels, motels, inns, and bed and breakfast establishments, shall provide guests with the option of choosing not to have towels and linens laundered daily. The operator shall prominently display notice of this option in each guestroom using clear and easily understood language; and
3. All commercial, industrial, institutional and irrigation customers that use a water supply any portion of which is from a source other than Coastside County Water District shall:
 - (a) Notify the District by **Insert Date**, if there is an alternate water supply associated with their property; and
 - (b) Limit outdoor irrigation of ornamental landscapes or turf with potable water to no more than two days per week; or
 - (c) Reduce potable water usage by 25 percent for the months of **Insert Date** through **Insert Date** as compared to the amount used for the same months in **Insert Year**.

Section 4: Mandatory Restrictions on Outdoor Irrigation of Ornamental Landscapes or Turf

- A. Time of day restriction. No person shall use or cause to be used any water for ornamental landscape or turf irrigation between the hours of 8:00 a.m. and 5:00 p.m.
- B. Length of time restriction. No person shall use or cause to be used any water for ornamental landscape or turf irrigation that exceeds 15 minutes per irrigation station during the designated days and times allowed for irrigation.
- C. Days of the week restrictions. No person shall use or cause to be used any water for ornamental landscape or turf irrigation on Sunday and Saturday. Irrigation of ornamental landscape or turf is allowed only on the following days:
 1. Odd Address: Monday and Thursday
 2. Even Address: Tuesday and Friday
 3. No Address: Monday and Thursday
 4. The address used to determine Irrigation days is as it appears under service address in the utility billing database under account information.
- D. The limitations specified in Section 4. A, B, and C shall not apply to Agricultural use, Floricultural use and Plant Nursery use.

E. Section 4. A, B, and C does not apply to the following categories of water use for the irrigation of ornamental landscapes or turf:

1. the use of a hand-held bucket or similar container;
2. the use of a hand-held hose with a positive shut-off valve or similar device;
3. the use of a properly functioning low volume irrigation system;
4. the use for very short periods of time for the express purpose of adjusting or repairing an irrigation system;
5. the use of a graywater system; and
6. the use of recycled water.

Section 5: Enforcement

A. Written Notice

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.

B. On-Site Notification

In the event that a further violation(s) is observed by District, after the original written notice, the District will make reasonable efforts to notify the customer of the violation and post a notice on the front door or other point of entry onto the property requiring the customer to cease the violation and take remedial action within 48 hours of the on-site notification. Failure to comply after the on-site notification may result in the temporary termination of water service.

C. Termination of Water Service

1. In the event that a further violation(s) is observed by District personnel 48 or more hours after the on-site notification, it will be deemed a willful violation of the mandatory restrictions on water use and the District may temporarily discontinue water service.
2. The customer shall be responsible for paying the District's costs incurred in enforcing this ordinance, including providing the on-site notification and temporarily terminating and restoring water service, on a time and material basis in accordance with the District's rate and fee schedule.

3. The customer shall pay all fees and charges above, and the customer's account must be in good standing, in order for the District to proceed with the reconnection of water service after it has been temporarily terminated.

Section 6: Appeal

Any customer, who disputes a staff determination of a violation of the above restrictions, may appeal in writing to the General Manager. The decision of the General Manager shall be final.

A. Written Appeal

The written appeal must be addressed to the General Manager and include: (1) the customer's name; (2) the mailing address and site address, if different; (3) the water account number; (4) a description of the violation(s); (5) the enforcement action taken; and (6) a detailed explanation of the basis of the appeal.

Coastside County Water District
Attn: General Manager
766 Main Street
Half Moon Bay, CA 94019

B. Criteria for Appeal

The General Manager will evaluate each written appeal based on the following criteria: (1) public health; (2) public safety; and (3) regulatory requirements of a state or federal agency.

Section 7: Effective Date

All provisions of this amended and restated ordinance shall become effective after the publication of this ordinance and remain in effect until the District cancels implementation of Stage 2 – Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan.

Section 8: Severability

If any provision of this ordinance is held to be invalid, or unenforceable in particular circumstances, such invalidity shall not affect the remainder of the ordinance which shall continue to be in full force and effect and the Board declares this ordinance to be severable for that purpose.

Section 9: Publication

The secretary is hereby directed to arrange for this ordinance to be published in a newspaper of general circulation in the District and to be posted on the District's website.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Coastside County Water District held on this **Insert Day** day of **Insert Year** by the following vote:

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ORDINANCE NO. 2015-01

**AN AMENDED AND RESTATED ORDINANCE OF
THE COASTSIDE COUNTY WATER DISTRICT**

An ordinance establishing and expanding mandatory water use restrictions and prohibitions under Stage 2- Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan

Be it ordained by the Board of Directors of the Coastside County Water District (District) as follows:

Section 1: Findings and Determinations

This ordinance is adopted in light of the following facts and circumstances, which are hereby found and declared by the Board of Directors.

WHEREAS, California is experiencing one of the most severe droughts on record; and

WHEREAS, the District implemented Stage 1 – Water Shortage Advisory of its Water Shortage Contingency Plan on October 8, 2013 informing the public of a possible water shortage and requesting voluntary water conservation; and

WHEREAS, Governor Brown declared a drought state of emergency on January 17, 2014, and called on all Californians to do their part to reduce their water use; and

WHEREAS, the wholesale water provider for a significant portion of the District's water supply, the San Francisco Public Utilities Commission (SFPUC), requested 10 percent voluntary water use reduction system-wide on January 31, 2014; and

WHEREAS, the District requested 10 percent voluntary water use reduction from all customers on February 11, 2014; and

WHEREAS, Governor Brown issued a proclamation of a continued state of emergency on April 25, 2014 to mitigate the effects of drought conditions upon the people and property of California, and called on residents to refrain from wasting water; and

WHEREAS, the District adopted Resolution 2014-02 on May 13, 2014 urging heightened water use efficiency by customers in response to drought conditions, and

WHEREAS, the State Water Resources Control Board (SWRCB) adopted drought emergency regulations on July 15, 2014 (Resolution No. 2014-0038) that imposed mandatory actions by urban water suppliers that became effective July 28, 2014; and

WHEREAS, the District was required to comply with the 2014 SWRCB drought emergency regulations as an urban water supplier, and one of the mandatory actions requires the District to implement all requirements and actions of the stage of its Water

Shortage Contingency Plan that impose mandatory restrictions on outdoor irrigation of ornamental landscapes or turf with potable water; and

WHEREAS, the District is an urban water supplier that has an adopted Water Shortage Contingency Plan that is considered sufficient by the California Department of Water Resources by review of the District's 2010 Urban Water Management Plan; and

WHEREAS, Stage 2 – Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan describes a menu of options including mandatory restrictions on outdoor water use, irrigation and prohibiting cleaning of exterior surfaces with potable water; and

WHEREAS, by Resolution No. 2014-06, adopted on August 12, 2014, the District implemented Stage 2 – Water Shortage Emergency Warning of its Water Shortage Contingency Plan; and

WHEREAS, by Ordinance No. 2014-02, adopted on August 12, 2014, the District established mandatory water use prohibitions and restrictions under Stage 2-Water Shortage Emergency Warning of its Water Shortage Contingency Plan; and

WHEREAS, the SWRCB extended and expanded the drought emergency regulations on March 17, 2015 (Resolution No. 2015-0013) that imposes mandatory actions by urban water suppliers that became effective March 27, 2015; and

WHEREAS, Governor Brown issued Executive Order B-29-15 on April 1, 2015, that, in part, directed the SWRCB to impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage, to increase enforcement against water waste, and to implement additional restrictions on the outdoor use of potable water; and

WHEREAS, the SWRCB expanded and modified its drought emergency regulations on May 5, 2015 (Resolution 2015-0032) to achieve a statewide 25 percent reduction in potable urban water usage and the emergency regulations went into effect on May 18, 2015; and

WHEREAS, the SWRCB determined that the District had an average July-September 2014 R-GPCD of less than 65, and that the District shall reduce its total potable water production by 8 percent for each month as compared to the amount used in the same month in 2013; and

WHEREAS, the SFPUC's request for all customers to reduce water consumption by 10 percent system-wide, remains in place; and

WHEREAS, the actions taken hereinafter are exempt from the provisions of Section 21000 et seq. of the Public Resources Code as a project undertaken as immediate action necessary to prevent or mitigate an emergency pursuant to Title 14, California Code of Regulations Section 15269 and as a project undertaken to assure the maintenance,

restoration or enhancement of a natural resource pursuant to Title 14, California Code of Regulations Section 15307.

Section 2: Definitions

Agricultural use: Use that meets the definition of Government Code section 51201, subdivision (b).

Customer: Any person, whether within or without the geographical boundaries of the District, who uses water supplied by the District.

District: Coastside County Water District.

General Manager: The General Manager of Coastside County Water District or the General Manager's designee.

Graywater: Untreated household waste water which has not come in contact with toilet waste, as regulated by the 2013 California Plumbing Code Chapter 16 Section 1602.

Irrigation station: A group of sprinklers controlled by the same valve to correspond to a hydrozone, also referred to as a circuit.

Low volume irrigation systems: Any irrigation system that applies irrigation water at low pressure through a system of tubing or lateral lines and low volume emitters such as drip, driplines, microspray, and bubblers with a very low flow rate (≤ 2 gallons per hour [gph]) measured in gallons per hour, and that is designed to apply small volumes of water very slowly at or near the root zone of plants. This includes but is not limited to properly functioning drip irrigation systems and soaker hoses.

Measurable rainfall: Climatological conditions that result in ≥ 0.1 (greater than or equal to one tenth) of an inch of precipitation in any continuous 4 (four) hour period.

Ornamental landscape: Any landscaping where the primary function is of maintaining aesthetic value. An ornamental landscape may serve other purposes but the primary purpose is visual.

Person: Any customer, tenant, property owner, governmental entity, firm, association, organization, company or business using water.

Recycled water: Treated reclaimed wastewater from a publically owned treatment plant.

Turf: Grasses grown for ornamental or recreational use which are mowed regularly. It is also referred to as lawn.

Water: Any water delivered by or originating from Coastside County Water District's transmission and distribution system.

Section 3: Prohibited and Restricted Activities in Promotion of Water Conservation

- A. To promote water conservation, each of the following actions is 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:
1. The application of water to outdoor landscapes and turf in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, storm-water drainage infrastructure, or structures;
 2. The use of a hose that dispenses water to wash motorized vehicles, boats and trailers, except where the hose is fitted with a positive shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use;
 3. The application of water to driveways and sidewalks;
 4. The use of water in a fountain or other decorative water feature, except where the water is part of a recirculating system;
 5. The application of water to outdoor landscapes during and within 48 hours after measurable rainfall; and
 6. The application of water to ornamental turf on public street medians.
- B. To prevent the waste and unreasonable use of water and to further promote water conservation, each of the following actions is prohibited:
1. The use of water that causes flooding or pooling due to super-saturation of the ground or soil;
 2. The use of water when the customer has been given written notice by the District to repair broken or defective plumbing, equipment, appliances, sprinklers, watering or irrigation systems, and has failed to effect such repairs for 24 hours after delivery of the notice;
 3. The indiscriminate running of water or washing with water that causes runoff;
 4. The use of water for single pass through cooling systems. The use of potable water ice making machines and other mechanical equipment that utilizes a single-pass cooling system to remove and discharge heat to the sewer. Water used for all cooling purposes shall be recycled or re-circulated; and
 5. The use of water from any fire hydrant, unless specifically authorized by the District, except by regularly constituted fire protection agencies for fire suppression purposes or for other specifically authorized uses, including

water distribution flushing, fire flow testing, and filling of District approved vehicles for sewer system flushing, and street sweeping purposes.

C. Specific Non-Residential End-User Requirements and Prohibitions in Promotion of Water Conservation:

1. 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; and
2. Operators of hotels, motels, inns, and bed and breakfast establishments, shall provide guests with the option of choosing not to have towels and linens laundered daily. The operator shall prominently display notice of this option in each guestroom using clear and easily understood language; and
3. All commercial, industrial, institutional and irrigation customers that use a water supply any portion of which is from a source other than Coastside County Water District shall:
 - (a) Notify the District by July 1, 2015, if there is an alternate water supply associated with their property; and
 - (b) Limit outdoor irrigation of ornamental landscapes or turf with potable water to no more than two days per week; or
 - (c) Reduce potable water usage by 25 percent for the months of June 2015 through February 2016 as compared to the amount used for the same months in 2013.

Section 4: Mandatory Restrictions on Outdoor Irrigation of Ornamental Landscapes or Turf

- A. Time of day restriction. No person shall use or cause to be used any water for ornamental landscape or turf irrigation between the hours of 8:00 a.m. and 5:00 p.m.
- B. Length of time restriction. No person shall use or cause to be used any water for ornamental landscape or turf irrigation that exceeds 15 minutes per irrigation station during the designated days and times allowed for irrigation.
- C. Days of the week restrictions. No person shall use or cause to be used any water for ornamental landscape or turf irrigation on Sunday and Saturday. Irrigation of ornamental landscape or turf is allowed only on the following days:
 1. Odd Address: Monday and Thursday
 2. Even Address: Tuesday and Friday
 3. No Address: Monday and Thursday

4. The address used to determine Irrigation days is as it appears under service address in the utility billing database under account information.
- D. The limitations specified in Section 4. A, B, and C shall not apply to Agricultural use, Floricultural use and Plant Nursery use.
- E. Section 4. A, B, and C does not apply to the following categories of water use for the irrigation of ornamental landscapes or turf:
1. the use of a hand-held bucket or similar container;
 2. the use of a hand-held hose with a positive shut-off valve or similar device;
 3. the use of a properly functioning low volume irrigation system;
 4. the use for very short periods of time for the express purpose of adjusting or repairing an irrigation system;
 5. the use of a graywater system; and
 6. the use of recycled water.

Section 5: Enforcement

A. Written Notice

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.

B. On-Site Notification

In the event that a further violation(s) is observed by District, after the original written notice, the District will make reasonable efforts to notify the customer of the violation and post a notice on the front door or other point of entry onto the property requiring the customer to cease the violation and take remedial action within 48 hours of the on-site notification. Failure to comply after the on-site notification may result in the temporary termination of water service.

C. Termination of Water Service

1. In the event that a further violation(s) is observed by District personnel 48 or more hours after the on-site notification, it will be deemed a willful violation of the mandatory restrictions on water use and the District may temporarily discontinue water service.
2. The customer shall be responsible for paying the District's costs incurred in enforcing this ordinance, including providing the on-site notification and

temporarily terminating and restoring water service, on a time and material basis in accordance with the District's rate and fee schedule.

3. The customer shall pay all fees and charges above, and the customer's account must be in good standing, in order for the District to proceed with the reconnection of water service after it has been temporarily terminated.

Section 6: Appeal

Any customer, who disputes a staff determination of a violation of the above restrictions, may appeal in writing to the General Manager. The decision of the General Manager shall be final.

A. Written Appeal

The written appeal must be addressed to the General Manager and include: (1) the customer's name; (2) the mailing address and site address, if different; (3) the water account number; (4) a description of the violation(s); (5) the enforcement action taken; and (6) a detailed explanation of the basis of the appeal.

Coastside County Water District
Attn: General Manager
766 Main Street
Half Moon Bay, CA 94019

B. Criteria for Appeal

The General Manager will evaluate each written appeal based on the following criteria: (1) public health; (2) public safety; and (3) regulatory requirements of a state or federal agency.

Section 7: Effective Date

All provisions of this amended and restated ordinance shall become effective after the publication of this ordinance and remain in effect until the District cancels implementation of Stage 2 – Water Shortage Emergency Warning of the District's Water Shortage Contingency Plan.

Section 8: Severability

If any provision of this ordinance is held to be invalid, or unenforceable in particular circumstances, such invalidity shall not affect the remainder of the ordinance which shall continue to be in full force and effect and the Board declares this ordinance to be severable for that purpose.

Section 9: Publication

The secretary is hereby directed to arrange for this ordinance to be published in a newspaper of general circulation in the District and to be posted on the District's website.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Coastside County Water District held on this 9th day of June 2015 by the following vote:

APPENDIX K

Water Conservation Information

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Contact: David R. Dickson, General Manager

ddickson@coastsidewater.org
Phone: (650) 726-4405

Coastside County Water District
766 Main Street
Half Moon Bay, CA 94019

www.coastsidewater.org



FOR IMMEDIATE RELEASE



Follow us on Twitter@CoastsideWater



Find us on Facebook/Coastside County Water District

PRESS RELEASE

Coastside County Water District Requests Customers to Voluntarily Curtail Water Use Goal is to reduce water usage by 10%

Half Moon Bay, February 12, 2014: On Tuesday night, at a regularly scheduled meeting, the Coastside County Water District Board of Directors voted to request that customers voluntarily curtail water consumption. With multiple years of drought conditions, the District is asking customers to conserve water with a goal of achieving at least a ten percent reduction in water consumption. A successful voluntary water conservation campaign is the best way to avoid or delay mandatory water restrictions should drought conditions continue.

The District always encourages water efficiency and many of the District's customers already have installed water efficient fixtures and follow water-wise habits. Residents on average use 67 gallons per day. If residents reduced water use by 7 gallons per day and commercial customers also reduced water consumption, the District should successfully meet its goal of a ten percent reduction in water use.

The District offers water efficient showerheads and faucet aerators to customers at our office at 766 Main Street. In addition, the District offers rebates for customers when they install high efficiency toilets and clothes washers. Below are some water saving tips:

1. Check for leaks around your home or business. Toilets are one of the most common fixtures to develop leaks. Be sure to check your irrigation valves and water treatment systems also.
2. Turn off your irrigation system during the winter. Manually water your plants, as necessary, by checking soil moisture and plant conditions.
3. Use a broom to clean sidewalks and pavement instead of a hose.
4. Turn off the faucet when brushing your teeth and try to take shorter showers.
5. Replace older toilets and clothes washers with high efficiency models.

Coastside County Water District has been serving high quality drinking water to the City of Half Moon Bay and the communities of Princeton by the Sea, El Granada, and Miramar since 1947. The District is an independent water district under the California Water Code with an elected board of directors.

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<p>Contact: David R. Dickson, General Manager</p> <p>ddickson@coastsidewater.org Phone: (650) 726-4405</p>	<p>Coastside County Water District 766 Main Street Half Moon Bay, CA 94019</p> <p>www.coastsidewater.org</p>		<p>FOR IMMEDIATE RELEASE</p>
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PRESS RELEASE

Coastside County Water District Urges Heightened Water Use Efficiency by Customers in Response to California's Severe Drought

Half Moon Bay, May 15, 2014: On Tuesday night, at a regularly scheduled meeting, the Coastside County Water District Board of Directors asked that customers increase their efforts to reduce water use wherever possible in response to drought conditions. A successful voluntary water conservation campaign is the best way to avoid or delay mandatory water use restrictions.

Customers have responded to the District's request in February for a voluntary reduction in water use. The District has seen a decrease in water consumption with almost a 10 percent reduction by residential customers this April, when compared with last year. As summer approaches and water use peaks, the District is urging customers to increase their efforts to reduce their water use.

Increased conservation is important for single family residential customers with usage over the District's median residential bi-monthly consumption of 12 units or approximately 150 gallons per day. One unit is equal to 748 gallons. Single family residential customers using more than 12 units per billing cycle are urged to heighten their water use efficiency and curtail their water usage, particularly irrigation.

The District always encourages water use efficiency and many of the District's customers have installed water efficient fixtures and follow water-wise habits. The District offers rebates and water efficient showerheads to District customers at our office at 766 Main Street. Below is list of some water saving tips:

1. Check for leaks around your home or business. Toilets are one of the most common fixtures to develop leaks. Be sure to check your irrigation systems and water treatment systems also.
2. Turn off your irrigation system. Manually water your plants and trees, as necessary, by checking soil moisture and plant conditions. Apply a minimum of 2 inches of mulch to your landscaping to help retain soil moisture.
3. Use a broom to clean sidewalks and pavement instead of a hose.
4. Turn off the faucet when brushing your teeth and try to take shorter showers.
5. Replace older toilets and clothes washers with high efficiency models.

Coastside County Water District has been serving high quality drinking water to the City of Half Moon Bay and the communities of Princeton by the Sea, El Granada, and Miramar since 1947. The District is an independent water district under the California Water Code with an elected board of directors.

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June 2015



Public Announcement

Water Shortage Warning

Irrigation Schedule

- * Odd # Address: Limit Irrigation to Monday and Thursday
- * Even # Address: Limit Irrigation to Tuesday and Friday
- * No # Address: Limit Irrigation to Monday and Thursday

Don't irrigate on Saturday, Sunday or Wednesday!

Water Waste Hotline (650) 276-0647

Visit www.saveourwater.com

- ▶ Always use an automatic shutoff device on your garden hose
- ▶ Never wash down your sidewalk or driveway
- ▶ Never allow your irrigation water to runoff your property
- ▶ Don't irrigate during and within 48 hours after measurable rainfall
- ▶ Irrigation is allowed after 5:00 p.m. and before 8:00 a.m.
- ▶ Limit the time of your irrigation by station to a maximum of 15 minutes

Coastside County Water District

766 Main Street
Half Moon Bay, CA 94019

(650) 726-4405
www.coastsidewater.org

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Fact Sheet



Water Shortage Emergency Warning Mandatory Water Use Prohibitions and Restrictions

On June 17, 2015, Ordinance No. 2015-01 became effective in the Coastside County Water District's service area. This ordinance contains water use restrictions and prohibitions. The District is focusing on outdoor water use to meet its water savings goals.

Restrictions on Outdoor Spray Irrigation of Ornamental Landscapes or Turf

Remember to correctly program or turn off your irrigation controllers!

Time of Day Restrictions

Irrigation is allowed after 5:00 p.m. and before 8:00 a.m. Do not irrigate during the day.

Length of Time Restrictions

The maximum number of minutes per irrigation station is 15 minutes.

Days of the Week Restrictions

Irrigation is limited to two days per week. You must follow the schedule listed below.

- Odd number address: Monday and Thursday
- Even number address: Tuesday and Friday
- No number address: Monday and Thursday
- Look at the service address listed on your water bill!

Exceptions to irrigation restrictions listed above:

- The use of a hand held bucket or similar container
- The use of a hand held hose with a positive shut off valve or similar device
- The use of a properly functioning low volume (drip) irrigation system
- The use for very short periods of time for the express purpose of adjusting or repairing an irrigation system
- The use of a graywater system
- Time of day, length of time, and days of the week limitations do not apply to the following types of customers: (1) Agriculture (2) Plant Nurseries. The District encourages all customers to make their irrigation as efficient as possible and is willing to work with all customers to achieve water savings. **Remember the State of California is looking for water savings no matter what the source of water – purchased water, groundwater, or surface water.**

Prohibited Irrigation Activities in Promotion of Water Conservation for all Customers, Methods and Landscape Types

- **Run-off:** The application of water to outdoor landscapes and turf in a manner that causes run-off such that the water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, storm-water drainage infrastructure, or structures.
- **Super-saturation:** The use of water that causes flooding or pooling due to super-saturation of the ground or soil.
- **Irrigation during rainfall:** The application of water to outdoor landscapes during and within 48 hours after measurable rainfall.
- **Irrigating street medians:** The application of water to ornamental turf (lawn) on public street medians.

Prohibited Activities in Promotion of Water Conservation for all Customers

- The use of a hose that dispenses water to wash motorized vehicles, boats and trailers, except where the hose is fitted with a positive shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.
- The application of water to driveways and sidewalks.
- The use of water in a fountain or other decorative water feature, except where the water is part of a recirculating system.
- The use of water that causes flooding or pooling due to super-saturation of the ground or soil.
- The indiscriminate running of water or washing with water that causes runoff.
- The use of water when the customer has been given written notice by the District to repair broken or defective plumbing, equipment, appliances, sprinklers, watering or irrigation systems, and has failed to effect such repairs for 24 hours after delivery of the notice.
- The use of water for single pass through cooling systems. The use of potable water ice making machines and other mechanical equipment that utilizes a single-pass cooling system to remove and discharge heat to the sewer. Water used for all cooling purposes shall be recycled or recirculated.
- The use of water from any fire hydrant, unless specifically authorized by the District, except by fire protection agencies for fire suppression purposes or for other specifically authorized uses, including fire flow testing. Other authorized uses by public agencies include water distribution system flushing, sewer system flushing and street sweeping.

Exceptions can be made 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.

*Water Waste
Drought Hotline
(650) 276-0647*

Mandatory Restrictions for Hospitality

- **Restaurants** are prohibited from the serving of drinking water other than upon request. This includes public places where food or drink are served and/or purchased. The District supplies table tent cards to our restaurant customers.
- **Hotels and Motels** shall provide guests with the option of choosing not to have towels and linens laundered daily. Each guest room must have a notice of this option.

APPENDIX L

Coastside County Water District Water Rate Schedule

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Coastside County Water District

766 Main Street, Half Moon Bay, California

Rate and Fee Schedule

July 1, 2015

Adopted by Resolution No. 658

Recodified as of March 27, 2001, July 25, 2001 and July 9, 2002

Incorporating Amendments made through Resolution No. 2001-03 and 2001-04,

2001-12, 2002-07, 2003-07, 2004-09, 2004-13, 2005-12, 2006-12,

2007-10, 2008-03, 2009-05, 2010-01, 2010-03, 2011-13, 2012-03, 2013-03, 2013-

04, 2014-03, 2015-08

Rate and Fee Schedule

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Section 1: Water Consumption Charges

A. Base Charge

The following base charge is the minimum charge to be paid by all customers on a bi-monthly or monthly basis (depending on the meter read cycle) Residential customers are billed on a bi-monthly basis. Commercial customers may be billed on a monthly or bi-monthly basis depending on water usage and type of meter:

Size of Meter	Bi-Monthly Base Charge	Monthly Base Charge
5/8 x 3/4 inch	\$47.45	\$23.73
5/8 – 2 Dwelling Units	\$94.90	\$47.45
3/4 inch	\$71.32	\$35.66
3/4 - 2 Dwelling Units	\$142.63	\$71.32
1 inch	\$118.87	\$59.44
1-1/2 inch	\$229.56	\$114.78
2 inch	\$380.44	\$190.22
3 inch	\$832.27	\$416.14
4 inch	\$2,853.84	\$1,426.92

Meters larger than 4 inches will be subject to base charges as determined by the Board of Directors.

B. Quantity Charge

In addition to the base charge set forth in Section 1A, the following quantity charges shall be paid per one hundred cubic feet (hcf) of water delivered:

1. Residential Customers

Quantity Delivered (During Bi-Monthly Billing Period)	Water Consumption Charge per hcf
1 - 4 hcf	\$8.35
5 - 16 hcf	\$9.33
17-30 hcf	\$12.03
31 or more hcf	\$15.94

2. All Other Customers: \$10.28 per hcf

3. **Definition of Residential Customers:** For purposes of Section 1, Residential Customers are single family homes, duplexes, condominiums, townhouses and all apartment buildings with individual meters for separate residential dwelling units. Apartment houses with a single "master meter" measuring consumption within multiple dwelling units are not "Residential Customers" for purposes of this Section 1.

Section 2: Fees and Charges To Establish Water Service

A. Transmission and Storage Fee

The transmission and storage fee is determined by the number and size of service connections required to provide water service to a customer, as follows:

Size of Service Connection	Fee**
5/8 x 3/4 inch	\$16,030
3/4 inch	\$24,045
1 inch	\$40,075
1-1/2 inch	\$80,151
2 inch	\$128,241
3 inch	\$280,528
4 inch	\$480,903

Service connections larger than 4 inches will be subject to transmission and storage fees as determined by the Board of Directors.

- ** In accordance with Resolution 2013-03, Effective July 15, 2013, July 1, 2014 and August 15, 2015, the Transmission and Storage Fee will be adjusted in accordance with the Engineering News Record Construction Cost Index (ENR CCI) for January of the current year. The new Transmission and Storage Fee for each connection size will be calculated by multiplying the then current Transmission and Storage Fee by the ratio of the current year January ENR CCI to the ENR CCI for January of the previous year.*

Applicants for water service (including fire protection service) shall be charged the actual cost of labor and materials incurred by the District in installing the connection. The material costs shall include the then-current costs of corporation stops, copper tubing, meter stops, water meters, meter boxes, meter couplings, trench backfill import material, re-paving materials, off-site disposal, and any other materials utilized or out-of-pocket expenses incurred by the District in installing the connection. Labor costs shall be based on the fully burdened hourly rate for District employees who perform work directly connected to the installation.

The applicant shall be furnished a cost estimate prepared by the District, such estimate to be based on the service size and location, as shown on the application. The applicant shall deposit with the District the full amount of the cost estimate shown as attributable to the applicant before the District begins work. If the actual cost is less than the deposit, the unused balance will be refunded. If the actual cost exceeds the deposit, the applicant must pay the balance due before water service is activated.

B. Deposit for Establishment of Credit

To establish credit with the District prior to provision of water service each customer shall pay a cash deposit of seventy-five dollars (\$75.00) or the amount which the General Manager estimates will equal an average bi-monthly bill, whichever is larger. The deposit, less the amount of any unpaid water bill, will be refunded on discontinuance of service or after the deposit has been held for 12 consecutive months during which time continuous water service has been received and all bills for such service have been paid without being delinquent.

Section 3: Other Fees, Charges and Deposits

A. Reconnection Fee

Prior to the restoration of water service to premises where such service has been discontinued because of nonpayment or other violation of the District's regulations, the customer shall pay a Reconnection Fee. If the service is restored during normal business hours (8:00 a.m. to 5:00 p.m., Monday-Friday, except for holidays) this fee shall be \$50.00. If the service is restored other than during normal business hours, the fee shall be \$150.00

B. Returned Check Charge

If a customer's check is returned dishonored by the financial institution on which it is drawn, the customer shall pay an additional charge of \$25.00.

C. Meter Test Deposit

Prior to conducting a test of the accuracy of a water meter at the customer's request, the District shall require the customer to deposit the following sum:

Size of Meter	Deposit
5/8 x 3/4 inch	\$35.00
1 inch and larger	Estimated Actual Cost of Test

D. Portable Meters

Customers requesting water service through portable meters shall pay:

1. a *deposit* in an amount, as estimated by the General Manager, equal to the replacement cost of the meter;
2. a *monthly rental charge* of \$100.00
3. a *consumption charge* of \$10.28 per hcf of water delivered.

E. Detector Check Valves

The bi-monthly service charge for detector check valves is \$10.39 per inch of valve diameter, or \$5.20 per inch, if billed monthly. In addition, the customer must pay the actual cost of installation including the cost of the check valve. The estimated cost of installation must be deposited prior to commencement of work.

F. Copying Charges

1. The charge for providing copies of District records is *\$0.06 per page*, except as provided in Section F.2.
2. If a person requests *no more than three* copies (e.g., three copies of one page or one copy of a three-page document), he or she shall be provided these copies without charge. A person may not make use of this small request exception from copying charges more than one time per year.
3. If a *certified copy* is requested, there will be an additional charge of \$1.00 for each document certified.

G. Transfer Requests for Water Service Connections

Property owners requesting the transfer of an uninstalled water service connection from one parcel to another shall submit to the District an initial deposit of \$600.00 to cover the District's administrative and legal costs for reviewing and processing the request. If the actual cost is less than the deposit, then the unused balance will be refunded. If the actual cost exceeds the deposit, then the applicant must pay the balance. Payment of all fees required by this section shall be received before the transferee parcel will be permitted to physically connect to the water system.

H. Boundary Change Request Fee

Any person who requests a change in the District Boundaries which gives rise to required filings of statements, map and/or plats pursuant to the Government Code shall be responsible for payment of the associated filing fees.

I. Relocation of Water Service Connection

When a customer requests that a water service connection be relocated to another portion of the property to which water service is already being provided, the customer shall pay the actual cost of relocating the service.

J. Reinstallation of a Water Meter Assembly

When a water meter is reinstalled in a vacant meter box, the actual cost of labor and materials, including but not limited to a new water meter and plumbing appurtenances, will be the basis for the charge for reinstallation.

K. [Deleted Section]

L. Unauthorized Connection to District Water Service

It is unlawful for any person to turn on water without authorization or consent from the District. A \$150 penalty will be imposed for each violation. If the District's facilities or property are damaged as a result of an unauthorized turn-on, the party will be charged the actual cost of labor and materials to repair the damage to the District's facilities and property.

M. Delinquency Notice Fee

A fee in the amount of 10% of the amount past due shall be added to the bill of any customer that receives the notice set forth in Subsection 1 of Section K "Termination of Service" of the General Regulations Regarding Water Service and the total of said amounts shall thereafter be paid in full in order to avoid termination of service.

N. Shut-Off Warning Notice Fee

A Shut-Off Warning Notice fee of \$15 will be charged when a 48-hour Shut-Off Warning Notice due to non-payment is provided to the customer.

Section 4: Fees and Deposits Applicable To Projects Involving Extensions of Water System

A. Initial Filing Fee

Prior to processing of the initial submittal, the Developer shall submit a filing fee with the District. This filing fee is not a deposit, and it is not subject to return to the Developer if the project is abandoned. Filing fees shall be as follows:

1. ***For subdivisions of under 300 lots***, the filing fee is \$5.00 per lot; for subdivisions of 300 lots or more, the fee is \$3.00 per lot. The fee will be based on the number of lots shown on the subdivision map regardless of the date of proposed construction. The minimum fee is \$250.00.
2. ***For land not subdivided*** or in the process of being subdivided, the filing fee is \$25.00 per gross acre. If this land is later subdivided, full credit for the gross acreage fees will be given towards any additional fee required based on the number of lots. No refunds will be given.
3. ***For industrial or commercial areas***, motels, trailer parks, multiple dwelling units, and other areas not covered in the above, the initial and minimum filing fee will be \$500.00. The Developer will be billed for any additional District costs incurred in reviewing the initial submittal in excess of this amount. District costs are defined as all costs incurred by the District including engineering, legal, and administrative.
4. ***For complex projects*** involving any combination of residential lots, apartments, commercial areas, etc., the filing fee will be computed as the sum of the individual types of land use as shown above.

The District reserves the right to reduce the minimum fees for projects involving only a single residential, multiple dwelling, commercial, or industrial unit for which the review is of a non-complex nature.

B. Fee for Plan Checking and Construction Inspection

After approval of the amount of the construction cost estimate, the Developer shall file with the District a fee as required in the Subdivision Agreement. This fee is to cover the cost of plan checking, construction inspection, modification of water system maps, and administrative, legal and auditing costs. The fee shall be a percentage of the approved construction cost estimate for the water system facilities: 5% for the first \$200,000 of construction costs, 3% for the incremental amounts over \$200,000. An additional 1 % fee will be charged for plan checking for each re-submittal incorporating major project modifications. The minimum fee shall be \$250.00.

C. Special Deposits

When the estimated cost of design, inspection, administration, and construction of required water development, treatment, storage and transmission or fire hydrant and detector check facilities exceeds the amount to be collected by the District in storage and transmission fees, the Developer will be required to make a special deposit to cover the cost of this work. After the construction is completed and approved by the District, the Developer will receive final refund or a statement of the balance due, amounting to the difference between the deposit and actual costs incurred by the District.

D. Non-Complex Pipeline Extensions

The fee for processing applications for water service determined by the Manager to be non-complex under Resolution No. 730 is \$150.00.

E. Incorporation of Resolution No. 730

The provisions of Resolution No. 730 "Regulations Regarding Water Service Extensions and Water System Improvements; Engineering and Construction Standards; Approved Materials" are incorporated herein and should be consulted by applicants for new water service.

DERIVATION TABLE

Section	Source
1A	Resolution 633 (amending Resolution 538, Paragraph B.5.); Resolutions 711, 767, 808, 817, 834, 845, 868 and 1999-15, 2001-12, 2002-07, 2003-07, 2004-09, 2005-12, 2006-12, 2007-10, 2008-03, 2009-05, 2010-03, 2011-13, 2012-03, 2013-04, 2014-03, 2015-08
1B	Resolution 633 (amending Resolution 538, Paragraph B.5.), Resolutions 711, 746, 767, 808, 817, 834, 845, 868 and 1999-15, 2001-12, 2002-07, 2003-07, 2004-09, 2005-12, 2006-12, 2007-10, 2008-03, 2009-05, 2010-03, 2011-13, 2012-03, 2013-04, 2014-03, 2015-08
2A	Resolutions 627 (amending Resolution 538, Paragraph B. 1.) and 712, 2010-01, 2013-03
2B	Resolution 830
2C	Resolutions 653, 538 (Paragraph C) and 851, 2004-13
3A	Resolution 653 (amending Resolution 538, Paragraph E.6.), 2004-13, 2015-08
3B	Resolution 653 (amending Resolution 538, Paragraph D, as amended by Resolution 552), 2004-13
3C	Resolution 437(H)
3D	Resolutions 653 (amending Resolution 538, Paragraph B.3., as amended by Resolution 554), 817, 834, 845, 868 and 1999-15, 2001-12, 2002-07, 2003-07, 2004-09, 2005-12, 2006-12, 2007-10, 2008-03, 2009-05, 2010-03, 2011-13, 2012-03, 2013-04, 2014-03, 2015-08
3E	Resolution 538 (Paragraph B.4), 2015-XX
3F	Resolutions 653 (amending Resolution 482, Exhibit A, Paragraph C) and 805. Resolution 2001-03 (amending Resolution 653 and 805, Section 3.F.1)
3G	Resolutions 538 (Paragraph D) and 851. Resolution 2001-04 (amending Resolution 538 and 851, Section 3.G.), 2015-08
3H	Resolution 806
3I	Resolution 851 (Section 6)
3J	Resolution 851 (Section 7)
3K	Section deleted
3L	Resolution 851 (Section 9); 2015-08
3M	Resolution 2004-13
3N	Resolution 2015 - 08
4A	Resolution 487, Resolution 730
4B	Resolution 487, Resolution 730
4C	Resolution 487, Resolution 730, Resolution 851 (Section 10)
4D	Resolution 487, Paragraph B, as amended by Resolution 630, Resolution 730
4E	Resolution 658, Resolution 730

APPENDIX M

UWMP Adoption Resolution

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RESOLUTION 2016-13

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE COASTSIDE COUNTY WATER DISTRICT AUTHORIZING THE APPROVAL OF AN UPDATED BASELINE DAILY PER CAPITA USE, AN UPDATED URBAN WATER USE TARGET, AND AN UPDATED INTERIM URBAN WATER USE TARGET TO BE INCLUDED IN THE 2015 URBAN WATER MANAGEMENT PLAN

WHEREAS, the Water Conservation Act of 2009 (Senate Bill x7-7) was signed into law by Governor Arnold Schwarzenegger; and

WHEREAS, the Water Conservation Act of 2009 set a goal of achieving a 20 percent statewide reduction in urban per capita water use by the year 2020; and

WHEREAS, the Coastside County Water District ("District") is an urban retail water supplier that directly provides potable water to more than 3,000 end users or that supplies more than 3,000 acre-feet of potable municipal water annually at retail for municipal purposes; and

WHEREAS, the District is subject to the Urban Water Management Planning Act, codified at California Water Code ("CWC") § 10610 et seq.; and

WHEREAS, the District shall conduct at least one public hearing per California Water Code § 10608.26 (a) to (1) allow community input regarding the District's implementation plan for compliance, (2) consider the economic impacts of the District's implementation plan, and (3) adopt a method pursuant to CWC § 10608.20 (b), for determining its urban water use target; and

WHEREAS, on April 12, 2011, the District adopted Resolution 2011-07 approving Target Method 3, for reporting the baseline and target gallons per capita per day (1) a Baseline Daily per capita water use for a ten year period of 128 gallons, (2) an Interim 2015 Urban Water Use Target of 124 gallons per capita per day, and (3) a Urban 2020 Water Use Target of 120 gallons per capita per day; and

WHEREAS, the District selected Target Method 3, as was used in the 2010 Urban Water Management Plan, which is 95 percent of the Hydrologic Region Target from the Water Conservation Act of 2009, CWC 10608.20 (b) (3); and

WHEREAS, with the updated population, baselines and targets, the additional five percent reduction of the base daily per capita water use requirement of CWC § 10608.22 no longer applies; and

WHEREAS, the District understands that the target method and resulting targets may not be changed in any amendments to the 2015 Urban Water Management Plan or in the 2020 Urban Water Management Plan; and

WHEREAS, the District is required to update its Water Conservation Act of 2009 urban water use target in its 2015 Urban Water Management Plan pursuant to CWC § 10608.20 (g) Part 2.6 (commencing with § 10610); and

WHEREAS, the District's service area population was adjusted based on the most current 2010 census data, which resulted in a lower population than was included in the 2010 Urban Water Management Plan and therefore, the District updated its Urban Water Use Targets; and

WHEREAS, the District met its Updated Interim 2015 Urban Water Use Target with an actual 109 gallons per day per capita; and

WHEREAS, the District has published notice of the public hearing in the local newspaper once a week for two successive weeks and posted that notice on the District's website, and the District held a public hearing inviting public comment, and reconsidered all comments received at the public hearing.

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Coastside County Water District as follows:

The Board readopts Target Method 3 for determining its updated urban water use targets and baselines under the Water Conservation Act of 2009; and therefore adopts the following:

1. The Updated Final Baseline Daily Per Capita Water Use for a ten year period is 148 gallons per capita per day.
2. The Updated Final Interim 2015 Urban Water Use Target is 136 gallons per capita per day.
3. The Updated Final 2020 Urban Water Use Target is 124 gallons per capita per day.

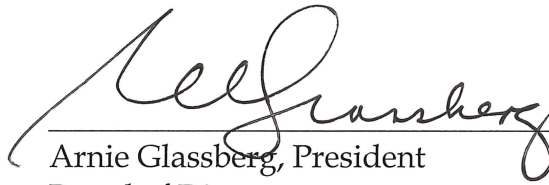
PASSED AND ADOPTED this 13th day of September 2016, by the following votes of the Coastside County Water District's Board of Directors:

AYES: Directors Coverdell and Feldman and President Glassberg

NOES: Vice-President Reynolds

ABSENT: Director Mickelsen

ABSTAIN:



Arnie Glassberg, President
Board of Directors
Coastside County Water District

Attest:



David R. Dickson, General Manager
Secretary of the District
Coastside County Water District

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RESOLUTION 2016-14

**A RESOLUTION OF THE BOARD OF DIRECTORS
OF THE COASTSIDE COUNTY WATER DISTRICT ADOPTING
THE "COASTSIDE COUNTY WATER DISTRICT 2015 URBAN WATER MANAGEMENT PLAN"**

WHEREAS, the Urban Water Management Planning Act (California Water Code § 10610 et seq.) requires urban water suppliers to prepare and adopt an Urban Water Management Plan to, among other things, report, describe, and evaluate water deliveries, water supply sources, efficient water use, and demand management measures; and

WHEREAS, the Urban Water Management Planning Act requires that Urban Water Management Plans are to be prepared every five years by urban water suppliers with 3,000 or more service connections or supplying 3,000 or more acre-feet of water per year; and

WHEREAS, Coastside County Water District ("District") has prepared its Urban Water Management Plan ("UWMP"), which includes an updated Water Shortage Contingency Plan, as required by the Urban Water Management Planning Act; and

WHEREAS, the District has updated its urban water use targets and baselines under the Water Conservation Act of 2009; and

WHEREAS, the District coordinated the preparation of the UWMP with other appropriate agencies in the area; notified the County of San Mateo and City of Half Moon Bay that the District will be reviewing the UWMP and considering its adoption at least 60 days prior to the public hearing; a copy of the UWMP was available at the District office and on the District's website; published a notice of the public hearing in the local newspaper once a week for two successive weeks beginning at least fourteen days prior to the public hearing and posted that notice on the District's website; held a public hearing inviting public input regarding the draft UWMP; and considered all comments received during the public hearing.

NOW THEREFORE, BE IT RESOLVED that the Board of Directors of the Coastside County Water District hereby approves and adopts the 2015 Urban Water Management Plan, as presented to the Board and attached to this Resolution.

BE IT FURTHER RESOLVED that the Board authorizes the General Manager to incorporate comments from the public hearing as approved by the Board after the close of the public hearing.

BE IT FURTHER RESOLVED that the General Manager is authorized and directed to submit a copy of the adopted UWMP to the Department of Water Resources, the California State Library, the County of San Mateo, and the City of Half Moon Bay within 30 days of its adoption, as required by California Water Code § 10644.

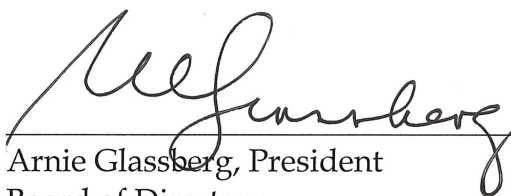
PASSED AND ADOPTED this 13th day of September, 2016, by the following votes of the Coastside County Water District's Board of Directors:

AYES: Directors Coverdell and Feldman and President Glassberg

NOES: Vice-President Reynolds

ABSENT: Director Mickelsen

ABSTAIN:



Arnie Glassberg, President
Board of Directors
Coastside County Water District

ATTEST:



David R. Dickson, General Manager
Secretary of the District
Coastside County Water District

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