DATE: June 14, 2021

AGENDA ITEM #3

TO: Environmental Commission

FROM: Emiko Ancheta, Staff Liaison

SUBJECT: California Water Service (Cal Water)

RECOMMENDATION:

Receive informational presentation from California Water Service

BACKGROUND

California Water Service (Cal Water) is the City of Los Altos water provider. California Water Service was formed in 1926, in San Jose, and serves in California, Hawaii, New Mexico, and Washington. It is the third largest regulated American water utility in the country and serves customers through 28 Customer and Operations Centers throughout the state. More information can be found on their website at https://www.calwater.com/ .

DISCUSSION

The Environmental Commission's Work Plan includes Commissioner's work to coordinate communication and public education on Water Conservation. The Environmental Commission invited Cal Water to present to the Commission on current water restrictions, water conservation and water service in Los Altos.

ATTACHMENT:

A. Preparation Questions and Topics
B. Los Altos Urban Water Management Plan Draft (2020)
C. Los Altos Water Quality Report (2020)

California Water Service Topics & Questions

Questions and topics for California Water Service's (Cal Water) presentation at the City of Los Altos Environmental Commission meeting on June 14, 2021.

Current Water Usage, Quality & Supply

• Briefly explain current Los Altos water usage and trends.

• What are the current supply sources? What challenges do you foresee with supply and demand?

• Briefly explain water quality and how the sources of water are treated.

• Are there any plans to enhance or change the treatment method?

Future Water Concerns

• What are the most current challenges with water quality? What is Cal Water's approach to handle these challenges?

• What are the challenges with water supply? What is Cal Water's approach to handle these challenges?

• How will Valley Water's support for the Delta Tunnel affect the wholesale water rates charged to Cal Water Service and water rates charged to customers in Los Altos? How is California Water Service protecting its customers water rates?

Mitigating Water Challenges

• What are the most current water restrictions for Los Altos now that we are entering a drought period?

• How can Los Altos best support Cal Water's efforts to maintain high quality and adequate water supply?

• What outreach support can Cal Water offer to Los Altos to educate and inform our community?

• What is the most effective way Cal Water reaches and educates the Los Altos community?

• What is the most effective way to educate the community about water conservation?

• What can we do to improve our water conservation in Los Altos?

• Please explain the current rebate programs and assistance available to Cal Water customers.

• What assistance does Cal Water offer to customers that are on limited or fixed incomes?

Attachment B

2020 Urban Water Management Plan

Los Altos Suburban District
June 2021

DRAFT – May 2021

Attachment B

Table of Contents

List of Tables

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List of Acronyms

AB	Assembly Bill
ABAG	Association of Bay Area Governments
AF	acre-feet
AFY	acre-feet per year
AMI	Advanced Metering Infrastructure
AWWA	American Water Works Association
BARDP	Bay Area Regional Desalination Project
CAP	Customer Assistance Program
CCR	California Code of Regulations
CII	Commercial, Institutional, and Industrial
COVID	Coronavirus Disease
CPUC	California Public Utilities Commission
CUWCC	California Urban Water Conservation Council
CVP	Central Valley Project
CWC	California Water Code
DCR	Delivery Capability Report
DDW	Division of Drinking Water
DMM	Demand Management Measure
DRA	Drought Risk Assessment
DWR	Department of Water Resources
EPA	Environmental Protection Agency
ft	feet
GPCD	gallons per capita per day
GRC	General Rate Case
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
GWMP	Groundwater Management Plan
ILI	Infrastructure Leakage Index
IRWMP	Integrated Regional Water Management Plan
kWh	kilowatt hours
kWh/AF	kilowatt hours per acre-foot
MAP	Monitoring and Assessment Program
MCL	Maximum Contaminant Level
MGD	million gallons per day
PAWS	Protection and Augmentation of Water Supplies
PWS	Public Water System
RA	Regional Alliance
RUWMP	Regional Urban Water Management Plan
RWF	Regional Wastewater Facility

RWQCP	Regional Water Quality Control Plant
SB	Senate Bill
SFPUC	San Francisco Public Utilities Commission
SGMA	Sustainable Groundwater Management Act
SRES	Special Report Emissions Scenarios
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAP	Technical Assistance Program
UWMP	Urban Water Management Plan
WEAP	Water Evaluation and Planning
WPCP	Water Pollution Control Plant
WSCP	Water Shortage Contingency Plan
WSMP	Water Supply Master Plan
WTP	Water Treatment Plant

Chapter 1
Introduction and Overview

This chapter discusses the importance and uses of this Urban Water Management Plan (UWMP or Plan), the relationship of this Plan to the California Water Code (CWC), the relationship of this Plan to other local and regional planning efforts, and how this Plan is organized and developed in general accordance with the UWMP Guidebook 2020.[1] Specifically, this chapter contains the following sections:

1.1 Background and Purpose

1.2 Urban Water Management Planning and the California Water Code

1.3 Relationship to Other Planning Efforts

1.4 Plan Organization

1.5 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions

1.6 Lay Description

1.1 Background and Purpose

California Water Service Company (Cal Water) is an investor-owned public utility supplying water service to approximately 1.8 million Californians through over 481,000 connections. Its 25 districts serve 63 communities spanning from the Chico-Hamilton City District in the northern portion of the state to the Palos Verdes District in southern California. California Water Service Group, Cal Water's parent company, also provides water service to communities in Washington, New Mexico, and Hawaii.[2] While water rates are set separately for each of Cal Water's 25 districts, oversight of the water rate setting process and district operations is provided by the California Public Utilities Commission (CPUC).

Cal Water's Los Altos Suburban District (also referred to herein as the "District") was formed in 1931 with the purchase of the Los Altos Water Company.

This UWMP is a foundational document and source of information about Los Altos Suburban District's historical and projected water demands, water supplies, supply reliability and potential

[1] The UWMP Guidebook 2020 is available at: https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans

[2] In addition, Cal Water operates the City of Hawthorne's water system on behalf of the City.

vulnerabilities, water shortage contingency planning, and demand management programs. Among other things, it is used as:

- A long-range planning document by Cal Water for water supply and system planning; and
- A source for data on population, housing, water demands, water supplies, and capital improvement projects used in:
    - Regional water resource management plans prepared by wholesale water suppliers and other regional planning authorities (as applicable),
    - General Plans prepared by cities and counties, and
    - Statewide and broad regional water resource plans prepared by the California Department of Water Resources (DWR), the State Water Resources Control Board (SWRCB), or other state agencies.

The District's last UWMP was completed in 2016, referred to herein as the "2015 UWMP." This Plan is an update to the 2015 UWMP and carries forward information from that plan that remains current and relevant, and provides additional information as required by subsequent amendments to the UWMP Act (CWC §10610 – 10657). Although this Plan is an update to the 2015 UWMP, it was developed to be a self-contained, stand-alone document and does not require readers to reference information contained in previous UWMP updates.

1.2 Urban Water Management Planning and the California Water Code

The UWMP Act requires urban water suppliers to prepare an UWMP every five years and to submit this plan to the DWR, the California State Library, and any city or county within which the supplier provides water supplies. All urban water suppliers, 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 annually are required to prepare an UWMP (CWC §10617).

The UWMP Act was enacted in 1983. Over the years it has been amended in response to water resource challenges and planning imperatives confronting California. A significant amendment was made in 2009 as a result of the governor's call for a statewide 20 percent reduction in urban water use by 2020, referred to as "20x2020," the Water Conservation Act of 2009, and "SB X7-7." This amendment required urban retail water suppliers to establish water use targets for 2015 and 2020 that would result in statewide water savings of 20 percent by 2020. Beginning in 2016, urban retail water suppliers were required to comply with the water conservation requirements in SB X7-7 in order to be eligible for state water grants or loans. Chapter 5 of this plan contains the data and calculations used to determine compliance with these requirements.

A subsequent substantial revision to the UWMP Act was made in 2018 through a pair of bills (i.e., Assembly Bill 1668 and Senate Bill 606), referred to as "Making Water Conservation a California

Way of Life" or the "2018 Water Conservation Legislation." These changes include, among other things, additional requirements for Water Shortage Contingency Plans (WSCPs), expansion of dry year supply reliability assessments to a five-year drought period, establishment of annual drought risk assessment procedures and reporting, and new conservation targets referred to as "annual water use objectives," which will require retailers to continue to reduce water use beyond the 2020 SB X7-7 targets. The UWMP Act contains numerous other requirements that an UWMP must satisfy. Appendix A to this Plan lists each of these requirements and where in the Plan they are addressed.

1.3 Relationship to Other Planning Efforts

This Plan provides information specific to water management and planning by the Los Altos Suburban District. However, water management does not happen in isolation; there are other planning processes that integrate with the UWMP to accomplish urban planning. Some of these relevant planning documents include relevant city and county General Plans, Water Master Plans, Recycled Water Master Plans, integrated resource plans, Integrated Regional Water Management Plans, Groundwater Management Plans, Groundwater Sustainability Plans, and others.

This Plan is informed by and helps to inform these other planning efforts. In particular, this Plan utilizes information contained in city and county General Plans and local and regional water resource plans to the extent data from these plans are applicable and available.

1.4 Plan Organization

The organization of this Plan follows the same sequence as outlined in the UWMP Guidebook 2020.[3]

Chapter 1 - Introduction and Overview

Chapter 2 - Plan Preparation

Chapter 3 - System Description

Chapter 4 - Water Use Characterization

Chapter 5 - SB X7-7 Baseline and Targets

Chapter 6 - Water Supply Characterization

[3] The UWMP Guidebook 2020 is available at: https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans

Chapter 7 - Water Supply Reliability Assessment

Chapter 8 - Water Shortage Contingency Planning

Chapter 9 - Demand Management Measures

Chapter 10 - Plan Adoption, Submittal, and Implementation

In addition to these ten chapters, this Plan includes a number of appendices providing supporting documentation and supplemental information. Pursuant to CWC §10644(a)(2), this Plan utilizes the standardized forms, tables, and displays developed by DWR for the reporting of water use and supply information required by the UWMP Act. This Plan also includes additional tables, figures, and maps to augment the set developed by DWR, as appropriate. The table headers indicate if the table is part of DWR's standardized set of submittal tables.

1.5 Demonstration of Consistency with the Delta Plan for Participants in Covered Actions

Although not required by the UWMP Act, in the UWMP Guidebook 2020,[4] DWR recommends that all suppliers that are participating in, or may participate in, receiving water from a proposed project that is considered a "covered action" under the Delta Plan—such as a (1) multiyear water transfer; (2) conveyance facility; or (3) new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta (Delta)—provide information in their UWMP to demonstrate consistency with the Delta Plan policy WR P1, Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance (California Code of Regulations, Title 23, Section 5003).

The Los Altos Suburban District derives its water supply from a combination of groundwater, purchased water from the Santa Clara Valley Water District (Valley Water), and recycled water. Valley Water imports surface water to the region through the South Bay Aqueduct of the California State Water Project (SWP) and the San Felipe Division of the federal Central Valley Project (CVP). The District does not have any independent covered actions. Detailed information regarding Delta Reliance and mitigation strategies is provided in the Valley Water UWMP and also in Section 6.10.2.

[4] The UWMP Guidebook 2020 is available at: https://water.ca.gov/Programs/Water-Use-And-Efficiency/Urban-Water-Use-Efficiency/Urban-Water-Management-Plans

1.6 Lay Description

☑ ***CWC § 10630.5***

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

This Urban Water Management Plan (UWMP or Plan) is prepared for the California Water Service Company (Cal Water) Los Altos Suburban District (also referred to as the "District"), which serves drinking water to a population of approximately 70,200. This UWMP serves as a foundational planning document and includes descriptions of historical and projected water demands, and water supplies, and the resulting reliability during a set of defined water supply conditions over a 20-year planning horizon. This document also describes the actions the District is taking to promote water conservation, both by the District itself and by its customers (referred to as "demand management measures"), and includes a plan to address potential water supply shortages such as drought or other impacts to supply availability (the "Water Shortage Contingency Plan"). This UWMP is updated every five years in accordance with state requirements under the Urban Water Management Planning Act and amendments (Division 6 Part 2.6 of the California Water Code [CWC] §10610 – 10656). Past plans developed for the District are available on the California Department of Water Resources (DWR) Water Use Efficiency Data Portal website: https://wuedata.water.ca.gov/. This document includes 10 chapters, which are summarized below.

Chapter 1- Introduction and Overview

This chapter presents the background and purpose of the UWMP, identifies the Plan organization, and provides this lay description overview of the document. For districts that rely on water from the Sacramento-San Joaquin Delta, this section also discusses and demonstrates consistency with the Delta Plan. Detailed information regarding Delta Reliance and mitigation strategies is provided in the Valley Water UWMP and in Section 6.10.2 of this Plan.

Chapter 2 - Plan Preparation

This chapter discusses key structural aspects related to the preparation of the UWMP, and describes the coordination and outreach conducted as part of the preparation of the Plan, including coordination with local agencies and other community organizations (i.e., City of Los Altos, City of Mountain View, City of Cupertino, City of Sunnyvale, City of Los Altos Hills, and Santa Clara County), Valley Water Groundwater Sustainability Agency (GSA), and the public.

Chapter 3 - System Description

This chapter provides a description of the Los Altos Suburban District's water system and the service area, including information related to the climate, population, and demographics. The Los Altos Suburban District operates one public water system (PWS): Los Altos Suburban PWS. This PWS is located in the Santa Clara County. The District has a population of approximately 70,200 and has a climate characterized by mild summers and cool wet winters. The majority of the 18 inches of average annual precipitation falls between October and May. The service area includes low, medium, and high density residential, mixed use, commercial, industrial, and municipal land uses. All water customers are considered urban (i.e., non-agricultural water users).

Chapter 4 - Water Use Characterization

This chapter provides a description and quantifies the Los Altos Suburban District's current and projected demands through the year 2045. The District provides drinking water (also referred to as "potable water") to customers. Water demands refer not only to the water used by customers, but also includes the water used as part of the system's maintenance and operation, as well as unavoidable losses inherent in the operation of a water distribution system. Water demand within the District was 11,568 acre-feet per year (AFY) on average between 2016 and 2020. Taking into account historical water use, expected population increase and other growth, climatic variability, and other assumptions, water demand within the District is projected to increase to 14,197 AFY by 2045, a change of 23 percent compared to the 2016-2020 average. In dry year periods, water demands are expected to be somewhat higher, potentially up to 15,214 AFY by 2045 during an extended five-year drought.

Chapter 5 - SB X7-7 Baseline and Targets

In this chapter, the Los Altos Suburban District demonstrates compliance with its per capita water use target for the year 2020. The Water Conservation Act of 2009 (Senate Bill X7-7) was enacted in November 2009 and requires the state of California to achieve a 20 percent reduction in urban per capita water use by December 31, 2020. In order to achieve this, each urban retail water supplier was required to establish water use targets for 2015 and 2020 using methodologies established by DWR. The Los Altos Suburban District is in compliance with its 2020 water use target of 185 gallons per capita per day (GPCD), having reduced its water use in 2020 to 166 GPCD. The Los Altos Suburban District is also a member of a "Regional Alliance" for purposes of SB X7-7 compliance. The Regional Alliance's 2020 water use is 130 GPCD, which is in compliance with and below its 2020 target of 150 GPCD.

Chapter 6 - Water Supply Characterization

This chapter presents an analysis of the Los Altos Suburban District's water supplies, as well as an estimate of water-related energy-consumption. The intent of this chapter is to present a comprehensive overview of the District's water supplies, estimate the volume of available supplies over the UWMP planning horizon, and assess the sufficiency of the District's supplies to meet projected demands under "normal" hydrologic conditions.

The sources of water supply for the Los Altos Suburban District is a combination of groundwater, recycled water, and purchased water from the Santa Clara Valley Water District (Valley Water). The Los Altos Suburban District pumps groundwater from the Santa Clara Subbasin (DWR Basin No. 2-009.02) of the Santa Clara Valley Basin. The Santa Clara Subbasin is not adjudicated, and is not considered by DWR to be critically overdrafted; however, the Santa Clara Subbasin has been prioritized by DWR as "high" priority. The Valley Water Groundwater Sustainability Agency (GSA), which manages the Santa Clara Subbasin, completed an Alternative Groundwater Sustainability Plan (GSP) in December 2016 per the Sustainable Groundwater Management Act (SGMA). The Alternative GSP was approved by DWR on July 17, 2019. The District also purchases treated surface water from Valley Water. Valley Water imports surface water to the region through the South Bay Aqueduct of the California State Water Project (SWP) and the San Felipe Division of the federal Central Valley Project (CVP). The District also uses a small amount of recycled water from the Sunnyvale Water Pollution Control Plant and plans to continue this level of usage throughout the planning period. Based on all available information, the combination of groundwater, recycled water, and purchased imported water supplies are expected to be sufficient to support the Los Altos Suburban District's projected water demands through 2045.

Calculating and reporting of water system energy intensity is a new requirement for the 2020 UWMPs. Energy intensity is defined as the net energy used for water treatment, pumping, conveyance, and distribution for all water entering the distribution system, and does not include the energy used to treat wastewater. The energy intensity for the Los Altos Suburban District is estimated to be 255 kilowatt hours per acre-foot of water (kWh/AF).

Chapter 7 - Water Supply Reliability Assessment

This chapter assesses the reliability of the Los Altos Suburban District's water supplies, with a specific focus on potential constraints such as groundwater and surface water supply availability, water quality, and climate change. The intent of this chapter is to identify any potential constraints that could affect the reliability of the District's supply (such as drought conditions) to support the District's planning efforts to ensure that its customers are well served. Water service reliability is assessed during normal, single dry-year, and multiple dry-year hydrologic conditions. Based on this analysis, the Los Altos Suburban District expects the available supplies to be sufficient to meet projected demands in all hydrologic conditions, including a five-year drought period, and considering the impacts of climate change.

Further, potential water quality issues are not expected to affect the quality of water served to the District's customers, as water quality is routinely monitored and the District is able to make all appropriate adjustments to its treatment and distribution system to ensure only high quality drinking water is served.

Chapter 8 - Water Shortage Contingency Planning

This chapter describes the Water Shortage Contingency Plan (WSCP) for the Los Altos Suburban District. The WSCP serves as a standalone document to be engaged in the case of a water shortage event, such as a drought or supply interruption, and defines specific policies and actions that will be implemented at various shortage level scenarios. For example, implementing customer water budgets and surcharges, or restricting landscape irrigation to specific days and/or times. Consistent with DWR requirements, the WSCP includes six levels to address shortage conditions ranging from up to 10 percent to greater than 50 percent shortage.

Chapter 9 - Demand Management Measures

This chapter includes descriptions of past and planned conservation programs that Cal Water operates within each demand management measure (DMM) category outlined in the UWMP Act, specifically: (1) water waste prevention ordinances, (2) metering, (3) conservation pricing, (4) public education and outreach, (5) distribution system water loss management, (6) water conservation program coordination and staffing support, and (7) “other” DMMs. Cal Water has developed a suite of conservation programs and policies, which address each DMM category.

Chapter 10 - Plan Adoption, Submittal, and Implementation

This chapter provides information on a public hearing, the adoption process for the UWMP and WSCP, the adopted UWMP and WSCP submittal process, plan implementation, and the process for amending the adopted UWMP and WSCP. Prior to adopting the Plan, Cal Water held a formal public hearing to present information on its Los Altos Suburban District UWMP and WSCP on June 9, 2021, 7:00 PM. This UWMP and the corresponding WSCP were submitted to DWR within 30 days of adoption and by the July 1, 2021 deadline.

Chapter 2
Plan Preparation

This chapter discusses the type of Urban Water Management Plan (UWMP or Plan) the Los Altos Suburban District (also referred to herein as the "District") has prepared and includes information that will apply throughout the Plan. Coordination and outreach during the development of the Plan is also discussed. Specifically, this chapter includes the following sections:

2.1 Public Water Systems

2.2 Regional Planning

2.3 Individual or Regional Planning and Compliance

2.4 Plan Preparation, Standard Units, and Basis for Reporting

2.5 Coordination and Outreach

2.1 Public Water Systems

The Los Altos Suburban District operates the one Public Water System (PWS) listed in Table 2-1 (i.e., Los Altos Suburban PWS). Public Water Systems are the systems that provide drinking water for human consumption and are regulated by the State Water Resources Control Board (SWRCB), Division of Drinking Water. The SWRCB requires that water agencies report water usage and other relevant PWS information via the electronic Annual Reports to the Drinking Water Program (eARDWP). These data are used by the state to determine, among other things, whether an urban retail water supplier has reached the threshold (3,000 or more connections or 3,000 acre-feet of water supplied) for submitting an UWMP.

Table 2-1. Public Water Systems (DWR Table 2-1)

Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020
4310001	Los Altos Suburban	18,559	13,087
	TOTAL	18,559	13,087
NOTES: (a) Volumes are in units of AF.			

2.2 Regional Planning

Regional planning can deliver mutually beneficial solutions to all agencies involved by reducing costs for the individual agency, assessing water resources at the appropriate geographic scale, and allowing for solutions that cross jurisdictional boundaries. California Water Service Company (Cal Water) participates in regional water resources planning initiatives throughout California in the regions in which its 25 water districts are located. Cal Water participated in the 2019 Update of the Bay Area Integrated Regional Water Management Plan (IRWMP), which covers the Los Altos Suburban District, and the Bay Area Water Supply and Conservation Agency's 2015 Long-Term Reliable Water Supply Strategy.

2.3 Individual or Regional Planning and Compliance (Regional Alliance)

Urban water suppliers may elect to prepare individual or regional UWMPs. The Los Altos Suburban District has elected to prepare an individual UWMP (see Table 2-2).

Urban retail water suppliers may report on the requirements of SB X7-7 (2009 California Conservation Act) individually or as a member of a "Regional Alliance." As described in Chapter 5, the Los Altos Suburban District is a member of a Regional Alliance and this UWMP provides information on the District's compliance with its SB X7-7 water conservation targets both as an individual urban retail water supplier and as a member of a Regional Alliance.

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

<table>
<tr><th>Select Only One</th><th colspan="2">Type of Plan</th><th>Name of RUWMP or Regional Alliance
if applicable</th></tr>
<tr><td>X</td><td colspan="3">Individual UWMP</td></tr>
<tr><td rowspan="2"></td><td></td><td>Water Supplier is also a member of a RUWMP</td><td></td></tr>
<tr><td>X</td><td>Water Supplier is also a member of a Regional Alliance</td><td>CalWater San Francisco Bay Alliance</td></tr>
<tr><td></td><td colspan="2">Regional Urban Water Management Plan (RUWMP)</td><td></td></tr>
<tr><td colspan="4">NOTES: The Los Altos Suburban District is a member of a Regional Alliance. Chapter 5 provides information on the District's progress towards meeting its water conservation targets under SB X7-7 both as an individual urban retail water supplier and as a member of its Regional Alliance.</td></tr>
</table>

2.4 Plan Preparation, Standard Units, and Basis for Reporting

☑ ***CWC § 10608.12 (t)***

"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.

☑ ***CWC § 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.

☑ ***CWC § 10621 (a)***

Each urban water supplier shall update its plan at least once every five years on or before July 1, in years ending in six and one, incorporating updated and new information from the five years preceding each update.

☑ ***CWC § 10621 (f)***

Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.

Per California Water Code (CWC) §10617, the Los Altos Suburban District is an urban water supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. It is therefore obligated under CWC §10621(f) to develop and submit an UWMP to the California Department of Water Resources (DWR) by July 1, 2021. The Los Altos Suburban District is an urban retail water supplier, as identified in Table 2-3. The Los Altos Suburban District is not a wholesale water supplier.

Annual volumes of water reported in this UWMP are measured in acre-feet (AF) and are reported on a calendar year basis (Table 2-3). Water use and planning data reported in this UWMP for calendar year 2020 cover the full twelve months of the year, as required by the UWMP Guidelines.

Table 2-3. Supplier Identification (DWR Table 2-3)

Type of Supplier	
	Supplier is a wholesaler
X	Supplier is a retailer
Fiscal or Calendar Year	
X	UWMP Tables are in calendar years
	UWMP Tables are in fiscal years
If using fiscal years provide month and date that the fiscal year begins (mm/dd)	
Units of measure used in UWMP	
Unit	AF
NOTES:	

2.5 Coordination and Outreach

☑ ***CWC § 10620 (d) (3)***

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.

☑ ***CWC § 10631 (a)*** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

☑ ***CWC § 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 both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. …

Coordination with other water suppliers, cities, counties, and other community organizations in the region is an important part of preparing a UWMP and Water Shortage Contingency Plan

(WSCP). This section identifies the agencies and organizations Los Altos Suburban District sought to coordinate with during preparation of this Plan.

2.5.1 Wholesale and Retail Coordination

☑ ***CWC § 10631 (h)***

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 (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

Urban retail water suppliers relying on one or more wholesalers for water supply are required to provide these wholesalers with information regarding projected water supply and demand. As shown in Table 2-4, the Los Altos Suburban District derives portions of its water supply from the Santa Clara Valley Water District (Valley Water).

Table 2-4. 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 Water Code Section 10631.
Wholesale Water Supplier Name
Santa Clara Valley Water District
NOTES:

2.5.2 Coordination with and Notice to Other Agencies and the Community

☑ ***CWC § 10620 (d) (3)***

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.

☑ ***CWC § 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 both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

The Los Altos Suburban District coordinated with cities, counties, and other community organizations during preparation of this UWMP. Cal Water provided notice to these entities and the communities it serves 60 days prior to the public hearing it held on June 9, 2021, to present the draft of the UWMP, address questions, and receive comments. Cities and counties receiving the public hearing notification from Los Altos Suburban District as required per CWC §10621 (b) are listed in Table 10-1 in Chapter 10 of this Plan.

Copies of correspondence with other agencies and public notices are provided in Appendix B and Appendix C, respectively.

2.5.3 Coordination with Land Use Authorities

☑ ***CWC § 10631 (a)*** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

Cal Water coordinated with the City of Los Altos, City of Mountain View, City of Cupertino, City of Sunnyvale, and Town of Los Altos Hills staff to review and confirm that appropriate land use assumptions were used to develop the UWMP demand projections. Correspondence with the land use authorities is included in Appendix B.

Chapter 3
System Description

☑ ***CWC § 10631 (a)***

A plan shall be adopted in accordance with this chapter that shall do all of the following:

Describe the service area of the supplier, including current and projected population, climate, and other social, economic, and 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. The description shall include the current and projected land uses within the existing or anticipated service area affecting the supplier's water management planning. Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

This chapter provides a description of the Los Altos Suburban District (also referred to herein as the "District") water system and service area, including climate, population, demographics, and land uses to help in understanding various elements of water supply and demand. This chapter includes the following sections:

3.1 General Description

3.2 Service Area Boundary Map

3.3 Service Area Climate

3.4 Service Area Population and Demographics

3.5 Land Uses within Service Area

3.1 General Description

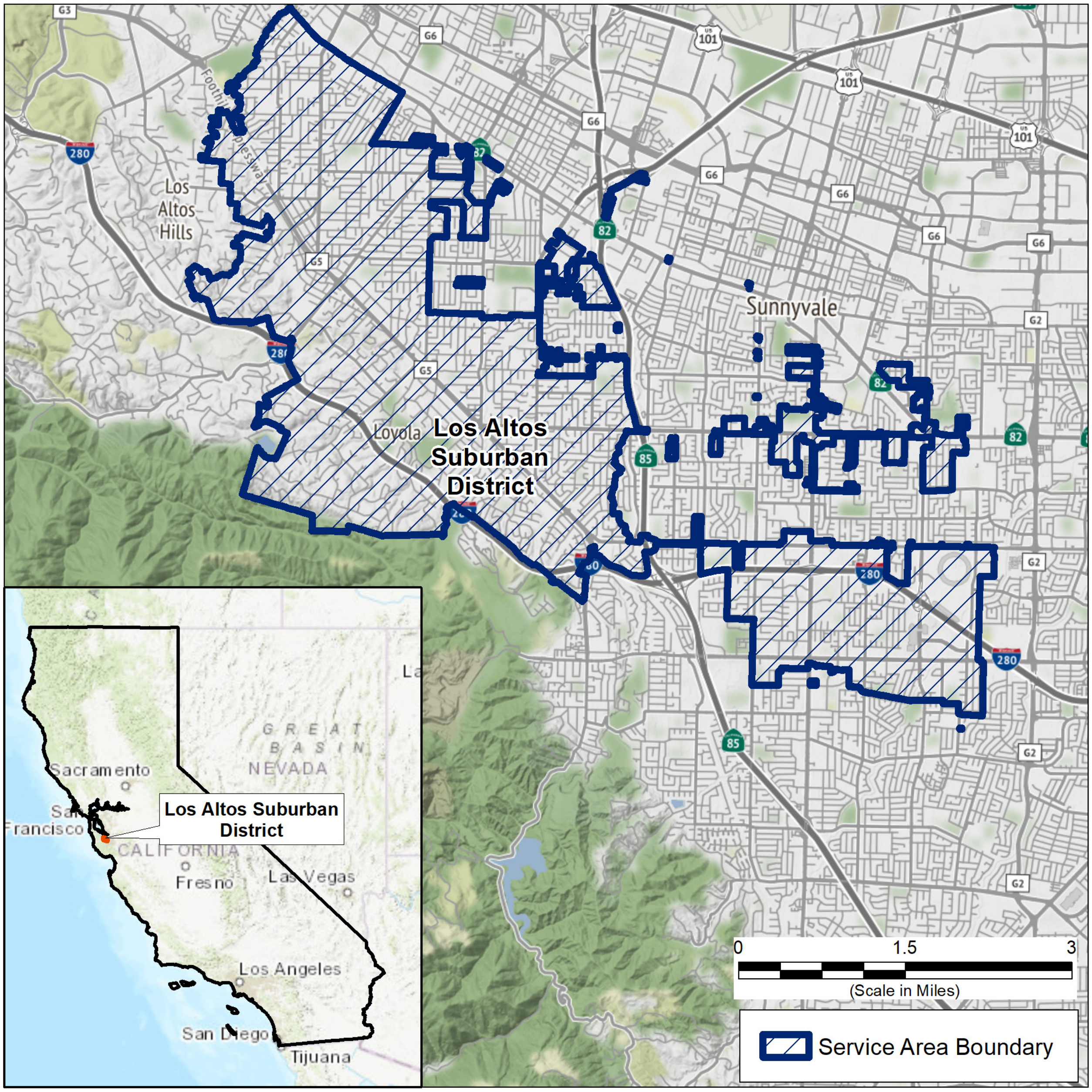
The District was formed in 1931 when California Water Service Company (Cal Water), an investor-owned water utility regulated by the California Public Utilities Commission (CPUC), purchased the Los Altos Water Company. The District supplies a combination of locally produced groundwater and surface water purchased from the Santa Clara Valley Water District, the region's wholesale water supplier. The District operates 20 groundwater wells, 46 storage tanks, 65 booster pumps, and 297 miles of pipeline to deliver roughly 12 million gallons of water per day to more than 18,000 service connections. The District delivers water to residential, commercial, industrial, and governmental customers. Residential customers account for most of the District's service connections and 72 percent of its water uses. Non-residential water uses account for 22 percent of total demand and system water losses account for 6 percent.

3.2 Service Area Boundary Map

Figure 3-1 shows the location of the District and its current service area boundaries. The District is located in northern Santa Clara County, approximately 45 miles south of the City of San Francisco. The District serves the serves the City of Los Altos, fringe sections of the cities of Cupertino, Los Altos Hills, Mountain View, Sunnyvale and adjacent unincorporated areas of Santa Clara County. The cities of Palo Alto, Mountain View, Sunnyvale and Santa Clara own and operate water systems northeast and southeast of the District. Purissima Hills Water District is north of the Town of Los Altos Hills. Major transportation links in the District include Interstate 280, State Route 82, and State Route 85. The San Jose and San Francisco International Airports are located to the southeast and north of the District, respectively.

The District is built upon the Bay Plain and abuts to the northern foothills of the Coastal Range. Major geological features located in the Los Altos region include the San Andreas, Berrocal, and Pilarcitos Faults situated just west of the District, and the Hayward and Calaveras Faults located east of the District across the bay. A major earthquake on any of these faults has the potential to disrupt water service in the District.

Figure 3-1. District Location and Service Boundaries



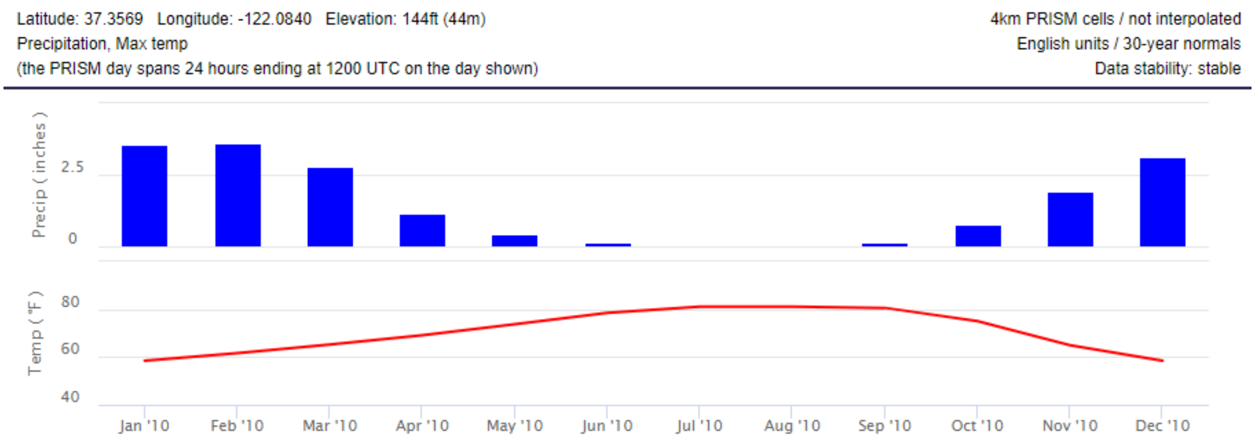
3.3 Service Area Climate

The District's climate is characterized by mild summers and cool wet winters (see Figure 3-2).[5] Most rainfall occurs between October and May. Precipitation totals in the summer months are

[5] Precipitation and temperature data downloaded from: https://prism.oregonstate.edu/explorer/. These data represent a 30-year period from 1980 through 2010. The x-axis reflects the end of the 30-year time series.

negligible. On average, the District receives 18 inches of rainfall annually. Maximum daily air temperature averages 80 degrees Fahrenheit during the summer months. In the winter, it averages 60 degrees Fahrenheit.

Figure 3-2. 30-Year Normals, Precipitation and Maximum Daily Air Temperature



Based on a review of data downloaded from the Oregon State PRISM dataset for 1895 to 2019, rainfall varies significantly from year-to-year, as it does in most of California.[6] The standard deviation in annual rainfall is 5.7 inches, or approximately 32 percent of average annual rainfall.[7] Consecutive years of below average rainfall are fairly common. Since 1895, runs of below average rainfall lasting three or more years have occurred eleven times and runs lasting five or more years have occurred twice. The first of these ran from 1945 through 1949 and the second ran from 1987 through 1991. While rainfall in the region is highly variable, there has been no statistically significant trend in the mean or variance of annual rainfall since 1895.

The District's climate has been warming. Since 1895, average daily temperature has increased at an average rate of 0.021 degrees Fahrenheit per year. Mean annual temperature for 2010-2019 was 2.0 degrees Fahrenheit higher than for 1900-1909.

3.4 Service Area Population and Demographics

It is estimated that the District's service area population was 70,161 in 2020.

The District estimates its service area population using Census Block population counts from decadal Census data. The decadal Census estimates are converted to average population per single- and multi-family service, which are applied to service counts for years between the decadal Censuses. This method is similar to the approach used by the California Department of

[6] Downloaded from: https://prism.oregonstate.edu/explorer/. The x-axis reflects the end of the 30-year time series.
[7] Standard deviation measures the typical or average year-to-year variation in annual rainfall amount. Thus, it is typical for annual rainfall to fluctuate significantly in the District.

Water Resources (DWR) Population Tool and population estimates generated by the two methods have been shown to differ by less than a percent in most cases.[8]

Current and projected service area population are shown in Table 3-1. Projected population is based on population, housing, and employment projections developed by the Association of Bay Area Governments (ABAG).[9]

Table 3-1. Population – Current and Projected (DWR Table 3-1)

Population Served	2020	2025	2030	2035	2040	2045
	70,161	70,454	70,815	71,560	72,708	73,911
NOTES:						

Demographics for the City of Los Altos, the principal city served by the District, are summarized in Table 3-2. These data are from the U.S. Census American Community Survey 2019 5-Year Estimates.[10] Relative to the rest of California, the Los Altos's population is older and has a somewhat different racial composition. Educational attainment in Los Altos is significantly higher than for the state as a whole, as is median household income.

Los Altos's stock of housing is older than for California as a whole. Nineteen percent of Los Altos's homes were built after 1990 compared to 25.5 percent for all of California. Homes built after 1990 are more likely to have plumbing fixtures that are compliant with state and federal water and energy efficiency standards.

[8] California Water Service, 2016. 2015 Urban Water Management Plan: Los Altos Suburban District, dated June 2016.
[9] Association of Bay Area Governments Projections 2040. Accessed from: http://projections.planbayarea.org/
[10] U.S. Census Bureau, 2019. 2015-2019 American Community Survey 5-year Estimates, dated 2019. Retrieved from: https://data.census.gov/cedsci/.

Table 3-2. Demographic and Housing Characteristics

Demographics	City of Los Altos	California
Median Age (years)	46.1	36.5
Racial Makeup (%)		
White	66.9	63.8
Black or African American	0.8	7.0
American Indian and Alaska Native	0.3	1.9
Asian	36.4	16.7
Native Hawaiian	0.1	0.8
Some other race	1.2	15.1
Hispanic or Latino (of any race) (%)	4.4	39.0
Educational Attainment (%)		
Bachelor's Degree or Higher	84.2	33.9
Primary Language Spoken at Home (%)		
English Only	92.9	82.2
Limited English-Speaking Households	3.7	8.9
Median Household Income ($)	235,278	75,235
Population below Federal Poverty Level (%)	2.8	13.4
Housing	**City of Los Altos**	**California**
Median Year Built	1962	1975
Year Housing Built (%)		
2010 or Later	5.6	3.5
2000 to 2009	7.1	11.2
1990 to 1999	6.3	10.9
Before 1990	81.0	74.5

3.5 Land Uses within Service Area

Current land uses within the District is a mixture of low, medium, and high density residential, mixed use, commercial, industrial, public facilities, and parks/open space. Maps showing General Plan land use designations for communities served by the District are provided in Appendix D.

The District's population and service growth projections are tied to ABAG census tract level projections of population, housing, and employment. These projections, in turn, are developed by ABAG through detailed land use modeling of the Bay Area.[11] The areas included in the ABAG land use model include all incorporated and unincorporated areas of the nine-county Bay Area. ABAG's land use model application is comprised of ten sub models:

1. Employment Transition Model
2. Household Transition Model
3. Real Estate Development Model
4. Scheduled Development Events Model
5. Employment Relocation Model
6. Household Relocation Model
7. Government Growth Model
8. Employment Location Choice Model
9. Household Location Choice Model
10. Real Estate Price Model

Parcels, or individual units of land ownership, provide the fundamental building block for the ABAG land use model. The land use database includes information linking the parcels to zones they are within, buildings that are on them, their size, their monetary value, and their current planning constraints. The base year database contains 1.9 million buildings categorized into 14 different land use types, ranging from detached single-family housing to heavy industrial.

The ABAG land use model relies on current zoning for all parcels in the region as a representation of the land use controls in place in the base year. Zoning codes, general plans, and specific plans were processed by ABAG to obtain a consistent indication of each jurisdiction's long-term vision for land use type, residential dwelling units per acre, and commercial floor-area-ratio.

[11] Association of Bay Area Governments and Metropolitan Transportation Commission (2017). Land Use Modeling Report, Plan Bay Area 2040 Final Supplemental Report, dated July 2017. Accessed from: http://2040.planbayarea.org/files/2020-02/Land_Use_Modeling_PBA2040_Supplemental%20Report_7-2017.pdf

Chapter 4
Water Use Characterization

☑ ***CWC § 10631 (d) (1)*** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(J) Distribution system water loss.

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

This chapter provides a description and quantifies the Los Altos Suburban District's (also referred to herein as the "District") past, current, and projected water uses through 2045. For the purposes of the Urban Water Management Plan (UWMP or Plan), the terms "water use" and "water demand" are used interchangeably. This chapter is divided into the following subsections:

4.1 Non-Potable Versus Potable Water Use

4.2 Past, Current, and Projected Water Uses by Sector

4.3 Climate Change Considerations

Appendix E provides additional information and data related to the development of the water demand projections presented in this chapter.

4.1 Non-Potable Versus Potable Water Use

This Plan maintains a clear distinction between recycled, potable, and raw water uses and supplies. Recycled water is addressed comprehensively in Chapter 6, but a summary of recycled water demand is included in Table 4-3 of this chapter. The primary focus of this chapter is the historical and projected potable water uses in the District.

4.2 Past, Current, and Projected Water Uses by Sector

☑ ***CWC § 10631 (d)***

For an urban retail water supplier, quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, based upon information developed pursuant to subdivision (a), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following:

(A) Single-family residential.

(B) Multifamily.

(C) Commercial.

(D) Industrial.

(E) Institutional and governmental.

(F) Landscape.

(G) Sales to other agencies.

(H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(I) Agricultural.

(J) Distribution system water loss.

4.2.1 Past and Current Water Use

Table 4-1 shows water use in 2016-2020 by use type (referred to as "sector" in California Water Code [CWC] §10631). Water use has been decreasing in the District since the mid-2000s. Several factors have contributed to this reduction. First, California Water Service Company (Cal Water) implemented conservation pricing starting in 2009, supplying stronger financial incentives to use water efficiently. Second, starting around 2012, Cal Water tripled the level of expenditure on conservation programs aimed at helping customers use water more efficiently. Third, appliance efficiency standards and plumbing codes have contributed to significant improvement over time in the average water use efficiency of the installed base of appliances and plumbing fixtures. For example, a new toilet uses roughly one-third the amount of water as a toilet manufactured in the 1980s while a new clothes washer uses about half the amount of water as an older washer.[12] Per capita water use in 2020 was 32 percent below its peak in the early 2000s.

[12] Water Research Foundation, 2016. Residential End Uses of Water, Version 2, prepared by DeOreo, William B., Peter Mayer, Benedykt Dziegielewski, and Jack Kiefer, dated April 2016.

Water use in 2020 was 13,023 acre-feet (AF). Residential customers accounted for most of the District's service connections and 72 percent of its water uses. Non-residential water uses accounted for 22 percent of total demand, while distribution system losses accounted for 6 percent.

Table 4-1. Demands for Potable and Non-Potable Water - Actual (DWR Table 4-1)

Use Type	Additional Description *(as needed)*	Level of Treatment When Delivered	Volume (a)				
			2016	2017	2018	2019	2020
Single Family		Drinking Water	6,441	7,331	7,926	7,615	8,645
Multi-Family		Drinking Water	615	651	662	649	685
Commercial		Drinking Water	1,839	2,198	2,552	2,436	2,335
Institutional/Gov't		Drinking Water	462	487	532	512	496
Industrial		Drinking Water	10	4	5	4	5
Other Potable		Drinking Water	48	84	43	49	11
Landscape	(b)	Drinking Water	0	0	0	0	0
Losses	(c)	Drinking Water	780	901	717	719	846
		TOTAL	10,194	11,656	12,438	11,982	13,023

NOTES:
(a) Volumes are in units of AF.
(b) District's billing system does not track this use type separate from other use types.
(c) Real and apparent losses.

4.2.2 Projected Water Use

Projected water use through 2045 is summarized in Table 4-2. Projected water use is estimated as a function of expected service growth and a forecast of average water use per service for each of the use types shown in the table. As discussed in Chapter 3, population and service growth projections are based on population, housing, and employment projections developed by the Association of Bay Area Governments (ABAG).[13]

As described later in the chapter, average water use per service is adjusted over the forecast period to account for anticipated reductions in water use due to the ongoing effects of appliance standards and plumbing codes, conservation and customer assistance programs, and growth in the inflation-adjusted cost of water service and household income. These factors, in combination, are projected to attenuate the increase in water use associated with projected service and population growth.

[13] Association of Bay Area Governments Projections 2040. Accessed from: http://projections.planbayarea.org/

Table 4-2. Use for Potable and Non-Potable Water – Projected (DWR Table 4-2)

Use Type	Additional Description *(as needed)*	Projected Water Use (a)				
		2025	2030	2035	2040	2045
Single Family		8,738	8,784	8,896	8,954	9,071
Multi-Family		679	685	708	752	801
Commercial		2,305	2,320	2,473	2,678	2,904
Institutional/Gov't		495	501	524	548	574
Industrial		6	6	6	6	6
Other Potable		13	13	13	13	13
Landscape	(b)	0	0	0	0	0
Losses	(c)	770	696	705	716	728
	TOTAL	13,007	13,003	13,324	13,666	14,097

NOTES:
(a) Volumes are in units of AF.
(b) District's billing system does not track this use type separate from other use types.
(c) Real and apparent losses.

Future water demands are expected to be comprised both potable and recycled water use, as shown in Table 4-3. Current and projected recycled water use is discussed in Chapter 6.

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

	2020	2025	2030	2035	2040	2045
Potable Water, Raw, Other Non-potable *From DWR Tables 4-1 and 4-2*	13,023	13,007	13,003	13,324	13,666	14,097
Recycled Water Demand *From DWR Table 6-4*	64	100	100	100	100	100
Optional Deduction of Recycled Water Put Into Long-Term Storage						
TOTAL WATER USE	13,087	13,107	13,103	13,424	13,766	14,197

NOTES:
(a) Volumes are in units of AF.

4.2.3 Distribution System Water Loss

☑ ***CWC § 10631 (3)***

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

(B) The distribution system water loss quantification shall be reported in accordance with a worksheet approved or developed by the department through a public process. The water loss quantification worksheet shall be based on the water system balance methodology developed by the American Water Works Association.

(C) In the plan due July 1, 2021, and in each update thereafter, data shall be included to show whether the urban retail water supplier met the distribution loss standards enacted by the board pursuant to Section 10608.34.

Table 4-4 shows distribution system water losses for the previous five years. Water loss is the sum of apparent and real losses. Apparent loss is associated with metering inaccuracies, billing and administrative errors, authorized unmetered uses (e.g., system flushing and firefighting), and unauthorized uses. Real loss is associated with physical water lost through line breaks, leaks and seeps, and overflows of storage tanks. Since 2016, urban retail water suppliers have been required under CWC §10608.34 and California Code of Regulations (CCR) §638.1 et seq to quantify distribution system water losses using the American Water Works Association (AWWA) Free Water Audit Software (referred to as "water loss audit reports"). The water loss audit reports the District submits to DWR provide the basis for the 2016-2019 estimates shown in Table 4-4 and are available through DWR's Water Use Efficiency Data Portal.[14] The District's 2020 water loss audit report had not been completed at the time this Plan was prepared.[15] The 2020 estimate shown in Table 4-4 is therefore drawn from the District's preliminary draft water loss audit results.

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

Reporting Period Start Date	Volume of Water Loss (a)
01/2016	780
01/2017	901
01/2018	717
01/2019	719
01/2020	846
NOTES: (a) Volumes are in units of AF.	

[14] DWR's Water Use Efficiency Data Portal: https://wuedata.water.ca.gov/awwa_plans
[15] The District's regulatory deadline for filing its 2020 water loss audit report to the state is October 1, 2021.

CWC §10631 (3)(c) requires that this UWMP demonstrate whether the distribution loss standards enacted by the State Water resources Control Board (SWRCB) pursuant to §10608.34 have been met. However, the SWRCB has yet to establish these standards, and thus consistency with these standards cannot be demonstrated herein.

4.2.4 Future Water Savings in Projected Water Use

☑ ***CWC § 10631 (d) (4)***

(A) Water use projections, where available, shall display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans identified by the urban water supplier, as applicable to the service area.

(B) To the extent that an urban water supplier reports the information described in subparagraph (A), an urban water supplier shall do both of the following:

(i) Provide citations of the various codes, standards, ordinances, or transportation and land use plans utilized in making the projections.

(ii) Indicate the extent that the water use projections consider savings from codes, standards, ordinances, or transportation and land use plans. Water use projections that do not account for these water savings shall be noted of that fact.

As affirmed in Table 4-5, both future water savings (discussed below) and lower income residential demands (discussed in Section 4.2.5) are included in the projections of future water use.

Table 4-5. Inclusion in Water Use Projections (DWR Table 4-5)

Are Future Water Savings Included in Projections?	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, or otherwise are utilized in demand projections are found.	Section 4.2.4
Are Lower Income Residential Demands Included In Projections?	Yes
NOTES:	

As noted above, the District has adjusted the forecast of average water use per service for the effects of appliance standards and plumbing codes, conservation programs, and increases in the real cost of water service and household income. These adjustments are described below.

The District uses forecasts of per capita water savings from appliance standards and plumbing codes prepared for DWR to adjust its projections of average water use per service.[16] These forecasts incorporate the effects of the following codes and regulations:

- Assembly Bill (AB) 715, enacted in 2007, requires that any toilet or urinal sold or installed in California on or after January 1, 2014 cannot have a flush rating exceeding 1.28 and 0.5 gallons per flush, respectively. AB 715 superseded the state's previous standards for toilet and urinal water use set in 1991 of 1.6 and 1.0 gallons per flush, respectively. On April 8, 2015, in response to the Governor's Emergency Drought Response Executive Order (EO B-29-15), the California Energy Commission approved new standards for urinals requiring that they not consume more than 0.125 gallons per flush, 75 percent less than the standard set by AB 715.
- Water use standards for residential and commercial clothes washers and dishwashers are established by the U.S. Department of Energy through its authority under the federal Energy Policy and Conservation Act. Water use efficiency is summarized by the water factor for the appliance which measures the gallons of water used per cycle per cubic foot of capacity. A typical top-loading residential clothes washer manufactured in the 1990s had a water factor of around 12. In 2015, the allowable water factor for top- and front-loading residential clothes was reduced to 8.4 and 4.7, respectively. In 2018, water factor standard for top-loading residential clothes washers will be reduced to 6.5. In 2010 the allowable water factor for top- and front-loading commercial clothes washers was reduced to 8.5 and 5.5, respectively. The maximum water factor for Energy Star compliant top- and front-loading washers is 3.7 and 4.3, respectively. The U.S. Environmental Protection Agency estimates that Energy Star washers made up at least 60 percent of the residential market and 30 percent of the commercial market in 2011.[17] An Energy Star compliant washer uses about two-thirds less water per cycle than washers manufactured in the 1990s. Federal dishwasher water use efficiency standards were last updated in 2013. The maximum water use for standard and compact sized dishwashers is 5.0 and 3.5 gallons per cycle, respectively.
- New construction and renovations in California are now subject to CalGreen Code requirements. CalGreen includes prescriptive indoor provisions for maximum water consumption of plumbing fixtures and fittings in new and renovated properties. CalGreen also allows for an optional performance path to compliance, which requires an overall aggregate 20 percent reduction in indoor water use from a calculated baseline using a set of worksheets provided with the CalGreen guidelines.
- Senate Bill (SB) 407, enacted in 2009, mandates that all buildings in California come up to current State plumbing fixture standards within this decade. This law establishes

[16] M.Cubed, 2016. Projected Statewide and County-Level Effects of Plumbing Codes and Appliance Standards on Indoor GPCD, technical memorandum prepared for the California Department of Water Resources, dated August 2016.

[17] EPA Energy Star Unit Shipment and Market Penetration Report Calendar Year 2011 Summary.

requirements that residential and commercial property built and available for use on or before January 1, 1994 replace plumbing fixtures that are not water conserving, defined as "noncompliant plumbing fixtures." This law also requires effective January 1, 2017 that a seller or transferor of single-family residential property show to the purchaser or transferee, in writing, the specified requirements for replacing plumbing fixtures and whether the real property includes noncompliant plumbing. Similar disclosure requirements went into effect for multi-family and commercial transactions January 1, 2019. SB 837, passed in 2011, reinforces the disclosure requirement by amending the statutorily required transfer disclosure statement to include disclosure about whether the property follows SB 407 requirements.

The District's 2015 Conservation Master Plan forms the basis for the forecast of water savings from conservation programs. Cal Water used the Alliance for Water Efficiency's Water Conservation Tracking Tool to estimate expected water savings from planned program implementation.[18]

Projected increases in water service costs and household income form the basis for the adjustments to average water use due to changes in the real cost of water service. The forecast uses the historical rate of increase in District water rates to project future water service costs. It uses Caltrans income projections for Santa Clara County to estimate changes in household income. It uses empirically derived estimates of price and income demand elasticity to adjust future water demand for changes in these variables.[19]

Table 4-6 shows the total water savings from plumbing codes and appliance standards, conservation programs, and increases in the real cost of water service.

Table 4-6. Future Conservation Savings (AF)

2025	2030	2035	2040	2045
115	265	300	414	474

[18] Alliance for Water Efficiency Water Conservation Tracking Tool: https://www.allianceforwaterefficiency.org/resources/topic/water-conservation-tracking-tool

[19] M.Cubed, 2018. California Water Service 2020 Test Year Sales Forecast: 2018 General Rate Case, prepared for California Water Service by M.Cubed, dated January 2018.

4.2.5 Water Use by Lower Income Households in Water Use Projections

☑ ***CWC § 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 requirements 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.

California Senate Bill No. 1087 (SB 1087), Chapter 727, passed in 2005, amended Government Code §65589.7 and CWC §10631.1. This law requires that local governments supply a copy of their adopted housing element to water and sewer providers. Additionally, it requires that water providers grant priority for service allocations to developments that include housing units for lower income families and workers. The UWMP Act requires that water providers estimate water demands by lower income single and multi-family households.

Cal Water must serve all development that occurs within its service area, regardless of the income level of the future residents. Cal Water does not keep records of the income level of its customers and does not discriminate when supplying water to any development. It is the responsibility of the city or county with land use authority over a given area to approve or not approve developments within Cal Water's service areas. Cal Water has a Customer Assistance Program (CAP) to help with water service affordability. CAP discounts the monthly service charge of qualifying lower income households.

Table 4-7 shows projected water use by lower income households. These demands are part of the projected residential water use in Table 4-2. Cal Water used the General Plan Housing Elements from the General Plan Housing Elements from the cities in the service area to estimate the number of lower income households which is the basis for the estimates in Table 4-7.[20]

Table 4-7. Residential Demands of Lower Income Households (AF)

2025	2030	2035	2040	2045
2,354	2,367	2,401	2,426	2,468

[20] City of Los Altos 2015-2023 Housing Element, Table B-9; Town of Los Altos Hills General Plan Housing Element Update 2015-2023, Table HE-16; City of Cupertino Housing Element Technical Report, Table 2.4; City of Sunnyvale Housing Element of the General Plan January 31, 2015 – January 31, 2023, Table 13.

4.2.6 Characteristic Five-Year Water Use

☑ ***CWC § 10635(b)(3)***

(b) Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following…

(3) A comparison of the total water supply sources available to the water supplier with ***the total projected water use for the drought period.*** (Emphasis added).

CWC §10635(b) is a new requirement for 2020 UWMPs. A critical part of this new statutory language is the requirement to prepare a five-year Drought Risk Assessment (see Section 7.5). As a first step, DWR suggests that water suppliers estimate their unconstrained water demand for the next five years (2021-2025). Unconstrained water demand is water use in the absence of drought water use restrictions. Drought conditions cause unconstrained demands to increase. The Drought Risk Assessment presented in Section 7.5 accounts for this increase in unconstrained water demand. Cal Water's demand forecast model separately estimates water use for normal, wet, and dry weather conditions. Table 4-8 shows unconstrained demands for 2021-2025 for normal weather and multiple-dry-year scenarios.

Table 4-8. Characteristic Five-Year Water Use (AF)

Weather Scenario	2021	2022	2023	2024	2025
Multi-Year Dry	13,853	13,881	13,914	13,957	13,970
Normal	12,901	12,926	12,956	12,995	13,007
NOTES: The table shows unconstrained demand (i.e., demand in the absence of drought water use restrictions).					

4.3 Climate Change Considerations

☑ ***CWC § 10635(b)***

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

Climate strongly influences the level and seasonal pattern of District water demands. Cal Water has analyzed the effect of climate and weather variability on both aspects of demand.[21] Using this information, Cal Water has estimated the effect of alternative climate warming scenarios on future water demand.[22] Table 4-9 summarizes the results of this analysis. It shows that for plausible emission scenarios and corresponding temperature increases, climate change may, on average, increase future District demands by 2 to 3 percent compared to current climate conditions. Two points are worth noting. First, this is the average effect. There is significant variation about the mean. Second, this is a ceteris paribus, or all else equal, result. It assumes existing levels and types of landscaping. However, landscaping choices are partly a function of climate and as the climate changes, so too may these choices. It is reasonable to think households and businesses will adapt their landscaping as the climate warms. This adaptation may mitigate some of the expected demand increase shown in the table.

Table 4-9. Climate Change Effect on Demand

Emissions Scenario	Change in Mean Temperature by 2040 (degree F)	Change from Current Mean Temperature (%)	Effect on Demand (%)
Lower Emissions Scenario (B1)	2.5	3.4%	2.0%
Higher Emissions Scenario (A2)	2.7	3.7%	2.1%
80%ile Temperature Scenario	3.6	4.9%	2.8%

NOTES:
(a) Predicted temperature increases for Southwest United States for alternative emission scenarios reported in Kunkel et al. (2013). Predicted effect on demand derived from weather response models estimated with historical monthly water use, temperature, and rainfall data.
(b) The physical climate framework for the 2013 National Climate Assessment is based on climate model simulations of the future using the high (A2) and low (B1) Special Report Emissions Scenarios (SRES). The A1B emission scenario reflects a middle case between the A2 and B1 scenarios. The 80%ile scenario is the 80th percentile temperature change across the family of emissions scenarios. Further description of emission scenarios can be found at https://www.ipcc.ch/site/assets/uploads/2018/03/sres-en.pdf

[21] A&N Technical Services, 2014. Cal Water Long-Term Water Demand Forecast Model. Report prepared for California Water Service Company. December 2014.
[22] Table 4-9 uses climate scenarios for the southwestern United States. These in turn rely on alternative greenhouse gas emission scenarios. Emissions under scenario A2 are higher than under scenario B2. The 80th percentile scenario is the 80th percentile temperature change for the full suite of emission scenarios. For further information, see Kunkel, K.E, L.E. Stevens, S.E. Stevens, L. Sun, E. Janssen, D. Wuebbles, K.T. Redmond, and J.G. Dobson, 2013. Regional Climate Trends and Scenarios for the U.S. National Climate Assessment. Part 5. Climate of the Southwest U.S., NOAA Technical Report NESDIS 142-5, dated 2013.

Chapter 5
SB X7-7 Baseline and Targets

☑ ***CWC § 10608.24 (b)***

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

☑ ***CWC § 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.

The Water Conservation Act of 2009, also known as Senate Bill (SB) X7-7, requires that urban retail water suppliers reduce their per capita water use by 20 percent by 2020. SB X7-7 defines an urban retail water supplier as “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” (California Water Code [CWC] §10608.12). The Los Altos Suburban District meets both criteria. The state will assess each urban retail water supplier’s 2020 per capita water use against the target it established in its 2015 urban water management plan (UWMP).

This chapter demonstrates the District’s compliance with its SB X7-7 per capita water use target and includes the following sections:

5.1 Wholesale Suppliers

5.2 Updates to the 2015 UWMP Calculations

5.3 Service Area Population

5.4 Baseline Periods, Baseline GPCD, and Confirmed SB X7-7 2020 Target

5.5 Demonstration of Compliance with SB X7-7 2020 Target

5.6 Demonstration of Compliance with Regional Alliance SB X7-7 2020 Target

5.1 Wholesale Suppliers

SB X7-7 does not directly apply to wholesale water suppliers. Wholesale suppliers may adopt programs and policies that support SB X7-7 compliance by the retail water suppliers they serve. They may also take part in a Regional Alliance (discussed below) set up to satisfy SB X7-7 requirements on a regional basis. As discussed in Chapter 2, the District is not a wholesale water supplier.

5.2 Updates to the 2015 UWMP Calculations

Urban retail water suppliers may update or correct the water use and population data they used to set their 2020 target in their 2015 UWMP. The District has not made any changes to these data.

5.3 Service Area Population

Service area population estimation must satisfy the requirements in Methodology 2 – Service Area Population – of DWR's *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*. California Water Service Company (Cal Water)'s population estimation method is similar to the method used by DWR's Population Tool.[23] DWR reviewed and accepted Cal Water's population estimation method as part of the review of its 2015 UWMPs. Cal Water used this method to estimate the District's 2020 service area population. As reported in Chapter 3, the District's population was 70,161 in 2020.

[23] Cal Water estimates service area population using census block population data with the LandView 5 and MARPLOT software programs. In census years, the method estimates service area population using the population counts of census blocks with centroids falling within the District's service boundary. In off-census years, the method estimates population by adjusting the census year estimates for changes in the number of single- and multi-family service connections and dwelling units. As shown in the District's 2015 UWMP, estimates prepared using this method and DWR's Population Tool typically differ by less than a percent. Cal Water prefers using its method to be consistent with its other planning documents.

5.4 Baseline Periods, Baseline GPCD, and Confirmed SB X7-7 2020 Target

Table 5-1 shows the District's 5- and 10-year baseline periods, its baseline gallons per capita per day (GPCD) for these periods, and its confirmed 2020 target. The data used to calculate the baseline and target GPCD values are provided in Appendix F.

Table 5-1. SB X7-7 Baselines and Targets Summary (DWR Table 5-1)

Baseline Period	Start Year	End Year	Average Baseline GPCD	Confirmed 2020 Target GPCD
10-15 year	1996	2005	232	185
5 Year	2003	2007	223	
NOTES:				

5.5 Demonstration of Compliance with SB X7-7 2020 Target

Service area population and water use in 2020 were 70,161 and 13,023 AF, respectively, resulting in per capita water use of 166 GPCD. This is less than target GPCD, as shown in Table 5-2. Supporting population and water use data are in Appendix F.

Table 5-2. SB X7-7 2020 Compliance (DWR Table 5-2)

2020 GPCD			2020 Confirmed Target GPCD	Did Supplier Achieve Targeted Reduction for 2020?
Actual 2020 GPCD	2020 TOTAL Adjustments	Adjusted 2020 GPCD *(Adjusted if applicable)*		
166			185	Yes
NOTES:				

5.6 Demonstration of Compliance with Regional Alliance SB X7-7 2020 Target

An urban retail water supplier can satisfy SB X7-7 requirements either individually or as part of a Regional Alliance. The District formed a regional alliance with other Cal Water districts in the San Francisco Bay Hydrologic Region. The name of this Regional Alliance is California Water Service – San Francisco Bay Regional Alliance. Table 5-3 shows 2020 per capita water use for this Regional

Alliance. Table 5-4 demonstrates compliance with the Regional Alliance's SB X7-7 2020 target GPCD.[24]

Table 5-3. SB X7-7 Regional Alliance – 2020 GPCD (DWR RA 2020 GPCD Table)

Participating Member Agency Name	2020 Actual GPCD*	2020 Population	(2020 GPCD) X (2020 Population)	Regional Alliance 2020 GPCD (Actual)
Cal Water Bear Gulch District	190	60,814	11,554,660	
Cal Water Los Altos Suburban District	166	70,161	11,646,726	
Cal Water Livermore District	143	59,814	8,553,402	
Cal Water Mid Peninsula District	94	137,486	12,923,684	
Cal Water South San Francisco District	98	63,319	6,205,262	
Regional Alliance Totals	691	391,594	50,883,734	130

**All participating agencies must submit individual SB X7-7 Tables, as applicable, showing the individual agency's calculations. These tables are: SB X7-7 Tables 0 through 6, Table 7, any required supporting tables (as stated in SB X7-7 Table 7), and SB X7-7 Table 9, as applicable. These individual agency tables will be submitted with the individual or Regional Urban Water Management Plan.*

Table 5-4. SB X7-7 Regional Alliance – 2020 Compliance (DWR RA 2020 Compliance Table)

2020 Actual GPCD	Optional Adjustment for Economic Growth[1]	Adjusted 2020 Actual GPCD	2020 Target GPCD [2]	Did Alliance Achieve Targeted Reduction for 2020?
130			150	Yes

[1]Adjustments for economic growth can be applied to either the individual supplier's data or to the aggregate regional alliance data (but not both), depending upon availability of suitable data and methods. [2] 2020 Target GPCD will be taken from the Regional Alliance's SB X7-7 Verification Form, Weighted Target Table.

[24] The population and water use data used to establish the Regional Alliance's 2020 target GPCD are provided in the District's 2015 UWMP.

Chapter 6
Water Supply Characterization

☑ ***CWC § 10631 (b)*** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

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).

This chapter provides a description of the Los Altos Suburban District's (also referred to herein as the "District") current and potential water supplies, as well as assessment of the energy intensity used to operate the District's treatment and distribution system. This chapter includes the following sections:

6.1 Purchased Water

6.2 Groundwater

6.3 Surface Water

6.4 Stormwater

6.5 Wastewater and Recycled Water

6.6 Desalinated Water Opportunities

6.7 Water Exchanges and Transfers

6.8 Future Water Projects

6.9 Summary of Existing and Planned Sources of Water

6.10 Special Conditions

6.11 Energy Intensity

6.1 Purchased Water

☑ ***CWC § 10631 (h)*** *A plan shall be adopted in accordance with this chapter and shall do all of the following:*

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 (f). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (f).

California Water Service Company (Cal Water) currently purchases treated surface water from the Santa Clara Valley Water District (Valley Water). In addition to its local surface water supplies, Valley Water imports surface water to the region through the South Bay Aqueduct of the State Water Project (SWP) and the San Felipe Division of the federal Central Valley Project (CVP).

Valley Water operates three drinking water treatment plants (WTPs) (i.e., Penitencia WTP, Rinconada WTP, and Santa Teresa WTP) that treat its combined surface water supplies. Valley Water disinfects the water using a blend of chlorine and ammonia (chloramines).

Treated surface water is delivered to the Los Altos Suburban District from the Rinconada WTP through a large-diameter high pressure pipeline that runs through Cupertino and along Foothill Expressway. This pipeline is commonly referred to as the West Pipeline. The West Pipeline also has branch lines that distribute water to the Cities of Santa Clara and Mountain View ("distributaries").

The District takes treated surface water at five turnouts referred to as the "Vallco", "Granger", "Farndon", "Covington", and "Western" turnouts. The Farndon and Granger turnouts are located directly on the West Pipeline, while the Vallco turnout is located on the Santa Clara Distributary, and the Covington connection is located on the Mountain View Distributary. The Western turnout is also connected to San Jose Water Company. Each of these turnouts is equipped with pressure and flow control devices that provide a seamless hydraulic transition between the delivery main and the District's system.

When surface water supplies were plentiful in the past, Valley Water authorized the sale of "Non-Contract" water in order to facilitate conjunctive use (i.e., storage) of surplus supply in the underlying groundwater aquifers. In such year types, the District typically reduced its production of groundwater and increased its purchase of surface deliveries from Valley Water. However, the "Non-Contract" water has not been available for over 10 years. When surface water supplies are scarce, Valley Water imposes both voluntary and mandatory reductions in the overall use of water. In addition, because surplus surface water supplies are stored underground by Valley

Water (i.e., directly or through in-lieu recharge), during shortages the District increases groundwater production and reduces its purchases from Valley Water.

Since it is unknown whether "Non-Contract" water will be available when the District's purchase water schedules are prepared, and "Non-Contract" water is only available in the non-summer months between October and April of the next year, the scheduling of District deliveries is set to maximize the delivery of purchased water in the summer and to utilize groundwater production capacity during all other periods. This scheduling pattern enables the District to take advantage of the economic incentive provided by the sale of "Non-Contract" water, in turn assisting Valley Water in accomplishing the goal of storing surplus supplies through in-lieu recharge. Valley Water also has scheduling restrictions regarding the purchase of direct deliveries (i.e., Peak Day deliveries are limited to 180 percent of the average day deliver and the maximum monthly delivery cannot exceed fifteen percent of the annual scheduled delivery).

6.2 Groundwater

☑ ***CWC § 10631***

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

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

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

(B) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For basins that a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For a basin that has not been adjudicated, information as to whether the department has identified the basin as a high- or medium-priority basin in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to coordinate with groundwater sustainability agencies or groundwater management agencies listed in subdivision (c) of Section 10723 to maintain or achieve sustainable groundwater conditions in accordance with a groundwater sustainability plan or alternative adopted pursuant to Part 2.74 (commencing with Section 10720).

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

Groundwater makes up an important portion of the Los Altos Suburban District's water supply. This section includes information regarding the basin description, groundwater management, and Cal Water's coordination with the relevant Groundwater Sustainability Agency (GSA), followed by a discussion of historical pumping and supply sufficiency, which is further supported by Section 7.1.1.

6.2.1 Basin Description and Status

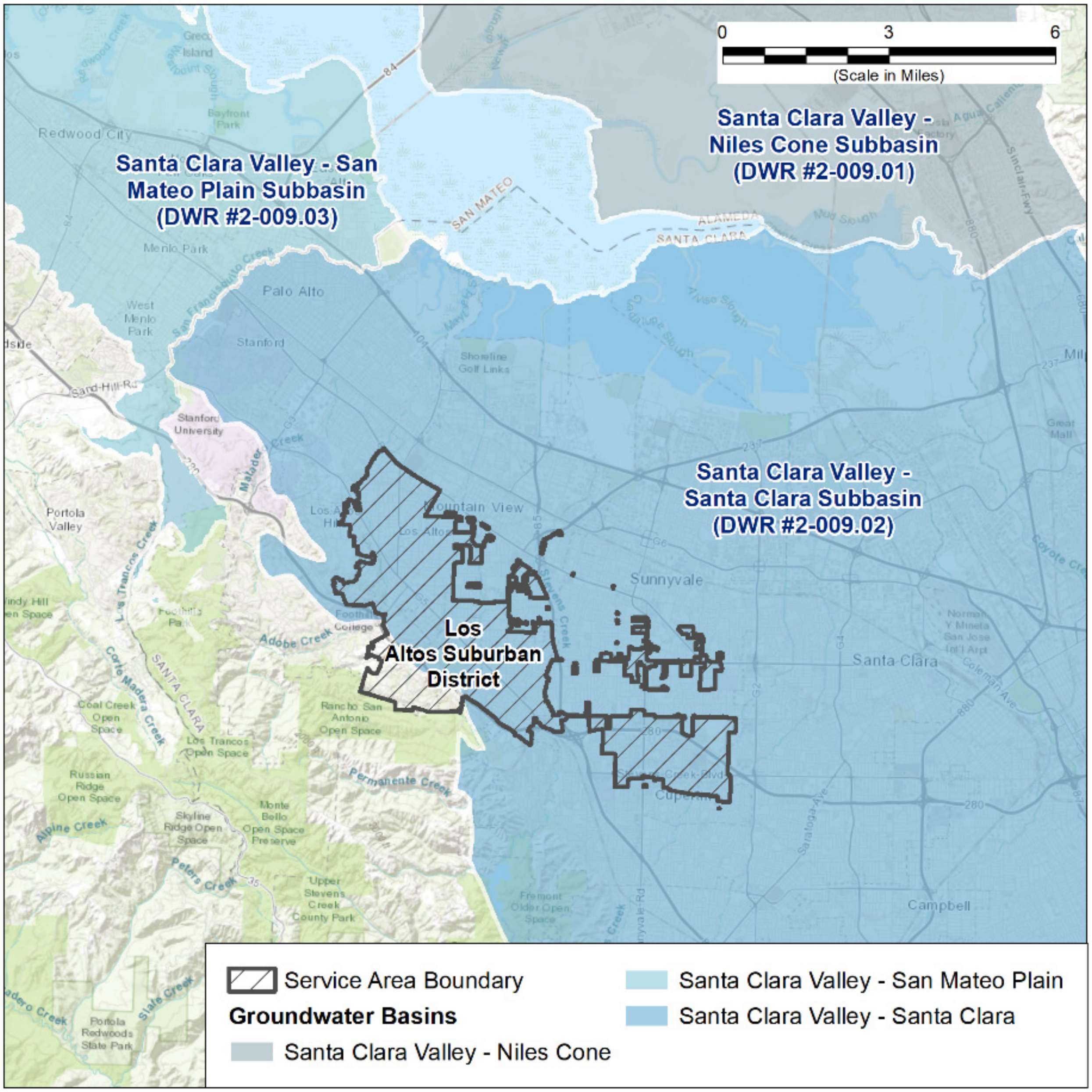
As shown on Figure 6-1, the Los Altos Suburban District overlies the Santa Clara Subbasin (also referred to herein as the "Basin") of the Santa Clara Valley Basin (California Department of Water Resources [DWR] Basin No. 2-009.02). The Santa Clara Subbasin is not adjudicated, and DWR determined that the Basin is not in a condition of critical overdraft in its recent evaluation of California groundwater basins.[25]

The Santa Clara Subbasin is designated as a high priority basin under DWR's 2019 Phase 2 Basin Prioritization.[26] Under this prioritization process, basins are ranked on eight components, and if a basin is assigned more than 21 total points, it is defined as "high priority." The main factors driving the Basin's designation include total population (5 out of 5 possible points), number of public supply wells (4 out of 5 possible points), and documented impacts including declining groundwater levels and subsidence (4 out of 5 possible points).[27] The Basin was assigned a total of 24.5 priority points.

The Santa Clara Subbasin covers a surface area of 297 square miles and forms a northwest - trending, elongated valley bounded by the Santa Cruz Mountains to the west and the Diablo Range to the east. The western and eastern Basin boundaries are the geologic contact between permeable to semi - permeable alluvial sediments within the Santa Clara Valley and the impermeable bedrock of the adjacent mountain ranges. The northern boundary with the San Francisco Bay is hydrologic. To the northwest and northeast, the Basin borders the San Mateo and Niles Cone Subbasin, respectively, at institutional boundaries formed by county boundaries. The southern boundary with the Llagas Subbasin is the Coyote Creek alluvial fan in the Morgan Hill area.[28]

[25] DWR, 2019. Sustainable Groundwater Management Act 2018 Basin Prioritization, State of California, dated January 2019.
[26] Ibid.
[27] DWR's 2019 Phase 2 Basin Prioritization used the basin's total possible ranking points assigned to each of the eight components to determine the priority. A basin is defined as High Priority if it has more than 21 total ranking points.
[28] Valley Water, 2016. 2016 Groundwater Management Plan: Santa Clara and Llagas Subbasins, dated November 2016.

Figure 6-1. Groundwater Basin Underlying the Los Altos Suburban District



Additional details on the Santa Clara Subbasin are given in the DWR's Groundwater Bulletin 118, as well as in the key documents described below related to groundwater management of the Basin, which are incorporated into this Urban Water Management Plan (UWMP or Plan) by reference:

- The 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins (GWMP) was submitted to DWR as an Alternative Groundwater Sustainability Plan (GSP)

on December 21, 2016. The Alternative GSP includes the basin setting, current groundwater conditions, water budget, local sustainable management criteria, and projects and management actions for maintaining sustainability in the Basin through 2042. The Alternative GSP is available on the DWR Sustainable Groundwater Management Act (SGMA) Portal website. The Annual Reports are submitted to DWR by April 1st of each year for the previous water year. The final Alternative GSP and Annual Reports for the Basin can be accessed here:
https://sgma.water.ca.gov/portal/alternative/print/18

- The Santa Clara Subregion of the Bay Area Integrated Regional Water Management Plan (IRWMP) Region covers the Los Altos Suburban District. The Bay Area IRWMP describes the physical, environmental, social, and demographic characteristics of the Bay Area region, the hydrologic features and overall water reliability, major water related infrastructure, and the identified subregional issues, needs, challenges and priorities. The most recent update to the Bay Area IRWMP was adopted in October 2019. The five regional goals stated in the IRWMP include: (1) promote environmental, economic and social sustainability, (2) improve water supply reliability and quality, (3) protect and improve watershed health and function and Bay water quality, (4) improve regional flood management, and (5) create, protect, enhance, and maintain environmental resources and habitats. These regional goals were used to inform the measurable objectives and potential project proposals to accomplish the goals of the region. The Bay Area IRWMP is available on the Bay Area IRWMP website:
http://bayareairwmp.org/irwm-plans/

6.2.2 SGMA Groundwater Management

In 2014, the California State Legislature enacted SGMA with subsequent amendments in 2015. Among other things, SGMA requires the formation of GSAs and the development and implementation of GSPs for groundwater basins that are designated by DWR as medium or high priority. As a high priority, non-critically overdrafted and non-adjudicated basin, the Santa Clara Subbasin is subject to the requirements of SGMA.

Valley Water is the exclusive GSA within its statutory boundary, which includes all of Santa Clara County, and has assumed responsibility for sustainable groundwater management of the Basin. The Los Altos Suburban District falls within the jurisdiction of the Valley Water GSA. The Valley Water Board of Directors adopted the 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins as the Alternative GSP in November 2016. The Alternative GSP was submitted to DWR in December 2016 and approved by DWR in July 2019. Valley Water is currently working on a five-year update to the Alternative GSP, which will be submitted to DWR January 1st, 2022. The majority of the District falls within the jurisdiction of the Alternative GSP. A small portion of the District falls outside of the Basin, as shown on Figure 6-1.

As defined under SGMA, sustainable yield means "the maximum quantity of water, calculated over a base period representative of long-term conditions in a basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing undesirable results."[29] Previously analysis has estimated that annual Basin pumping rates should not exceed 200,000 acre-feet per year (AFY), and current production does not exceed this limit.[30, 31] However, the Alternative GSP also stated that "the District [Valley Water] does not manage to a particular value for sustainable yield, but instead manages groundwater to maintain sustainable conditions through annual operations and long-term water supply planning".

Projects and management actions to support achievement of the Basin's sustainability goal under SGMA are proposed by the Valley Water GSA and documented in the Alternative GSP. Specifically, the actions that the Valley Water GSA will take to protect and augment groundwater supplies include: Conserve and manage water for beneficial and useful purposes, including spreading, storing, retaining, and groundwater recharge; Protect, save, store, recycle, distribute, transfer, exchange, manage, and conserve water; Increase and prevent the waste or diminution of the water supply; Obtain, retain, protect, and recycle water for beneficial uses; and to do any and every lawful act necessary to be done that sufficient water may be available for any present or future beneficial use or uses of the lands or inhabitants within [Valley Water].[32]

The long-term impacts of SGMA implementation in the Santa Clara Subbasin are still uncertain; however, it is the intent of the projects and management actions planned by the Valley Water GSA within the Basin to continue to provide for sustainable management of the groundwater resource.

6.2.3 Cal Water Coordination with Groundwater Sustainability Agencies

Cal Water's groundwater basin management philosophy continues to be to work collaboratively with all stakeholders in the basins where we operate and to do what is best for the groundwater basin including the sharing of burden(s) and benefits on an equitable basis with said stakeholders. Cal Water recognizes and deeply supports the goals, objectives, and intended outcomes of the SGMA. Moreover, the company recognizes the numerous challenges of the legislation along a variety of technical, legal, political, and financial/economic dimensions, particularly when the geographical diversity of the Cal Water's service territory is considered. None-the-less, Cal Water intends to take an active role in the local and state-wide management of groundwater resources

[29] California Water Code (CWC) §10721(w)
[30] Valley Water, 2016. 2016 Groundwater Management Plan: Santa Clara and Llagas Subbasins, dated November 2016.
[31] The Basin is delineated into two groundwater management areas: the Santa Clara Plain and the Coyote Valley. There is no sustainable yield estimate for the Coyote Valley management area, which is small, relatively shallow, and transmissive, with limited storage capacity.
[32] Valley Water, 2016. 2016 Groundwater Management Plan: Santa Clara and Llagas Subbasins, dated November 2016.

over the next five to 25+ years by fully supporting and participating in the principal edicts of SGMA. A number of specific steps that Cal Water has taken with respect to this position and role include (among others):

- Coordination with public agencies to ensure that Cal Water's presence, rights and interests, as well as historical and current resource management concerns are honored/incorporated within the GSA and GSP formulation process(es);
- Coordination with applicable local and regulatory agencies to ensure that Cal Water is at full participation, while also meeting the requirements and expectations set forth by SGMA;
- Enhanced use of digital/electronic groundwater monitoring equipment and other new technology aimed at measuring withdrawal rates, pumping water levels, and key water quality parameters within the context of day-to-day operations;
- Participation in the development of GSP's and formulation of groundwater models being constructed in basins where Cal Water has an operating presence;
- Participation in individual and/or joint projects aimed at mitigating seawater intrusion and other "undesirable results" where appropriate;
- Inclusion of sound groundwater management principles and data in all applicable technical reports, studies, facility master plans, and UWMPs (including this 2020 update), particularly as these undertakings relate or pertain to water resource adequacy and reliability; and,
- Inclusion of sound groundwater management principles and data in all general rate case (GRC) filings and grant applications to ensure that resource management objectives remain visible and central to Cal Water's long-term planning/budgeting efforts.

6.2.4 Historical Pumping and Supply Sufficiency

The groundwater used by the Los Altos Suburban District is extracted from the underlying Santa Clara Subbasin. The District has a total of 22 wells located within the District service area boundaries shown in Figure 6-1.

There are 46 surface storage structures, enabling the groundwater wells to pump to storage during non-peak demand periods and provide peak day demand. The District has sufficient production capacity to supply all of the District's current annual average day and maximum day demand.

As noted above, groundwater is a portion of the supply for the District. Because Valley Water replenishes the groundwater resources within its boundaries, it levies an assessment on the production of groundwater to finance this operation. During normal periods of supply, the groundwater pumping assessment is set such that the cost of pumping groundwater is essentially equal to the cost of directly purchasing water from Valley Water. Table 6-1 lists the amount of groundwater pumped by Cal Water over the past five years. The available groundwater supply and the purchased water supply have been sufficient to meet all of the District's demands in the past five years and all prior years.

Section 7.1.1 presents an analysis of the availability of supply for the District based on historical surface water and groundwater use and review of available information regarding future supply availability to the District. Based on the available information, the available supplies are expected to be sufficient to meet the projected future demands of the District in normal and multiple dry year periods through 2045.

Table 6-1. Groundwater Volume Pumped (DWR Table 6-1)

	Supplier does not pump groundwater. The supplier will not complete the table below.					
	All or part of the groundwater described below is desalinated.					
Groundwater Type	Location or Basin Name	2016	2017	2018	2019	2020
Alluvial Basin	Santa Clara Subbasin	2,420	4,249	4,875	2,414	2,729
	TOTAL	2,420	4,249	4,875	2,414	2,729
NOTES: (a) Volumes are in units of AF.						

6.3 Surface Water

Cal Water purchases treated surface water from Valley Water, as described above in Section 6.1.

6.4 Stormwater

There are no plans to divert stormwater for beneficial uses in the Los Altos Suburban District.

6.5 Wastewater and Recycled Water

☑ ***CWC § 10633***

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

The recycling of wastewater offers several benefits to Cal Water and its customers. Perhaps the greatest of these benefits is to help maintain a sustainable groundwater supply either through direct recharge, or by reducing potable supply needs by utilizing recycled water for appropriate uses (e.g., landscape irrigation) now being served by potable water. Indirect recycling occurs through the recharge of groundwater. The potential amount of recycled water that can be produced is theoretically proportional to the amount of wastewater that is generated by the District, and is discussed in the following sections.

6.5.1 Recycled Water Coordination

The Los Altos Suburban District relies on and coordinates with City of Palo Alto, City of Los Altos, City of Mountain View, City of Cupertino, and City of Sunnyvale for relevant wastewater collection, treatment, and discharge. As discussed in Section 6.5.3 below, the District currently uses a small amount of recycled water and plans to continue this level of usage throughout the planning period.

6.5.2 Wastewater Collection, Treatment, and Disposal

☑ ***CWC § 10633 (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.

☑ ***CWC § 10633 (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.

The City of Palo Alto is the administrator of the Palo Alto Regional Water Quality Control Plant (RWQCP). The Cities of Palo Alto, Los Altos, Mountain View and their sub-partnering sewer agencies, East Palo Alto, Stanford University, and Los Altos Hills, share in the proportionate costs of upkeep for the Palo Alto RWQCP. Each city owns, operates, and maintains its own collection system.

The community served by the RWQCP is composed primarily of low-density residential housing. In addition, there are several industrial areas and commercial districts within the plant's service area. The Palo Alto RWQCP provides primary, secondary, and tertiary treatment. The tertiary treatment processes include fixed film reactors and dual media filters. The treatment plant has a capacity to treat 39 million gallons per day (MGD) but currently receives an average of 17 MGD from all of its customers.[33,34] The disinfected effluent is discharged to San Francisco Bay through an unnamed slough near the Palo Alto Airport.

[33] Woodard & Curran, 2019. Palo Alto Regional Water Quality Control Plant Biosolids Facility Plan Update, dated October 2019.

[34] RWQCP, 2019. Water Reclamation – 2018 Annual Report Per Regional Board Order No. 93-160, dated January 2019.

The Palo Alto RWQCP generates approximately 1.0 MGD of high quality recycled water, which is used to irrigate the municipal golf courses in Palo Alto and Mountain View as well as Greer Park in Palo Alto.[35] The recycled water is also used by tanker trucks to provide dust control at construction sites, and for irrigation at additional sites. The RWQCP reclamation program began in the late 1980s and continues today looking for new ways to reuse water. In December 2019, the City of Palo Alto signed an agreement with Valley Water and the City of Mountain View to increase water reuse in the Santa Clara County. As part of this agreement, the City of Palo Alto is moving forward with implementation of a local salt removal facility (also referred to as the Local Advanced Water Purification System) to be located at the RWQCP.[36] Currently, the RWQCP does not provide reclaimed water to any Cal Water service areas.

The City of Sunnyvale operates and maintains its sewer system consisting of 48 inch or smaller gravity sewers and five pumping stations from residential, commercial, and some industrial customers.[37] The collected wastewater is discharged to trunk sewers owned and operated by the City and conveyed to the Sunnyvale Water Pollution Control Plant (WPCP) for treatment. The wastewater at the Sunnyvale WPCP, which has a capacity of 29.5 MGD, undergoes primary, secondary, and tertiary treatment followed by chlorination and dechlorination prior to disposal into the San Francisco Bay via the Guadalupe Slough.[38] The Sunnyvale WPCP currently produces an average of 0.8 MGD of recycled water for more than 100 customers within its service area.[39] The Sunnyvale WPCP provides recycled water to the District.

The Cupertino Sanitary District (CuSD) operates and maintains its sewer system consisting of over 1.0 million lineal feet of sewer mains, 0.5 million lineal feet of sewer laterals, 17 pump stations, 4,000 manholes and flushing inlets, and one equipment storage facility.[40] The CuSD has been serving the community for over 50 years and providing service to over 23,000 residential and business units within the communities of Cupertino, portions of Saratoga, Sunnyvale, Los Altos and unincorporated areas within Santa Clara County. The CuSD conveys nearly 5.0 MGD of wastewater from its customers for treatment at the San Jose-Santa Clara Regional Wastewater Facility (RWF).

The San Jose-Santa Clara RWF is the largest advanced wastewater treatment facility in the western United States. Using primary, secondary, and tertiary treatment, the San Jose-Santa

[35] City of Palo Alto website, https://www.cityofpaloalto.org/civicax/filebank/blobdload.aspx?t=71828.61&BlobID=79675
[36] City of Palo Alto website, https://www.cityofpaloalto.org/gov/depts/pwd/pollution/recycled_n_other_non_potable_water.asp
[37] HydroScience Engineers, 2020. 2020 Sewer System Management Plan, dated May 2020.
[38] City of Sunnyvale website, https://www.sunnyvalecleanwater.com/water-pollution-control-master-plan.
[39] City of Sunnyvale website, https://sunnyvale.ca.gov/property/water/sewer/controlplant.htm.
[40] Cupertino Sanitary District website, https://www.cupertinosanitarydistrict.org/about_us.

Clara RWF treats an average of 110 MGD of wastewater, with a capacity of up to 167 MGD.[41] The treated wastewater is discharged into South San Francisco Bay. The San Jose-Santa Clara RWF serves 1.4 million residents and over 17,000 businesses in eight cities and four sanitation districts.

Table 6-2 includes an estimate of the volume of wastewater collected from District customers in 2020. The estimate is calculated by annualizing 90 percent of January water use in the service area. As shown in Table 6-3, no wastewater is treated or disposed of within the District.

Currently, as shown in Table 6-3, no wastewater is currently treated and recycled for direct reuse within the Los Altos Suburban District service area. However, the District receives recycled water treated from the Sunnyvale WPCP, which is located outside of the District serving area, and plans to continue to use recycled water to meet a small portion of its demand. Projected recycled water supplies for the District through the year 2045 are shown in Table 6-4.

[41] City of San Jose website, https://www.sanjoseca.gov/your-government/environment/water-utilities/regional-wastewater-facility.

Table 6-2. Wastewater Collected Within Service Area in 2020 (DWR Table 6-2)

	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2020 service area covered by wastewater collection system *(optional)*					
	Percentage of 2020 service area population covered by wastewater collection system *(optional)*					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected from UWMP Service Area 2020	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party? *(optional)*
City of Los Altos, City of Mountain View, Town of Los Altos Hills	Estimated	4,045	City of Palo Alto	Palo Alto Regional Water Quality Control Plant	No	
City of Sunnyvale	Estimated	248	City of Sunnyvale	Sunnyvale Water Pollution Control Plant	No	
Cupertino Sanitary District	Estimated	1,621	City of San Jose, City of Santa Clara	San Jose-Santa Clara Regional Wastewater Facility	No	
Total Wastewater Collected from Service Area in 2020:		5,914				

NOTES:
(a) Volumes are in units of AF.
(b) The volume of wastewater collected from the Los Altos Suburban District service area in 2020 is estimated by annualizing 90 percent of January water use in the District.

Table 6-3. Wastewater and Discharge Within Service Area in 2020 (DWR Table 6-3)

X	No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.											
							2020 volumes				
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	Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
						Total					
NOTES:											

6.5.3 Recycled Water System and Recycled Water Beneficial Uses

☑ ***CWC § 10633 (c-g)***

(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.

Use of recycled water reduces use of purchased water from Valley Water and groundwater pumped from Cal Water wells. This helps to increase groundwater storage and the sustainability of both supply sources. Currently, a small amount of recycled water is used in the Los Altos Suburban District. The Sunnyvale WPCP recycled water is conveyed through the Valley Water transmission facilities to the Los Altos Suburban District service area in the City of Cupertino. The recycled water transmission facilities, which started to deliver recycled water since 2019 and has a capacity of 1,095 AFY, serves the Apple Campus 2 site within the District. Cal Water has proposed other potential recycled water service connection, but no connection is actively being pursued at this time.

In 2012, Valley Water constructed and currently operates an 8.0 MGD advanced water purification plant adjacent to the San Jose-Santa Clara RWF, which provides secondary effluent as source water. The treated water from the advanced water purification plant is currently blended with tertiary treated water to improve the quality for non-potable use by a wide variety of customers. Valley Water is working with the cities of San Jose and Santa Clara on a location for a regional Advanced Water Purification Facility. The regional facility, to be located in either San Jose or Palo Alto, would produce up to 11,000 AFY of potable reuse supply by 2028 to replenish groundwater.[42]

As shown in Table 6-4 and Table 6-5, the Los Altos Suburban District currently uses a small amount of recycled water for landscaping and cooling, and plans to continue this level of recycled

[42] Valley Water, 2021.Draft 2020 Urban Water Management Plan, dated March 2021.

water usage throughout the planning period as part of its supplies. The 2020 actual recycled water use is less than the 2015 projection for 2020, as shown in Table 6-5, due to lower than anticipated recycled water use in landscaping and cooling in 2020. Landscaping was still being established and only potable water was being used. Once the landscaping becomes better established, more recycled water will be used. Approximately 75 percent of cooling water is from recycled water. The cooling load in 2020 was lower than anticipated due to a combination of cooler weather conditions and less employees due to working from home during the COVID-19 pandemic.

Table 6-4. Recycled Water Direct Beneficial Uses Within Service Area (DWR Table 6-4)

	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.									
Name of Supplier Producing (Treating) the Recycled Water:		City of Sunnyvale								
Name of Supplier Operating the Recycled Water Distribution System:		Valley Water								
Supplemental Water Added in 2020 (volume)										
Source of 2020 Supplemental Water										
Beneficial Use Type	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity)	General Description of 2020 Uses	Level of Treatment	2020	2025	2030	2035	2040	2045
Landscape irrigation (excludes golf courses)				Tertiary	64	100	100	100	100	100
				Total:	64	100	100	100	100	100
				2020 Internal Reuse	64					

NOTES:
(a) Volumes are in units of AF.
(b) Projected recycled water is based on actual use of recycled water in 2020 and rounded up to the nearest hundred.

Table 6-5. 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual (DWR Table 6-5)

	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below.	
Beneficial Use Type	**2015 Projection for 2020**	**2020 Actual Use**
Landscape irrigation (excludes golf courses)	220	64
Total	220	64
NOTES: (a) Volumes are in units of AF.		

6.5.4 Actions to Encourage and Optimize Future Recycled Water Use

Cal Water's supply portfolio in the Los Altos Suburban District and other districts already includes recycled water. Cal Water is eager to expand its portfolio to provide recycled water to its customers wherever possible, and to form partnerships with other agencies and jurisdictions to accomplish this. Any such project must be economically feasible. Approval of such an investment by the California Public Utilities Commission (CPUC) is contingent on a demonstration that it is beneficial to ratepayers.

At this time, as shown in Table 6-6, Cal Water does not have plans to expand the use of recycled water within the Los Altos Suburban District. However, Cal Water continues to actively investigate recycled water opportunities.

Table 6-6. Methods to Expand Future Recycled Water Use (DWR Table 6-6)

X	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	**Description**	**Planned Implementation Year**	**Expected Increase in Recycled Water Use**
		Total	
NOTES:			

6.6 Desalinated Water Opportunities

☑ ***CWC § 10631 (g)*** *A plan shall be adopted in accordance with this chapter and shall do all of the following:*

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

A desalination plant could theoretically be used to provide potable water to Los Altos Suburban District and several of Cal Water's districts located on the San Francisco Peninsula. The Bay Area Regional Reliability Study will consider the needs of the Los Altos Suburban District when analyzing the feasibility of desalinated water in its other service districts. However, because the supply of both groundwater and treated surface water provided by Valley Water is adequate, and because the cost is not competitive with these supplies, desalinated water is unlikely to become a supply source for the Los Altos Suburban District in the near future.

Valley Water is a partner in the Bay Area Regional Desalination Project (BARDP), which is evaluating purifying brackish water from Mallard Slough using Contra Costa Water District water rights. Partners include San Francisco Public Utilities Commission (SFPUC), Zone 7 Water Agency, and Contra Costa Water District.[43] As a retail agency of Valley Water, the District would benefit from this alternative supply. To date, the agencies have completed a number of feasibility studies on hydrologic modeling, energy use, and potential habitat impacts of BARDP. The agencies are evaluating the water rights to determine how much water can be reliably produced by a desalination facility and approaches for conveying project water to each partner agency.[44] There is no timeline yet determined for design, construction and permitting of the project.

6.7 Water Exchanges and Transfers

☑ ***CWC § 10631 (c)*** *A plan shall be adopted in accordance with this chapter and shall do all of the following:*

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

6.7.1 Exchanges

Cal Water is not pursuing water exchanges involving the Los Altos Suburban District and other entities at the time.

[43] Valley Water, 2021.Draft 2020 Urban Water Management Plan, dated March 2021.
[44] Ibid.

6.7.2 Transfers

Cal Water is not pursuing water transfers involving the Los Altos Suburban District and other entities at the time.

6.7.3 Emergency Interties

The District currently has a total of eleven emergency interties, including with San Jose Water Company (one connection), City of Santa Clara (one connection), City of Sunnyvale (six connections), and Purissima Hills Water District (three connections).

6.8 Future Water Projects

☑ ***CWC § 10631*** *A plan shall be adopted in accordance with this chapter and shall do all of the following:*

(b) (3) For any planned sources of water supply, a description of the measures that are being undertaken to acquire and develop those water supplies.

(f) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use, as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in normal and single-dry water years and for a period of drought lasting five consecutive water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.

Cal Water has an active well maintenance program to monitor all of the wells and identify which wells need to be replaced to maintain the reliability of the system. Cal Water will maintain sufficient wells and distribution facilities to meet the anticipated increases in future demand as needed.

There are currently no planned future water supply projects or programs that are expected to provide a quantifiable increase to the District's water supply, as shown in Table 6-7. In general, as aging wells are taken out of service, replacement wells will be drilled; however, the system's total capacity is not expected to increase significantly.

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

X	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format.					
	Provide page location of narrative in the UWMP					
Name of Future Projects or Programs	Joint Project with other suppliers?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier
	Y/N	*If Yes, Supplier Name*				
NOTES:						

6.9 Summary of Existing and Planned Sources of Water

☑ ***CWC § 10631 (b)*** *Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).*

☑ ***CWC § 10631 (b) (2)***

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

☑ ***CWC § 10631 (b) (4) (D)*** *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.*

Table 6-8 summarizes the actual volumes of purchased water, groundwater, and recycled water supplies for calendar year 2020, as applicable.

While the exact split between the District's future use of imported water, groundwater, and recycled water is unknown, the projected volume of purchased water from Valley Water shown in Table 6-9 is based on the average historical supply percentage of imported water as shown in Appendix E.[45] The projected volume of recycled water is based on the current level of usage and rounded to the nearest hundred, which is 100 AFY. Groundwater supply will be used to serve any remaining District demand that is not met with imported water and recycled water supplies. Therefore, the sum of imported water, groundwater, and recycled water supplies shown in Table 6-9 equal the projected demand in each year (see Section 7.1.1).

[45] Between 2000 and 2020, average supply percentage of imported water is approximately 70%.

It should be noted that the projected supply volumes shown in Table 6-9 do not represent the total water supply available to the District in a given year, but rather reflect the fact that the available supplies are sufficient to meet the demands as needed.

Table 6-8. Water Supplies – Actual (DWR Table 6-8)

Water Supply	Additional Detail on Water Supply	2020		
		Actual Volume	Water Quality	Total Right or Safe Yield *(optional)*
Purchased or Imported Water	Valley Water	10,294	Drinking Water	
Groundwater (not desalinated)	Santa Clara Subbasin	2,729	Drinking Water	
Recycled Water	Sunnyvale WPCP	64	Drinking Water	
	Total	13,087		

NOTES:
(a) Volumes are in units of AF.

Table 6-9. Water Supplies – Projected (DWR Table 6-9)

Water Supply	Additional Detail on Water Supply	Projected Water Supply									
		2025		2030		2035		2040		2045	
		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	Valley Water	9,105		9,102		9,327		9,566		9,868	
Groundwater (not desalinated)	Santa Clara Subbasin	3,902		3,901		3,997		4,100		4,229	
Recycled Water	Sunnyvale WPCP	100		100		100		100		100	
	Total	13,107		13,103		13,424		13,766		14,197	

NOTES:
(a) Volumes are in units of AF.

6.10 Special Conditions

6.10.1 Climate Change Effects

Cal Water is committed to incorporating climate change into its ongoing water supply planning. Section 4.3 of this Plan includes a description of plausible changes to projected demands under climate change conditions, and Cal Water is currently working to consider the effects of climate change in future demand modeling. The impact of climate change on District supplies is addressed in detail in the key resources described below, which are incorporated into this Plan by reference:

- Cal Water is currently in the process of developing a multi-phase climate change study. Phase 1, which primarily consisted of a literature and tools review of previous and complementary studies, was completed in December 2020.[46] Phase 2 will include District-level vulnerability assessments of Cal Water's facilities and operations, including developing an assessment approach that evaluates climate impacts to Cal Water, identifies asset vulnerabilities, and prioritizes climate risks. Phase 3 will focus on an assessment of climate-driven impacts to water supply resources and demand. Phase 2 is expected to be completed by December 2021. The executive summary of Phase 1 of this study is included in this Plan in Appendix G.

- In 2016, Cal Water completed a study of climate change impacts on a representative subset of its districts to gain a better understanding of the potential impacts of climate change on the availability of its diverse supplies.[47] The 2016 study relied on the best available projections of changes in climate (temperature and precipitation) through the end of the century to examine how surface water flows and groundwater recharge rates may change. The executive summary of this study is included in this Plan in Appendix G.

- SGMA dictates that GSPs include basin-wide water budget models under various climate change scenarios, including future conditions which account for the effects of estimated climate change. The final 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins was submitted to DWR as the Alternative GSP, and it is available on the DWR website:

  https://sgma.water.ca.gov/portal/alternative/print/18

  Valley Water is currently working on a five-year update to the Alternative GSP, which will

[46] ICF, 2020. California Water Service Climate Change – Water Resource Monitoring and Adaptation Plan – Phase 1, prepared by ICF, dated December 17, 2020.
[47] California Water Service Company, 2016. Potential Climate Change Impacts on the Water Supplies of California Water Service, prepared by Gary Fiske and Associates, Inc. and Balance Hydrologics, Inc., dated January 2016.

be submitted to DWR January 1st, 2022.

6.10.2 Regulatory Conditions and Project Development

Emerging regulatory conditions (e.g., issues surrounding the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary [Bay-Delta Plan]) may affect planned future projects and the characterization of future water supply availability and analysis. The District does not have any current plans to develop additional supply sources. If the District does move forward with any plans to develop supply projects, emerging regulatory conditions will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

Detailed information is provided below regarding Delta Reliance. The source for the information is the draft Valley Water UWMP Appendix H provided by the Valley Water.

Draft Valley Water UWMP Appendix H

Since the 1930s, Valley Water's water supply strategy has been to maximize conjunctive use of surface water and groundwater supplies to enhance water supply reliability and avoid land subsidence. Local groundwater resources make up the foundation of the county's water supply, but they need to be augmented by Valley Water's comprehensive water management activities to reliably meet the needs of county residents, businesses, agriculture, and the environment. These activities include managed recharge of imported and local supplies and in-lieu groundwater recharge through the provision of treated surface water and raw water, acquisition of supplemental water supplies, and water conservation and recycling.

Imported water diverted from the Delta is an important component of Valley Water's current water supply portfolio, accounting for approximately 40% of its annual supply. Valley Water uses water from the State Water Project (SWP), Central Valley Project (CVP), and local watersheds runoff to meet groundwater recharge and water treatment plant needs.

Valley Water, with the support of all its retailers, has made significant investments in demand management and local supplies to reduce Santa Clara County's reliance on the Delta and increase regional self-reliance. These investments include:[48]

- Conservation and Demand Management
- Recycled and Purified Water
- Stormwater Capture
- Dam Improvements/Seismic Retrofits of Local Reservoirs

[48] Detailed description of each investment is included in Appendix H of the draft Valley Water UWMP.

- Regional Collaborations to Increase Regional Self-reliance

With these past efforts and planned expansion of water recycling and long-term water conservation savings recommended in the WSMP [Water Supply Master Plan], the water supply analysis estimates that Valley Water and Santa Clara County have reduced their reliance on imported water supplies diverted from the Delta from the 2010 baseline, consistent with the Delta Plan, WR P1. Table C-2 and C-3 show changes in Valley Water's Delta supply from a baseline year of 2010 through 2045. Compared to the baseline, the percentage decrease of Delta supply in Valley Water's portfolio ranges from 5.1% in 2015 to 13.8% in 2040.

The WSMP has a time horizon of 2040, therefore no new projects are included in the 2040 to 2045 timeframe. Most data for the 2010, 2015, and 2020 time periods were developed using averages over a ten-year period. Annual demand and supply data were collected from Valley Water's Protection and Augmentation of Water Supplies (PAWS) reports that are published annually. Actual numbers from the relevant years were not used since supplies and demands are highly dependent on annual hydrology. Averaging values over a longer period allows sometimes extreme annual variation to be smoothed out to a value that is more indicative of conditions of that time. All demand and supply data for 2025, 2030, 2035, 2040, and 2045 is from water supply modeling conducted for the effort. All data for Water Use Efficiency comes from Valley Water's Water Savings Model, which tracks water conservation savings since 1993.

The interconnected nature of the groundwater basins and blended use of sources in Valley Water infrastructure like reservoirs and pipelines make it infeasible to quantify the blend of local and imported supplies at the retailer level, as such, the quantification of reduced reliance herein is also applicable to the retail water agencies in Santa Clara County.

6.10.3 Other Locally Applicable Criteria

Other locally applicable criteria may affect characterization and availability of an identified water supply (e.g., changes in regional water transfer rules may alter the availability of a water supply that had historically been readily available). The District does not have any current plans to develop additional supply sources. If the District does move forward ahead with any plans to develop supply projects, locally applicable criteria will be considered, and the associated water supply reliability impacts will be assessed in future UWMP updates.

6.11 Energy Intensity

☑ ***CWC § 10631.2***

(a) In addition to the requirements of Section 10631, an urban water management plan shall include any of the following information that the urban water supplier can readily obtain:
(1) An estimate of the amount of energy used to extract or divert water supplies.
(2) An estimate of the amount of energy used to convey water supplies to the water treatment plants or distribution systems.
(3) An estimate of the amount of energy used to treat water supplies.
(4) An estimate of the amount of energy used to distribute water supplies through its distribution systems.
(5) An estimate of the amount of energy used for treated water supplies in comparison to the amount used for nontreated water supplies.
(6) An estimate of the amount of energy used to place water into or withdraw from storage.
(7) Any other energy-related information the urban water supplier deems appropriate.
(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.
(c) The Legislature finds and declares that energy use is only one factor in water supply planning and shall not be considered independently of other factors.

The "Total Utility Approach" as defined by DWR in the UWMP Guidebook 2020 is used to report water-related energy-consumption data for the Los Altos Suburban District. Calendar year 2019 is selected as the one-year reporting period, and utility bills for the associated time period are used as the source for energy consumption data. Utility bills reported the following energy consumption data for the Los Altos Suburban during calendar year 2019:

$$Total\ Energy\ Consumed\ by\ the\ Bakersfield\ District = 3{,}058{,}578\ kilowatt\ hour\ (kWh)$$

Table 6-10 shows the energy consumed for each acre-foot (AF) of water entering the distribution system in the Los Altos Suburban, including energy associated with the pumping, treatment, conveyance, and distribution of drinking water, but not including energy associated with the treatment of wastewater. Based on this, the energy intensity is estimated to be 255 kilowatt hours per acre-foot (kWh/AF).

Table 6-10. Recommended Energy Intensity – Total Utility Approach (DWR Table O-1B)

Urban Water Supplier: *Los Altos Suburban District*

Water Delivery Product

Retail Potable Deliveries

		Urban Water Supplier Operational Control		
Enter Start Date for Reporting Period	1/1/2019			
End Date	12/31/2019			
Is upstream embedded in the values reported?		Sum of All Water Management Processes	Non-Consequential Hydropower	
Water Volume Units Used	AF	Total Utility	Hydropower	Net Utility
Volume of Water Entering Process (volume unit)		*11,982*	*0*	*11,982*
Energy Consumed (kWh)		*3,058,578*	*0*	*3,058,578*
Energy Intensity (kWh/volume)		*255.3*	*0.0*	*255.3*

Quantity of Self-Generated Renewable Energy

N/A kWh

Data Quality

Metered Data

Data Quality Narrative:

Utility bills for the associated time period are used as the source for energy consumption data.

Narrative:

Total energy consumption represents the energy consumed during pumping, treatment, conveyance, and distribution.

Chapter 7
Water Supply Reliability Assessment

☑ ***CWC § 10620 (f)***

An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

☑ ***CWC § 10630.5***

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

This chapter describes the reliability of the Los Altos Suburban District's (also referred to herein as the "District") water supplies. Assessment of water supply reliability is complex and dependent upon a number of factors, such as the number of water sources, regulatory and legal constraints, hydrological and environmental conditions, climate change, and expected growth, among others. Based on available historical information and projections of future water uses, regulatory and legal constraints, and hydrological and environmental conditions, including climate change, California Water Service Company (Cal Water) has made its best determination of future water supply reliability of for the District. This chapter includes the following sections:

7.1 Constraints on Water Sources

7.2 Reliability by Type of Year

7.3 Supply and Demand Assessment

7.4 Water Supply Management Tools and Options

7.5 Drought Risk Assessment

7.1 Constraints on Water Sources

Purchased water from the Santa Clara Valley Water District (Valley Water), groundwater, and recycled water are the supply sources for the Los Altos Suburban District. Cal Water has identified several potential constraints on future purchased water and groundwater supply availability, including water quality and climate change. These constraints, along with associated management strategies are summarized in the following sections.

7.1.1 Supply Availability

As discussed in Chapter 6, Cal Water expects that, under all hydrologic conditions, the combination of its purchased water, groundwater, and recycled water supply for the Los Altos Suburban District will fully meet future demands. This assessment is based on the available information regarding purchased water, groundwater, and recycled water supply availability to the District and the additional information presented below.

Purchased Water

Cal Water currently purchases treated surface water from the Valley Water. In addition to its local supplies, Valley Water imports surface water to the region through the South Bay Aqueduct of the State Water Project (SWP) and the San Felipe Division of the federal Central Valley Project (CVP). Detailed information is provided below regarding constraints on imported water supplies, water service reliability, and Delta Reliance. The source for the information is the draft Valley Water UWMP provided by the Valley Water.

Draft Valley Water UWMP 6.1 Imported Water

Much of Valley Water's current water supply comes from hundreds of miles away from natural runoff and releases from statewide reservoirs. This imported water is pumped out of the Delta and brought into the county through the complex infrastructure of the SWP and CVP. Valley Water holds contracts for 100,000 AFY from the SWP and for 152,500 AFY from the CVP. The actual amount of water delivered is typically less than these contractual amounts and depends on hydrology, conveyance limitations, and environmental regulations. In addition, supplemental imported water is acquired through transfers and exchanges as needed and available.

Draft Valley Water UWMP 6.1.2 Constraints on Imported Water Supplies

Imported water supplies are subject to hydrologic variability. Local and out-of-county storage can help mitigate the impacts of hydrologic variability.

Valley Water's SWP and CVP water supplies are also subject to a number of additional constraints including regulatory requirements to protect fisheries and water quality in the Delta, and conveyance limitations. Delta-conveyed supplies are also at risk from Delta levee failures due to seismic threats and flooding, sea level rise and climate change, declining populations of protected fish species, and water quality variations (including algal blooms). Many water quality variations are addressed, by blending sources and/or switching sources to the drinking water treatment plants. Algae and disinfection byproduct precursors have been especially challenging during recent drought conditions. To address at least some of these constraints, Valley Water continues to evaluate the costs and benefits of participating in the Delta Conveyance Project relative to other water supply options such as developing additional local supplies, securing and optimizing Valley Water's existing water system, and expanding water conservation.

Draft Valley Water UWMP 6.10 Summary of Existing and Projected Water Supplies

Actual availability of each supply during any given year depends on hydrology, groundwater recharge operations and conditions, and other factors. Groundwater storage shown assumes groundwater can be drawn down to the severe stage of the Water Shortage Contingency Plan. This does not represent a sustainable long-term groundwater condition, but these supplies represent water that may be needed to get through a prolonged drought. Imported water allocations are provided by DWR in their Delivery Capability Report (DCR) 2019, which does not include any projected changes to future regulations nor the hydrologic sequence for the most recent 2012-2016 drought. However, through Valley Water's Monitoring and Assessment Program (MAP), Valley Water is conservatively planning for investments by considering severe droughts, such as the 2012-2016 drought, will occur in the future. Projects included in the supply projections include transfer Bethany pipeline (2025); Anderson dam seismic retrofit and potable reuse (2030); Guadalupe, Calero, and Almaden dam seismic retrofits and Pacheco Reservoir Expansion (2035); and an additional 35,000 AF of conservation (to reach Valley Water's goal of 109,000 AF by 2040 with a 1992 baseline.

Draft Valley Water UWMP 7.2.3 Five Dry Year Supply Reliability

The greatest challenge to Valley Water's water supply reliability is multiple dry years, such as those that occurred in 1988 through 1992 and in 2012 through 2016. The five dry-year period used in this analysis is 1988 to 1992, which was an extended drought within historic record and WEAP [Water Evaluation and Planning] modeling period. The most recent 2012-2016 drought is more severe, but imported water allocations are not available from DWR DCR 2019 for the analysis. Estimated supplies and demands for the period, under different demand years, are shown in Table 7-4. The analysis indicates that with existing and planned projects' supplies, Valley Water's diverse water supplies are sufficient to meet demands throughout the full five-year drought in all demand years without having to call for short-term water use reductions.

Valley Water's basic water supply strategy to compensate for supply variability is to store excess wet year supplies in the groundwater basin, local reservoirs, San Luis Reservoir, and/or Semitropic Groundwater Bank, and draw on these reserve supplies during dry years to help meet demands. These reserves, along with existing and planned future projects in the WSMP, help Valley Water meet demands during a prolonged drought. Valley Water's Board updated its long-term water supply reliability level of service goal in January 2019. The goal is to develop supplies to meet 100% of annual water demand during non-drought years and at least 80% of annual water demand in drought years. Future projects and programs recommended in the WSMP, including additional long-term water conservation savings, water reuse, recharge capacity, storm water capture and reuse, and banking and storage, were developed in accordance with this policy to minimize the need to call for water use reductions greater than 20%. The WSMP's recommended projects exceeded Valley Water's level of service goal to be prudent given future uncertainties with demands and supplies, but also because these projects were developed with a significant higher (approximately 14%) demand projection. As part of the on-going master planning process to address future uncertainties with demands, existing supplies, and proposed projects, Valley Water now conducts annual evaluation of WSMP projects through the MAP process to determine which projects should continue to be invested in to meet the level of service goal and potentially for other benefits such as operational flexibility, supply diversification, and resiliency to future uncertainties.

In case of purchased water supply shortages, groundwater and recycled water supply will be used to serve any remaining projected demand that is not met with purchased water supplies. Given the supply reliability information provided by Valley Water, purchased water supplies (in combination with groundwater and recycled water supply discussed below) are expected to be sufficient to meet projected water demands of the District under all hydrologic conditions, including in future normal, single dry, and multiple dry years through 2045.

Groundwater

Historically, the groundwater supplies available to the Los Altos Suburban District from the underlying Santa Clara Subbasin (Basin), together with purchased water, have always been sufficient to meet District demands and the Cal Water supply wells have not dewatered, even during historical drought periods.

Due to successful conservation efforts and response to the historic drought spanning water years 2012-2015, water demand (and thus District groundwater pumping volumes) were significantly lower from 2016 through 2020 (i.e., averaging 11,859 AFY) than they had been in the previous ten years (i.e., averaging 13,383 AFY from 2006 through 2015), as shown in Appendix E.

For over 80 years, the Valley Water has managed groundwater in the county per statutory authority provided by the Santa Clara Valley Water District Act. Valley Water's comprehensive groundwater management programs and investments have resulted in sustainable groundwater conditions for many decades, and will ensure groundwater resources are sustainable far into the future. [49] Detailed information is provided below regarding groundwater management and current groundwater conditions within the Basin. The source for the information is the draft Valley Water UWMP provided by the Valley Water.

Draft Valley Water UWMP 6.2 Groundwater

Valley Water manages the Santa Clara and Llagas subbasins for the benefit of its groundwater customers and the county at large. Since the 1930s, Valley Water's water supply strategy has been to maximize conjunctive use of surface water and groundwater supplies to enhance water supply reliability and avoid land subsidence. Local groundwater resources make up the foundation of the county's water supply, but they need to be augmented by Valley Water's

[49] Valley Water, 2016. Groundwater Management Plan: Santa Clara and Llagas Subbasins, dated November 2016.

comprehensive water management activities to reliably meet the needs of county residents, businesses, agriculture, and the environment. These activities include managed recharge of imported and local supplies and in-lieu groundwater recharge through the provision of treated surface water and raw water, acquisition of supplemental water supplies, and water conservation and recycling. Valley Water does not directly deliver groundwater to customers but does have some limited emergency groundwater pumping capacity. Valley Water is the designated Groundwater Sustainability Agency (GSA) for the Santa Clara and Llagas groundwater subbasins under California's 2014 Sustainable Groundwater Management Act (SGMA) and has a DWR-approved Alternative to a Groundwater Sustainability Plan (GSP) in place for sustainably managing these subbasins.

Draft Valley Water UWMP 6.2.3 Current Conditions

Groundwater conditions throughout the county are sustainable, with managed and in-lieu recharge programs maintaining adequate storage to meet annual water supply needs and provide a buffer against drought or other shortages. Although groundwater levels declined during the recent (2012-2016) statewide drought, groundwater levels in the Santa Clara and Llagas subbasins quickly recovered after the drought due largely to Valley Water's proactive response and comprehensive water management activities. Valley Water monitors water levels and water quality at wells throughout the county. In addition, it evaluates data from local water suppliers to assess regional groundwater quality and identify potential threats so they can be appropriately addressed. Valley Water also monitors the quality of water used for groundwater recharge to ensure groundwater resources are protected.

Recycled Water

The District currently uses a small amount of recycled water from the Sunnyvale Water Pollution Control Plant (WPCP), which has a capacity of 29.5 million gallons per day (MGD). As discussed in Section 6.5.2, the Sunnyvale WPCP currently produces an average of 0.8 MGD of recycled water. The recycled water is delivered through the transmission facilities, which has a capacity of 1,095 AFY. Valley Water is working with the cities of San Jose and Santa Clara on a location for a regional Advanced Water Purification Facility, which would produce up to 11,000 AFY of potable reuse supply by 2028 to replenish groundwater. Therefore, the recycled water is projected to be a reliable source to the District.

7.1.2 Water Quality

☑ ***CWC § 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.

Impaired water quality also has the potential to affect water supply reliability. Cal Water has and will continue to meet all state and federal water quality regulations. All drinking water standards are set by the U.S. Environmental Protection Agency (USEPA) under the authorization of the Federal Safe Drinking Water Act of 1974. In California, the State Water Resources Control Board (SWRCB), Division of Drinking Water (DDW) can either adopt the USEPA standards or set more stringent standards, which are then codified in Title 22 of the California Code of Regulations. There are two general types of drinking water standards:

- **Primary Maximum Contaminant Levels (MCLs)** are health protective standards and are established using a very conservative risk-based approach for each constituent that takes into potential health effects, detectability and treatability, and costs of treatment. Public water systems may not serve water that exceeds Primary MCLs for any constituent.

- **Secondary MCLs** are based on the aesthetic qualities of the water such as taste, odor, color, and certain mineral content, and are considered limits for constituents that may affect consumer acceptance of the water.

Cal Water routinely monitors its wells and the water that is treated and served to customers to ensure that water delivered to customers meets these drinking water standards. The results of this testing are reported to the SWRCB DDW following each test and are summarized annually in Water Quality Reports (also known as "Consumer Confidence Reports"), which are provided to customers by mail and made available on Cal Water's website: https://www.calwater.com/waterquality/water-quality-reports/. Additionally, a detailed review of the water quality conditions of the underlying groundwater basin are provided in the Alternative GSP, available on the DWR Sustainable Groundwater Management Act (SGMA) Portal website: https://sgma.water.ca.gov/portal/alternative/all.

Although there is the potential for some regulated constituents to be present in source water, as documented in the Water Quality Reports, the District's monitoring, management, and treatment of its water results in high quality drinking water meeting all drinking water standards being served to customers. Cal Water tracks changes in constituent concentrations to proactively address water quality issues before they impact supply reliability.[50] In the event that water quality constituents are detected in source water at concentrations requiring treatment, the District is able to take impacted source(s) offline to implement appropriate treatment. Further, as part of the siting process for all new wells, Cal Water evaluates the presence of groundwater contamination and avoids placing wells in areas of known contamination.

[50] Cal Water, 2018. Direct Testimony of Director of Water Quality, 2018 CPUC Rate Case Filing.

Given Cal Water's proactive monitoring and management of water quality in its source water supplies, water quality is not expected to impact the reliability of the District's available supplies within the planning horizon (i.e., through 2045).

7.1.3 Climate Change

☑ ***CWC § 10631 (b) (1)***

…For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

Section 6.10 provides a summary of the assessments of the applicable climate change on supplies that Cal Water has previously performed and those planned for the near term, as well as those related to SGMA efforts for the Santa Clara Subbasin. The Alternative GSP projected water budget for the Santa Clara Subbasin incorporated climate change. Section 4.3 of this Urban Water Management Plan (UWMP or Plan) presents information on how the impacts of climate change are factored into projected demands in the District. Cal Water is actively working to further quantify and consider future climate change impacts as part of its ongoing supply and operations planning.

7.2 Reliability by Type of Year

☑ ***CWC § 10631 (b)***

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

☑ ***CWC § 10631 (b)(1)***

A detailed discussion of anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as well as more frequent and severe periods of drought, as described in the drought risk assessment. For each source of water supply, consider any information pertinent to the reliability analysis conducted pursuant to Section 10635, including changes in supply due to climate change.

☑ ***CWC § 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 long-term total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and a drought lasting five consecutive water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

Per the UWMP Guidebook 2020, the water service reliability assessment includes three unique year types:

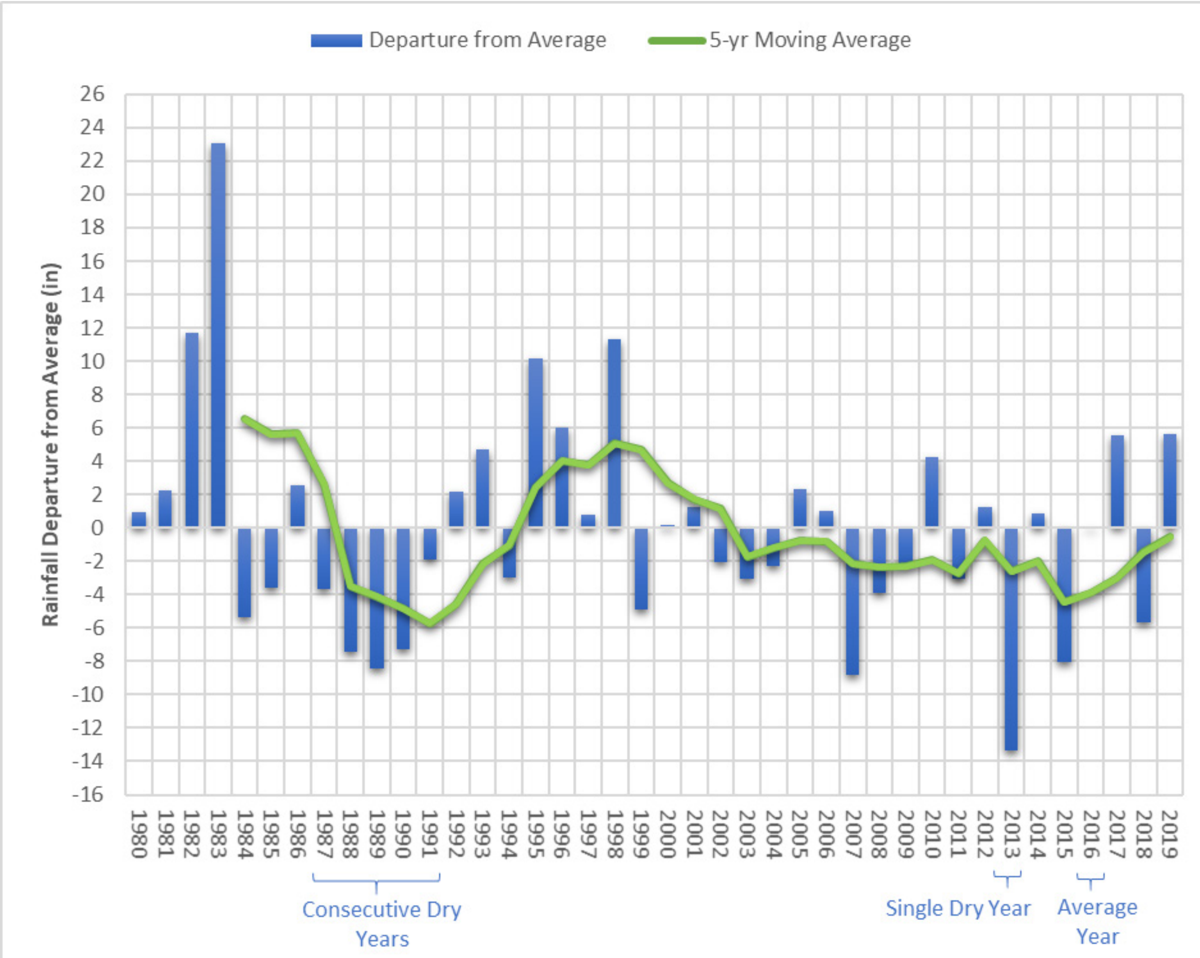
- A normal hydrologic year represents the water supplies available under normal conditions, this could be an averaged range of years or a single representative year,
- A single dry year represents the lowest available water supply, and
- A five-consecutive year drought represents the driest five-year period in the historical record.

Identification of these dry year periods consistent with the UWMP Guidebook 2020 methodology is provided below.

Figure 7-1 compares annual rainfall to the historic average (16.8 inches). The designation of Base Years for drought planning shown in Table 7-1 below comes from the data underlying this chart. The Cal Water production data record for the Los Altos Suburban District begins in the year 1980; therefore, the following year type analysis uses the historical period from 1980 to 2019.

A normal hydrologic year occurred in 2016 when precipitation was approximately 0.2 percent below the historic average for the period from 1980 to 2019. The driest year occurred in 2013 when the rainfall was approximately 79 percent below average (3.45 inches). This is taken as the single dry year shown in Table 7-1. The multiple dry water years used to represent a five-consecutive year drought are 1987 through 1991. This period represents the driest five-year period on record for the historical period from 1980 to 2019, with an average precipitation of 11.08 inches per year.

Figure 7-1. Deviation of Annual Rainfall from Long-Term Average



Source: PRISM Climate Group, Oregon State University, http://prism.oregonstate.edu

As discussed in Section 7.1.1, the District's combined use of purchased water from Valley Water, groundwater, and recycled water supplies are collectively expected to be reliable regardless of water year type. In case of any purchased water supply shortages, groundwater and recycled water supplies will be used to serve any remaining projected demand that is not met with purchased water supplies. Therefore, total supplies from purchased water, groundwater, and recycled water are expected to be sufficient to meet projected water demands of the District under all hydrologic conditions, including in normal, single dry, and multiple dry years.

As such, the projected "volume available" estimates presented in Table 7-1 are equal to the maximum demands across projected years and year types shown in Table 7-2, Table 7-3, and Table 7-4. For example, the assumed volume available in a representative single dry year in Table 7-1 is equal to the projected single dry year demand for the year 2045 as shown in Table 7-3.

It should be noted that supply volumes in Table 7-1, Table 7-2, Table 7-3, and Table 7-4 do not represent the total amount of purchased water, groundwater, and recycled water supply that may be available to the District in a given year, but rather reflect the fact that the combination of available water supply sources has always been sufficient to meet demands, and is projected to continue to be sufficient to meet demands in the future.

Table 7-1. Basis of Water Year Data (Reliability Assessment) (DWR Table 7-1)

Year Type	Base Year	Available Supplies if Year Type Repeats	
			Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location ___________________________
		X	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2016	14,197	
Single-Dry Year	2013	14,825	
Consecutive Dry Years 1st Year	1987	15,214	
Consecutive Dry Years 2nd Year	1988	15,214	
Consecutive Dry Years 3rd Year	1989	15,214	
Consecutive Dry Years 4th Year	1990	15,214	
Consecutive Dry Years 5th Year	1991	15,214	

NOTES:
(a) Volumes are in units of AF.
(b) Available volumes presented here are the maximum demands across projected years in Table 7-2, 7-3 and 7-4.

7.3 Supply and Demand Assessment

Water supply and demand patterns change during normal, single dry, and multiple dry years. Cal Water has relied on the demand modeling described in Chapter 4 to forecast demands for normal, single dry and multiple dry years. As described above, Cal Water's supply portfolio for the Los Altos Suburban District is expected to be able to serve those demands in all year types through 2045.[51]

[51] The balance between supply and demand totals excludes usage reductions that are not directly a function of Cal Water supplies, but are externally-imposed by other entities, such as the 2015 State-mandated cutbacks.

Table 7-2 shows the projected supply and demand totals for a normal year. The supply and demand totals are consistent with those in Table 6-9 and Table 4-3, respectively.

Table 7-3 shows the projected supply and demand totals for the single dry year, and Table 7-4 shows the projected supply and demand totals for multiple dry year periods extending five years. It should be noted that the supply values shown in Table 7-2 through Table 7-4 do not represent the total supply available to the District in a given year, but rather reflect the fact that the available purchased water, groundwater, and recycled water supplies are sufficient to meet the demands as needed.

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

	2025	2030	2035	2040	2045
Supply totals *From DWR Table 6-9*	13,107	13,103	13,424	13,766	14,197
Demand totals *From DWR Table 4-3*	13,107	13,103	13,424	13,766	14,197
Difference	0	0	0	0	0
NOTES: (a) Volumes are in units of AF.					

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

	2025	2030	2035	2040	2045
Supply totals	13,702	13,698	14,029	14,381	14,825
Demand totals	13,702	13,698	14,029	14,381	14,825
Difference	0	0	0	0	0
NOTES: (a) Volumes are in units of AF.					

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

		2025	2030	2035	2040	2045
First year	Supply totals	14,070	14,066	14,404	14,761	15,214
	Demand totals	14,070	14,066	14,404	14,761	15,214
	Difference	0	0	0	0	0
Second year	Supply totals	14,070	14,066	14,404	14,761	15,214
	Demand totals	14,070	14,066	14,404	14,761	15,214
	Difference	0	0	0	0	0
Third year	Supply totals	14,070	14,066	14,404	14,761	15,214
	Demand totals	14,070	14,066	14,404	14,761	15,214
	Difference	0	0	0	0	0
Fourth year	Supply totals	14,070	14,066	14,404	14,761	15,214
	Demand totals	14,070	14,066	14,404	14,761	15,214
	Difference	0	0	0	0	0
Fifth year	Supply totals	14,070	14,066	14,404	14,761	15,214
	Demand totals	14,070	14,066	14,404	14,761	15,214
	Difference	0	0	0	0	0
NOTES: (c) Volumes are in units of AF.						

7.4 Water Supply Management Tools and Options

☑ ***CWC § 10620 (f)***

An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

Cal Water coordinates on an ongoing basis with all relevant agencies in the region to optimize the use of regional water supplies. This includes City of Los Altos, Valley Water, and other public and private entities with which Cal Water can collaborate to protect and enhance local groundwater and surface water resources.

Cal Water is currently in the process of developing multiple regional water supply reliability studies using integrated resource planning practices to create a long-term supply reliability strategy through 2050 for Cal Water districts throughout California. The studies will create long-term strategies to address a wide range of water supply challenges including climate change, new regulatory requirements (e.g., SGMA), and potential growth in demands due to new development. These water supply reliability studies will be completed on a rolling basis over the next several years, with all studies anticipated to be complete by 2024. The Los Altos Suburban District will be included in the Bay Area Water Reliability Study.

Cal Water also has its own aggressive and comprehensive water conservation program that has and will continue to reduce per-capita usage and therefore demands on critical water sources. Cal Water is committed to helping its customers use water efficiently and has developed a range of water conservation programs to support this goal. To ensure that it is providing the right mix of programs in the most cost-effective manner possible, Cal Water routinely conducts comprehensive conservation program analysis and planning. This is done on a five-year cycle in tandem with the UWMP. Cal Water's Conservation Master Plan provides the basis for the information on the implementation of and expected water savings from Demand Management Measures (DMMs) presented in Chapter 9.

Cal Water also monitors and supports the goals of the Bay Area Integrated Regional Water Management Plan (IRWMP).

7.5 Drought Risk Assessment

☑ ***CWC § 10635(b)***

Every urban water supplier shall include, as part of its urban water management plan, a drought risk assessment for its water service to its customers as part of information considered in developing the demand management measures and water supply projects and programs to be included in the urban water management plan. The urban water supplier may conduct an interim update or updates to this drought risk assessment within the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following:

(1) A description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts five consecutive water years, starting from the year following when the assessment is conducted.

(2) A determination of the reliability of each source of supply under a variety of water shortage conditions. This may include a determination that a particular source of water supply is fully reliable under most, if not all, conditions.

(3) A comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.

(4) Considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.

7.5.1 Data, Methods, and Basis for Water Shortage Condition

This drought risk assessment considers the effects on available water supply sources of a five-year drought commencing the year after the assessment is completed, i.e., from 2021 through 2025. In the Los Altos Suburban District, the supply source is a combination of purchased water, groundwater, and recycled water. As such, the same data, methodology, and basis for the conclusions of the above water supply sufficiency analysis for multiple dry year periods through 2045 holds true for purposes of this drought risk assessment (i.e., supply availability through

2025). Accordingly, as shown in Table 7-5 of the Plan, the purchased water, groundwater, and recycled water supply is expected to be able to meet the projected demands through 2025, even if there is a five-year drought.

7.5.2 DRA Water Source Reliability

Based on discussion in Section 7.1.1, the Los Altos Suburban District purchased water, groundwater, and recycled water supplies are expected to be sufficient to meet demands in all hydrologic conditions, including an extended five-year drought period.

As described in Sections 4.3 and 6.10.1 of this Plan, the impacts on climate change have already been factored into the District's demand projections and the analysis of the near- and longer-term reliability of the supply sources available to the District.

Regulatory conditions that could affect future water supply availability and project development (e.g., related to the Water Quality Control Plan for the San Francisco/Sacramento-San Joaquin Delta Estuary [Bay-Delta Plan]) are discussed in Section 6.10.3 of the Plan. However, the District does not currently have plans for projects to develop additional supply sources, and so these regulatory conditions will be assessed in future UWMP updates if or when the District moves forward with any plans to develop supply projects.

Implementation of SGMA in the Santa Clara Subbasin is a locally applicable consideration for the Los Altos Suburban District. As discussed in Section 6.2.2 of this Plan, the long-term impacts of SGMA implementation in the Basin are still uncertain. However, it is the intent of the projects and management actions planned by Valley Water within the Basin to provide for on-going sustainable management of the groundwater resource.

Table 7-5 provides a comparison of the water supply sources available to the District with the total projected water use for an assumed drought period of 2021 through 2025. This includes current climate change conditions.

In general, the District has sufficient supplies to meet demands in all year types. However, Cal Water has developed a Water Shortage Contingency Plan (WSCP, Appendix H) to address potential water shortage conditions resulting from any cause (e.g., droughts, impacted distribution system infrastructure, regulatory-imposed shortage restrictions, etc.). The WSCP included as Appendix H identifies a variety of actions that Cal Water will implement to reduce demands and further ensure supply reliability at various levels of water shortage.

Table 7-5. Five-Year Drought Risk Assessment Tables (DWR Table 7-5)

2021	Total
Total Water Use	13,953
Total Supplies	13,953
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	

2022	Total
Total Water Use	13,981
Total Supplies	13,981
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	

2023	Total
Total Water Use	14,014
Total Supplies	14,014
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	

Table 7-5. Five-Year Drought Risk Assessment Tables (DWR Table 7-5)

2024	Total
Total Water Use	14,057
Total Supplies	14,057
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	

2025	Total
Total Water Use	14,070
Total Supplies	14,070
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	

NOTES:
(a) Volumes are in units of AF.
(b) Because the District has sufficient supplies to meet demands shown in the table here, it is not anticipated that WSCP actions will be required.

Chapter 8
Water Shortage Contingency Planning

☑ ***CWC § 10640***

(a) 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.

(b) Every urban water supplier required to prepare a water shortage contingency plan shall prepare a water shortage contingency plan pursuant to Section 10632. The supplier shall likewise periodically review the water shortage contingency plan as required by paragraph (10) of subdivision (a) of Section 10632 and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

The Water Shortage Contingency Plan (WSCP) for the Los Altos Suburban District (also referred to herein as “District”) is included in this Urban Water Management Plan (UWMP) as Appendix H. The WSCP serves as a standalone document to be engaged in the case of a water shortage event, such as a drought or supply interruption, and defines specific policies and actions that will be implemented at various shortage level scenarios. The primary objective of the WSCP is to ensure that the District has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions. Consistent with CWC §10632, the WSCP includes six levels to address shortage conditions ranging from up to 10 percent to greater than 50 percent shortage, identifies a suite of demand mitigation measures for the District to implement at each level, and identifies procedures for the District to annually assess whether or not a water shortage is likely to occur in the coming year, among other things.

A summary of the key elements of the WSCP including water shortage levels and demand-reduction actions is shown in Table 8-1, Table 8-2, and Table 8-3. Additional details are provided in Appendix H.

Table 8-1. Water Shortage Contingency Plan Levels (DWR Table 8-1)

Shortage Level	Percent Shortage Range	Shortage Response Actions
1	Up to 10%	Demand reduction (See Table 8-2)
2	Up to 20%	Demand reduction (See Table 8-2)
3	Up to 30%	Demand reduction (See Table 8-2)
4	Up to 40%	Demand reduction (See Table 8-2)
5	Up to 50%	Demand reduction (See Table 8-2)
6	>50%	Demand reduction (See Table 8-2)
NOTES:		

Table 8-2. Demand Reduction Actions (DWR Table 8-2)

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement?
1	Other	8%	1. Limit landscape irrigation to specific times 2. Customers must repair leaks, breaks, and malfunctions in a timely manner 3. Restrict or prohibit runoff from landscape irrigation 4. Prohibit application of potable water to outdoor landscapes within 48 hours of measurable rainfall 5. Prohibit use of potable water for washing hard surfaces 6. Lodging establishments must offer opt out of linen service	Yes
1	Other	--	1. Expand Public Information/Media Campaign 2. Water Bill Inserts 3. Promote online water waste reporting 4. Expand Rebates or Giveaways of Plumbing Fixtures and Devices 5. Expand Rebates for Landscape Irrigation Efficiency 6. Expand CII Water Use Surveys 7. Expand Res Water Use Surveys	No

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement?
2	Other	14%	1. Continue with Stage 1 restrictions and prohibitions except where superseded by more stringent actions. 2. Prohibit the use of non-recirculating systems in all new conveyer car wash and commercial laundry systems 3. Prohibit the use of single pass cooling systems in new connections 4. Restaurants may only serve water upon request 5. No watering of landscape of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development 6. Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Yes
2	Other	--	1. Continue with Stage 1 actions except where superseded by more stringent actions. 2. Water Efficiency Workshops, Public Events	No

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement?
			3. Offer Water Use Surveys 4. Provide Rebates or Giveaways of Plumbing Fixtures and Devices 5. Provide Rebates for Landscape Irrigation Efficiency	
3	Other	27%	1. Continue with Stage 1 restrictions and prohibitions except where superseded by more stringent actions. 2. Landscape - Limit landscape irrigation to 1-3 days/week 3. Landscape - Prohibit irrigation of ornamental turf on public street medians with potable water 4. Prohibit Filling Ornamental Lakes or Ponds	Yes
3	Other	--	1. Continue with Stage 1 actions except where superseded by more stringent actions. 2. Home or Mobile Water Use Reports 3. Decrease Frequency and Length of Line Flushing 4. Reduce System Water Loss 5. Increase Water Waste Patrols/Enforcement 6. Implement Drought Rate Structure and Customer Water Budgets (Res)	No

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement?
			7. Implement Drought Rate Structure and Customer Water Budgets (CII)	
4	Other	34%	1. Continue with Stage 1 restrictions and prohibitions except where superseded by more stringent actions. 2. Prohibit use of potable water for construction and dust control 3. Prohibit use of potable water for street washing 4. Prohibit vehicle washing except with recycled water	Yes
4	Other	--	1. Continue with Stage 1 actions except where superseded by more stringent actions. 2. Promote / Expand Use of Recycled Water	No
5	Other	46%	1. Continue with Stage 1 restrictions and prohibitions except where superseded by more stringent actions. 2. Require net zero demand Increase on new water service connections 3. Prohibit filling of pools 4. Prohibit single-pass cooling systems	Yes

Shortage Level	Demand Reduction Actions	How much is this going to reduce the shortage gap?	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement?
5	Other	--	1. Continue with Stage 1 actions except where superseded by more stringent actions. 2. Require Pool Covers	No
6	Other	54%	1. Continue with Stage 1 restrictions and prohibitions except where superseded by more stringent actions. 2. Moratorium on new water service connections 3. Prohibit all landscape irrigation	Yes
NOTES:				

Table 8-3. Supply Augmentation and Other Actions (DWR Table 8-3)

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap?	Additional Explanation or Reference *(optional)*
NOTES:			

Chapter 9
Demand Management Measures

☑ ***CWC § 10631 (e)***

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.

This chapter provides a summary of past and planned demand management measure (DMM) implementation in the Los Altos Suburban District (also referred to herein as the "District"), as well as an overview of the expected water savings.

This chapter contains the following sections:

9.1 Demand Management Measures for Wholesale Agencies

9.2 Demand Management Measures for Retail Suppliers

9.3 Implementation over the Past Five Years

9.4 Implementation to Achieve Water Use Targets

9.5 Water Use Objectives

9.1 Demand Management Measures for Wholesale Agencies

Because the District is a retail water supplier, this section does not apply.

9.2 Demand Management Measures for Retail Suppliers

California Water Service Company (Cal Water) centrally administers its conservation programs for all the districts it operates. For purposes of this section, these programs have been grouped in accordance with the DMM categories in California Water Code [CWC] §10631(e). These categories are:

(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, and
(vii) Other demand management measures

Following are descriptions of the conservation programs Cal Water operates within each of these DMM categories. The District's Conservation Master Plan, provided in Appendix I, contains additional information on Cal Water's conservation programs.

9.2.1 Water Waste Prevention Ordinances

Cal Water's enforcement of water waste prevention and water use restrictions is authorized and overseen by the California Public Utilities Commission via Rule 14.1 or Schedule 14.1. Local government in districts operated by Cal Water may also adopt ordinances regulating water use. Cal Water coordinates its efforts to prevent water waste with the appropriate local governmental entities.

Rule 14.1 defines the District's Water Shortage Contingency Plan (WSCP, Appendix H), including its prohibitions on water waste and restrictions on water use. Prohibitions include:

- Use of potable water through a broken or defective plumbing fixture or irrigation system when Cal Water has notified the customer in writing to repair the broken or defective plumbing fixture or irrigation system, and the customer has failed to effect such repairs within seven (7) business days of receipt of such notice.
- The application of potable water to landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures.

- The use of a hose that dispenses potable water to wash vehicles, including cars, trucks, buses, boats, aircraft, and trailers, whether motorized or not, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.

Restrictions on water use during shortages include, but are not necessarily limited to:

- Outdoor irrigation restrictions in terms of time of day and weekly frequency.
- Obligations to fix leaks, breaks, or malfunctions within five (5) business days of written notification by Cal Water.
- Application of potable water to driveways and sidewalks.
- The use of potable water in a water feature, except where the water is part of a recirculating system.
- The application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall.
- The serving of drinking water other than upon request in eating or drinking establishments.
- Irrigation of ornamental landscape on public street medians.
- Irrigation outside of newly constructed homes and buildings with potable water in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.
- Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guest room using clear and easily understood language.
- Limits on filling ornamental lakes or ponds.
- Use of potable water for street cleaning with trucks, except for initial wash-down for construction purposes.
- Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used.

9.2.2 Metering

☑ ***CWC § 526 (a)***

Notwithstanding any other provision of law, an urban water supplier that, on or after January 1, 2004, receives water from the federal Central Valley Project under a water service contract or subcontract … shall do both of the following:

(1) On or before January 1, 2013, install water meters on all service connections to residential and nonagricultural commercial buildings constructed prior to January 1, 1992, located within its service area.

(2) On and after March 1, 2013, or according to the terms of the Central Valley Project water contract in operation, charge customers for water based on the actual volume of deliveries, as measured by a water meter.

☑ ***CWC § 527 (a)***

(a) An urban water supplier that is not subject to Section 526 shall do both of the following:

(1) Install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.

The District meters all service connections and bills customers for water use monthly. Cal Water may install advanced metering infrastructure (AMI) in the future to improve metering accuracy and supply prompt feedback to customers about water use and leaks. Cal Water is currently piloting (AMI) in several districts.

9.2.3 Conservation Pricing

The CPUC reviews and authorizes District water rates in a General Rate Case every three years. Currently, the District uses a three-tier increasing block rate design for residential water use and a single-tier uniform rate design for non-residential use. The District provides rate assistance to lower income households through its Customer Assistance Program (CAP).

9.2.4 Public Education and Outreach

The District's public outreach program is divided into four components, as follows:

Residential Customer Assistance – This category provides tailored assistance to residential customers through home water surveys and monthly water use reports. It provides assistance to residential customers wanting to reduce their indoor and outdoor water uses. While available to all residential customers, marketing of home water surveys is generally focused on high use residential customers.

Non-Residential Customer Assistance – This category provides tailored assistance to commercial customers through commercial water surveys, monthly landscape reports to large landscape customers, and large landscape water use surveys. It provides assistance to commercial customers wanting to reduce their use of water for sanitation, hygiene, process, and landscape purposes.

Public Information and School Education – Cal Water's public information program provides general information on the need for and value and methods of water conservation through multiple media outlets, including its website, direct mail, and external print media. Cal Water's school education program includes the Cal Water H2O Challenge (a project-based learning competition for grades 4-6), Cal Water Town (an interactive online learning tool), and general information and learning materials for students and teachers.

Rebate Program Information and Marketing – Through its website, bill inserts, newsletters, and print media, Cal Water advertises and markets a variety of conservation rebate programs, including rebate programs for high-efficiency toilets, urinals, and clothes washers, and irrigation equipment and landscape efficiency improvements.

9.2.5 Programs to Assess and Manage Distribution System Real Loss

Cal Water took part in the California Water Loss Technical Assistance Program (TAP) in 2016 and 2017. Cal Water conducts regular distribution system audits using the American Water Works Association (AWWA) Free Water Audit Software. Cal Water is developing a Water Loss Control Optimization Plan and Water Loss Control Policy to guide future water loss management and has solicited technical support with respect to:

- Satisfying current and future CPUC and state water loss standards and regulations
- Improving audit data and validity scores
- Implementing cost-effective water loss control actions

Recently, Cal Water has created a Water Loss Program Analyst position to coordinate and oversee these activities.

9.2.6 Water Conservation Program Coordination and Staffing Support

The CPUC reviews and authorizes Cal Water conservation program and staffing level in a general rate case every three years. Currently, Cal Water has nine full-time conservation positions, as follows:

- Director of Water Resource Sustainability,
- Conservation Program Manager,
- Research, Analytics and Reporting Manager,
- Water Resource Sustainability Analyst,
- Water Loss Program Analyst,

- Three Conservation Program Coordinators, and
- Conservation Assistant.

These staff manage all aspects of Cal Water's conservation programs that are run in 25 districts serving a combined population of 2.5 million people.

9.2.7 Other Demand Management Measures

In addition to the DMM programs described above, Cal Water operates rebate, give-away, and direct installation programs aimed at plumbing fixture replacement and irrigation equipment and landscape efficiency improvements. Following are brief descriptions of each of these DMMs.

MaP Premium and Non-Premium Toilet Replacement – This program replaces old toilets with MaP certified high-efficiency toilets. Financial rebates, direct installation, and direct distribution are used to deliver toilets to customers. For residential customers, MaP premium certified toilets, which have greater water savings potential, are eligible for a rebate up to $50. For commercial customers, a rebate up to $100 is available for valve-type toilets flushing 1.28 gallons or less and EPA WaterSense labeled tank-type toilets. Cal Water centrally administers the program. This program is available to all residential and non-residential customers. Cal Water markets the program through direct mail, print media, bill stuffers, and its website. Where advantageous, Cal Water partners with local or regional agencies and community organizations to offer the program.

Urinal Valve and Bowl Replacement – This program replaces old urinals with high-efficiency urinals meeting the 0.125 gallon per flush water use standard adopted by the California Energy Commission in April 2015. Rebates up to $150 are available to customers. The program targets offices and public buildings receiving significant foot traffic. Cal Water centrally administers the program. While this program is available to all non-residential customers, marketing focuses on prime targets, such as restaurants and high-density office buildings. Cal Water markets the program through direct mail, print media, bill stuffers, and its website.

Clothes Washer Replacement – This program provides customer rebates up to $150 for residential high-efficiency clothes washers. The program targets single-family households, multi-family units, and multi-family common laundry areas. Cal Water centrally administers the program, and markets the program through direct mail, print media, bill stuffers, and its website. This program is available to all residential customers. Where advantageous, Cal Water partners with local or regional agencies to offer the program.

Residential Conservation Kit Distribution – This program offers Cal Water residential customers conservation kits featuring a range of water-saving plumbing retrofit fixtures. Kits are available at no charge to customers, who can request them via Cal Water's website, via mail, or by contacting or visiting their district offices. Each kit includes the following items: high-efficiency showerheads, kitchen faucet aerator, bathroom faucet aerators, full-stop hose nozzle, and toilet leak detection tablets. Cal Water centrally administers this program as part of a company-wide program operated in each of its districts. This program is available to all residential customers. Cal Water markets the program through direct mail, print media, bill stuffers, and through its website.

Smart Controllers Rebates/Vouchers – This program targets residential and non-residential customers with high landscape water use. The program offers financial incentives up to $125 for residential controllers and up to $25 per station for commercial-grade controllers to either the customer or contractor for proper installation of the Smart Controller at customer sites. The landscape contractor has the direct relationship with customers and is typically the entity customers listen to when making landscape and irrigation decisions. The program educates contractors about the customer benefits of Smart Controllers along with proper installation of the devices. This program is offered to all residential and non-residential customers. Cal Water markets the program through direct mail, print media, bill stuffers, and its website.

High Efficiency Irrigation Nozzle Web Vouchers/Rebates – Water efficient sprinkler nozzles (popup and rotating) and integrated pressure-regulated spray bodies use significantly less water than a standard sprinkler head by distributing water more slowly and uniformly to the landscape. In addition to reducing water use, water directed from these nozzles reduces run-off onto streets and sidewalks with a more directed flow. Customers are able to obtain the nozzles and spray bodies either directly through Cal Water or via a web-voucher program. Restrictions on the number of nozzles individual customers may receive vary by customer class and/or landscape size. Cal Water centrally administers this program as part of a company-wide program operated in most of its districts.

Turf Buy-Back – This program offers customers a $1 per square foot rebate to replace turf with qualified drought-tolerant landscaping. Customer applications are screened to ensure program requirements are met, including before and after photos of the retrofitted landscape area. Turf replacement rebates were offered in a subset of Cal Water districts starting in 2014 and offered across all districts starting in 2015 as a drought response measure. Implementation of this DMM was authorized by the California Public Utilities Commission to resume in 2021.

Table 9-1 summarizes the DMMs available to Los Altos Suburban District customers at the time this Plan was prepared.

Table 9-1. Cal Water DMMs Available to District Customers

DMM Measures (Rebate, Direct Install, and Free Distribution Programs)	Use Type Eligibility		
	Single-Family Residential	Multi-Family Residential	Commercial
Indoor Programs			
MaP Premium Toilet	✓	✓	✓
Urinal Bowl & Valve (< 0.125 gal)			✓
Clothes Washer (In Unit)	✓	✓	
Conservation Kits (showerheads, aerators)	✓		✓
Outdoor Programs			
Smart Irrigation Controller	✓	✓	✓
High Efficiency Irrigation Popup Nozzle	✓	✓	✓
High Efficiency Irrigation Rotating Nozzle	✓	✓	✓
High Efficiency Irrigation Spray Body		✓	✓
Turf Buy-Back	✓	✓	✓
Residential Assistance Programs			
Residential Water Survey	✓	✓	
Non-Residential Assistance Programs			
Commercial Water Use Surveys			✓
Monthly Water Use Report			✓
Large Landscape Water Use Survey			✓

9.3 Implementation over the Past Five Years

Implementation of customer DMMs over the past five years is summarized in Table 9-2. The estimated annual and cumulative water savings shown in the table do not include water savings associated with water waste prevention ordinances, conservation pricing, general public information, or distribution system water loss management DMMs. Estimated water savings were calculated with the Alliance for Water Efficiency's Water Conservation Tracking Model.

Table 9-2. Implementation of Customer DMMs: 2016-2020

Indoor Programs	2016 – 2020 Total	Average Annual
Toilets & Urinals (number distributed)	2,183	437
Clothes Washers (number distributed)	448	90
Conservation Kits (number distributed)	183	37
Outdoor Programs		
Smart Controllers (number distributed)	392	78
Nozzles & Spray Bodies (number distributed)	304	61
Turf Buy-Back (sq ft removed)	5,727	1,145
Residential Assistance Programs		
Surveys/Audits (homes receiving)	66	13
Non-Residential Assistance Programs		
Surveys/Audits (sites receiving)	7	1
Large Landscape Reports (sites receiving)	100	20
Estimated Water Savings (AF)	485	97
NOTES: Estimated water savings for 2016-2020. DMMs will continue to generate savings after 2020 for their useful life.		

9.4 Implementation to Achieve Water Use Targets

All the DMMs described above contributed to the District's compliance with its SB X7-7 2020 target GPCD.

9.5 Water Use Objectives (Future Requirements)

CWC §10609 requires that urban retail water suppliers develop new water use objectives that are based on specific standards for certain water use sectors. These water use objectives will not be developed until 2023. Suppliers are encouraged in this UWMP cycle to consider how they will align their conservation management actions in order to meet these future obligations.

As noted above, Cal Water's conservation programs are subject to review and approval by the CPUC through a General Rate Case every three years. In making conservation program recommendations to the CPUC, Cal Water carefully considers how they will advance multiple objectives, including compliance with the pending water use objectives. Specific objectives identified in Cal Water's most recent General Rate Case included:

- Maintaining continuity with and furthering implementation of conservation programs authorized by the previous General Rate Case.
- Preserving gains in water conservation achieved during the 2013-2017 drought.
- Ensuring Cal Water districts are well-positioned to comply with state regulations and policies pertaining to water conservation, water loss management, and groundwater management, including Executive Order B-37-16, SB 555, and the Sustainable Groundwater Management Act (SGMA).
- Advancing cost-effective water use efficiency alternatives in districts with high water supply costs.

Cal Water developed a scoring methodology to adjust conservation programs and budgets to further these objectives. The methodology specifically considers five distinct conservation policy drivers:

1. State Conservation Standards and Water Use Objectives
2. SGMA Compliance
3. SB 555 Water Loss Management Requirements
4. Commercial, Institutional, and Industrial (CII) Water Management
5. Avoided Water Cost and Affordability

The methodology assigns greater weight to the State Conservation Standards and Water Use Objectives and SGMA Compliance policy drivers, reflecting their importance in terms of overall water resources management.

Scoring for the SGMA Compliance policy driver is based on groundwater basin priority, district dependence on groundwater supply, and basin adjudication status. The highest scores are assigned to districts in unadjudicated and critically overdrafted or high priority basins where groundwater comprises more than 45 percent of the water supply. The Los Altos Suburban District ranked in the bottom third of Cal Water's districts for this policy driver.

Scoring for the State Conservation Standards and Water Use Objectives policy driver is based on four metrics that are used to gauge which districts are most likely to require adjustments to their conservation program mix or level of implementation to comply with the new standards. These metrics are:

1. Residential per capita landscape area
2. Residential per capita turf area
3. Size and number of large residential landscapes
4. Difference between a simulated water use budget and average water use for 2011-15

The Los Altos Suburban District ranked in the top third of Cal Water's districts for this policy driver.

Scoring for the SB 555 Water Loss Management Requirements policy driver is based on the district's infrastructure leakage index (ILI) from its most recent validated water loss audit. The ILI is a performance indicator of real (physical) water loss from the water distribution system. A high ILI indicates possible distribution system inefficiencies and may also indicate significant water system leakage. Proposed adjustments to funding for water loss management are based on the ILI scoring criteria. The Los Altos Suburban District ranked in the middle third of Cal Water's districts for this policy driver.

Scoring for the CII Water Management policy driver is based on the ratio of CII water uses to total water uses in a district. The Los Altos Suburban ranked in the middle third of Cal Water's districts for this policy driver.

Scoring for the Avoided Water Cost and Affordability policy driver is based on the District's avoided cost of water supply, as estimated by the California Urban Water Conservation Council (CUWCC)/Water Research Foundation Avoided Cost Model. The Los Altos Suburban District ranked in the top third of Cal Water's districts for this policy driver.

The combination of scores on each policy driver were used by Cal Water to recommend to the CPUC in its most recent General Rate Case adjustments to the conservation budgets of its districts. The purpose of the adjustments is to increase Cal Water's capacity to deploy conservation programs in districts expected to face the most significant regulatory and water management challenges in coming years. Recommended adjustments ranged from a low of 5 percent to a high of 25 percent. The recommended adjustment for the Los Altos Suburban District was 20 percent.

Chapter 10
Plan Adoption, Submittal, and Implementation

☑ ***CWC § 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.

This chapter provides information on a public hearing, the adoption process for the Urban Water Management Plan (UWMP) and Water Shortage Contingency Plan (WSCP), the adopted UWMP and WSCP submittal process, plan implementation, and the process for amending the adopted UWMP or WSCP. This chapter includes the following sections:

10.1 Inclusion of All 2020 Data

10.2 Notice of Public Hearing

10.3 Public Hearing and Adoption

10.4 Plan Submittal

10.5 Public Availability

10.6 Notification of Public Utilities Commission

10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

10.1 Inclusion of All 2020 Data

This UWMP includes the water use and planning data for the entire calendar year of 2020, per the UWMP Guidebook 2020.

10.2 Notice of Public Hearing

☑ ***CWC § 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 both the plan and the water shortage contingency plan. Prior to adopting either, the urban water supplier shall make both the plan and the water shortage contingency plan available for public inspection and shall hold a public hearing or hearings thereon. Prior to any of these hearings, notice of the time and place of the hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing or hearings, the plan or water shortage contingency plan shall be adopted as prepared or as modified after the hearing or hearings.

Prior to adopting the Plan, California Water Service Company (Cal Water) held a virtual public hearing to present information on its Los Altos Suburban District (also referred to herein as the "District") 2020 UWMP and WSCP on June 9, 2021, 7:00 PM.[52]

Relevant entities were notified of the UWMP and WSCP review at least 60 days prior to the public hearing, including: (1) cities, counties, and Groundwater Sustainability Agency (GSA), and (2) the public. These same entities were noticed again with the specific date, time and location of the hearing at least two weeks prior to the public hearing. The notice to the public, as specified in Government Code 6066, and letters to relevant agencies can be found in Appendix B and Appendix C, respectively.

10.2.1 Notice to Cities and Counties

☑ ***CWC § 10631 (a)*** *A plan shall be adopted in accordance with this chapter that shall do all of the following:*

Urban water suppliers shall coordinate with local or regional land use authorities to determine the most appropriate land use information, including, where appropriate, land use information obtained from local or regional land use authorities, as developed pursuant to Article 5 (commencing with Section 65300) of Chapter 3 of Division 1 of Title 7 of the Government Code.

Table 10-1 lists the cities and counties that were notified. Copies of these letters are provided in Appendix B.

[52] Restrictions related to the COVID-19 pandemic prevented the District from holding an in-person public hearing as previously planned.

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

City Name	60 Day Notice	Notice of Public Hearing
City of Los Altos		
City of Mountain View		
City of Cupertino		
City of Sunnyvale		
Town of Los Altos Hills		
County Name	**60 Day Notice**	**Notice of Public Hearing**
Santa Clara County		
Other Agency Name	**60 Day Notice**	**Notice of Public Hearing**
Regional Water Quality Control Plant		
Valley Water District		
Sustainable Silicon Valley		
NOTES:		

10.2.2 Notice to the Public

Notification to the public and to cities and counties also provided instructions on how to view the 2020 UWMP and WSCP prior to the hearing, the revision schedule, and contact information of the UWMP and WSCP preparer. A copy of this notice is included in Appendix C.

10.3 Public Hearing and Adoption

☑ ***CWC § 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.

☑ ***CWC § 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.

The deadline for public comments on the UWMP and WSCP was June 9, 2021, the date of the public hearing. The final Plan was formally adopted by Cal Water's Vice President of Engineering MONTH DD, 2021, and was submitted to California Department of Water Resources (DWR) within 30 days of approval. Appendix J presents a copy of the signed Resolution of Plan Adoption. Appendix B contains the following:

- Letters sent to and received from various agencies regarding this plan, and
- Correspondence between Cal Water and participating agencies.

10.4 Plan Submittal

☑ ***CWC § 10621 (f)***

(1) Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.

☑ ***CWC § 10635 (c)***

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.

☑ ***CWC § 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.

This 2020 UWMP and WSCP were submitted to DWR within 30 days of adoption and by the July 1, 2021 deadline. The submittal was done electronically through Water Use Efficiency Data Portal, an online submittal tool. The adopted UWMP and WSCP were also sent to the California State Library and to the cities and counties listed in Table 10-1 no later than 30 days after adoption.

10.5 Public Availability

☑ ***CWC § 10645***

(a) 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.

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

On or about May 24, 2021, an electronic version of the draft 2020 UWMP and WSCP were made available for review by visiting Cal Water's website: https://www.calwater.com/conservation/uwmp.[53]

[53] Restrictions related to the COVID-19 pandemic prevented the District from making a printed hard-copy available for public review as previously planned.

10.6 Notification of Public Utilities Commission

☑ ***CWC § 10621 (c)***

An urban water supplier regulated by the Public Utilities Commission shall include its most recent plan and water shortage contingency plan as part of the supplier's general rate case filings.

Cal Water is an urban water supplier regulated by the California Public Utilities Commission. Cal Water included the District's 2020 UWMP and WSCP as part of its general rate case filings.

10.7 Amending an Adopted UWMP or Water Shortage Contingency Plan

☑ ***CWC § 10644 (b)***

If an urban water supplier revises its water shortage contingency plan, the supplier shall submit to the department a copy of its water shortage contingency plan prepared pursuant to subdivision (a) of Section 10632 no later than 30 days after adoption, in accordance with protocols for submission and using electronic reporting tools developed by the department.

If the 2020 UWMP or WSCP is amended, each of the steps for notification, public hearing, adoption and submittal will also be followed for the amended document.

Appendix A: UWMP Act Checklist

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Chapter 1	10615	A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities.	Introduction and Overview	Chapter 1
x	x	Chapter 1	10630.5	Each plan shall include a simple description of the supplier's plan including water availability, future requirements, a strategy for meeting needs, and other pertinent information. Additionally, a supplier may also choose to include a simple description at the beginning of each chapter.	Summary	Section 1.6
x	x	Section 2.2	10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.4 and Table 2-1
x	x	Section 2.6	10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5 and Table 2-4
x	x	Section 2.6.2	10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan and contingency plan.	Plan Preparation	Section 2.5
x		Section 2.6, Section 6.1	10631(h)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) - if any - with water use projections from that source.	System Supplies	Section 2.5.1
	x	Section 2.6	10631(h)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	N/A
x	x	Section 3.1	10631(a)	Describe the water supplier service area.	System Description	Chapter 3
x	x	Section 3.3	10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3
x	x	Section 3.4	10631(a)	Provide population projections for 2025, 2030, 2035, 2040 and optionally 2045.	System Description	Section 3.4 and Table 3-1

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 3.4.2	10631(a)	Describe other social, economic, and demographic factors affecting the supplier's water management planning.	System Description	Section 3.4 and Table 3-2
x	x	Sections 3.4 and 5.4	10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Setion 3.4 and Table 3-2
x	x	Section 3.5	10631(a)	Describe the land uses within the service area.	System Description	Section 3.5
x	x	Section 4.2	10631(d)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2 and Tables 4-1 to 4-3
x	x	Section 4.2.4	10631(d)(3)(C)	Retail suppliers shall provide data to show the distribution loss standards were met.	System Water Use	Section 4.2.3
x	x	Section 4.2.6	10631(d)(4)(A)	In projected water use, include estimates of water savings from adopted codes, plans, and other policies or laws.	System Water Use	Section 4.2.4 and Tables 4-5 and 4-6
x	x	Section 4.2.6	10631(d)(4)(B)	Provide citations of codes, standards, ordinances, or plans used to make water use projections.	System Water Use	Section 4.2.4
x	optional	Section 4.3.2.4	10631(d)(3)(A)	Report the distribution system water loss for each of the 5 years preceding the plan update.	System Water Use	Section 4.2.3 and Table 4-4
x	optional	Section 4.4	10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.2.5 and Table 4-7
x	x	Section 4.5	10635(b)	Demands under climate change considerations must be included as part of the drought risk assessment.	System Water Use	Section 7.5.1
x		Chapter 5	10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5
x		Chapter 5	10608.24(a)	Retail suppliers shall meet their water use target by December 31, 2020.	Baselines and Targets	Section 5.5 and Table 5-2
	x	Section 5.1	10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	N/A

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 5.2	10608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.4
x		Section 5.5	10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5-year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.4
x		Section 5.5 and Appendix E	10608.4	Retail suppliers shall report on their compliance in meeting their water use targets. The data shall be reported using a standardized form in the SBX7-7 2020 Compliance Form.	Baselines and Targets	Section 5.5
x	x	Sections 6.1 and 6.2	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought.	System Supplies	Chapter 7
x	x	Sections 6.1	10631(b)(1)	Provide a discussion of anticipated supply availability under a normal, single dry year, and a drought lasting five years, as well as more frequent and severe periods of drought, *including changes in supply due to climate change.*	System Supplies	Section 7.1.1
x	x	Section 6.1	10631(b)(2)	When multiple sources of water supply are identified, describe the management of each supply in relationship to other identified supplies.	System Supplies	Section 6.9 and Table 6-9
x	x	Section 6.1.1	10631(b)(3)	Describe measures taken to acquire and develop planned sources of water.	System Supplies	Section 6.8
x	x	Section 6.2.8	10631(b)	Identify and quantify the existing and planned sources of water available for 2020, 2025, 2030, 2035, 2040 and optionally 2045.	System Supplies	Section 6.9
x	x	Section 6.2	10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2
x	x	Section 6.2.2	10631(b)(4)(A)	Indicate whether a groundwater sustainability plan or groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.2	10631(b)(4)(B)	Describe the groundwater basin.	System Supplies	Section 6.2.1
x	x	Section 6.2.2	10631(b)(4)(B)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2
x	x	Section 6.2.2.1	10631(b)(4)(B)	For unadjudicated basins, indicate whether or not the department has identified the basin as a high or medium priority. Describe efforts by the supplier to coordinate with sustainability or groundwater agencies to achieve sustainable groundwater conditions.	System Supplies	Section 6.2
x	x	Section 6.2.2.4	10631(b)(4)(C)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years.	System Supplies	Section 6.2.4 and Table 6-1
x	x	Section 6.2.2	10631(b)(4)(D)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Section 6.9
x	x	Section 6.2.7	10631(c)	Describe the opportunities for exchanges or transfers of water on a short-term or long- term basis.	System Supplies	Section 6.7
x	x	Section 6.2.5	10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2 and Tables 6-4 and 6-5
x	x	Section 6.2.5	10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and Table 6-5
x	x	Section 6.2.5	10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.3
x	x	Section 6.2.5	10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.3 and Table 6-4
x	x	Section 6.2.5	10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.3

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 6.2.5	10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and Table 6-6
x	x	Section 6.2.6	10631(g)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6
x	x	Section 6.2.5	10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area with quantified amount of collection and treatment and the disposal methods.	System Supplies (Recycled Water)	Section 6.5.2 and Table 6-3
x	x	Section 6.2.8, Section 6.3.7	10631(f)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and for a period of drought lasting 5 consecutive water years.	System Supplies	Section 6.8 and Table 6-7
x	x	Section 6.4 and Appendix O	10631.2(a)	The UWMP must include energy information, as stated in the code, that a supplier can readily obtain.	System Suppliers, Energy Intensity	Section 6.11 and Table 6-10
x	x	Section 7.2	10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability.	Water Supply Reliability Assessment	Section 7.1.2
x	x	Section 7.2.4	10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4
x	x	Section 7.3	10635(a)	Service Reliability Assessment: Assess the water supply reliability during normal, dry, and a drought lasting five consecutive water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.2 and Tables 7-2 to 7-4
x	x	Section 7.3	10635(b)	Provide a drought risk assessment as part of information considered in developing the demand management measures and water supply projects.	Water Supply Reliability Assessment	Section 7.5
x	x	Section 7.3	10635(b)(1)	Include a description of the data, methodology, and basis for one or more supply shortage conditions that are necessary to conduct a drought risk assessment for a drought period that lasts 5 consecutive years.	Water Supply Reliability Assessment	Section 7.5
x	x	Section 7.3	10635(b)(2)	Include a determination of the reliability of each source of supply under a variety of water shortage conditions.	Water Supply Reliability Assessment	Section 7.5

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 7.3	10635(b)(3)	Include a comparison of the total water supply sources available to the water supplier with the total projected water use for the drought period.	Water Supply Reliability Assessment	Section 7.5 and Table 7-5
x	x	Section 7.3	10635(b)(4)	Include considerations of the historical drought hydrology, plausible changes on projected supplies and demands under climate change conditions, anticipated regulatory changes, and other locally applicable criteria.	Water Supply Reliability Assessment	Section 7.5
x	x	Chapter 8	10632(a)	Provide a water shortage contingency plan (WSCP) with specified elements below.	Water Shortage Contingency Planning	Appendix H
x	x	Chapter 8	10632(a)(1)	Provide the analysis of water supply reliability (from Chapter 7 of Guidebook) in the WSCP.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.10	10632(a)(10)	Describe reevaluation and improvement procedures for monitoring and evaluation the water shortage contingency plan to ensure risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.2	10632(a)(2)(A)	Provide the written decision- making process and other methods that the supplier will use each year to determine its water reliability.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.2	10632(a)(2)(B)	Provide data and methodology to evaluate the supplier's water reliability for the current year and one dry year pursuant to factors in the code.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.3	10632(a)(3)(A)	Define six standard water shortage levels of 10, 20, 30, 40, 50 percent shortage and greater than 50 percent shortage. These levels shall be based on supply conditions, including percent reductions in supply, changes in groundwater levels, changes in surface elevation, or other conditions. The shortage levels shall also apply to a catastrophic interruption of supply.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.3	10632(a)(3)(B)	Suppliers with an existing water shortage contingency plan that uses different water shortage levels must cross reference their categories with the six standard categories.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.4	10632(a)(4)(A)	Suppliers with water shortage contingency plans that align with the defined shortage levels must specify locally appropriate supply augmentation actions.	Water Shortage Contingency Planning	Appendix H

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 8.4	10632(a)(4)(B)	Specify locally appropriate demand reduction actions to adequately respond to shortages.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.4	10632(a)(4)(C)	Specify locally appropriate operational changes.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.4	10632(a)(4)(D)	Specify additional mandatory prohibitions against specific water use practices that are in addition to state-mandated prohibitions are appropriate to local conditions.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.4	10632(a)(4)(E)	Estimate the extent to which the gap between supplies and demand will be reduced by implementation of the action.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.4.6	10632.5	The plan shall include a seismic risk assessment and mitigation plan.	Water Shortage Contingency Plan	Appendix H
x	x	Section 8.5	10632(a)(5)(A)	Suppliers must describe that they will inform customers, the public and others regarding any current or predicted water shortages.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.5 and 8.6	10632(a)(5)(B) 10632(a)(5)(C)	Suppliers must describe that they will inform customers, the public and others regarding any shortage response actions triggered or anticipated to be triggered and other relevant communications.	Water Shortage Contingency Planning	Appendix H
x		Section 8.6	10632(a)(6)	Retail supplier must describe how it will ensure compliance with and enforce provisions of the WSCP.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.7	10632(a)(7)(A)	Describe the legal authority that empowers the supplier to enforce shortage response actions.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.7	10632(a)(7)(B)	Provide a statement that the supplier will declare a water shortage emergency Water Code Chapter 3.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.7	10632(a)(7)(C)	Provide a statement that the supplier will coordinate with any city or county within which it provides water for the possible proclamation of a local emergency.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.8	10632(a)(8)(A)	Describe the potential revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix H
x	x	Section 8.8	10632(a)(8)(B)	Provide a description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions.	Water Shortage Contingency Planning	Appendix H

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x		Section 8.8	10632(a)(8)(C)	Retail suppliers must describe the cost of compliance with Water Code Chapter 3.3: Excessive Residential Water Use During Drought.	Water Shortage Contingency Planning	Appendix H
x		Section 8.9	10632(a)(9)	Retail suppliers must describe the monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance.	Water Shortage Contingency Planning	Appendix H
x		Section 8.11	10632(b)	Analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.	Water Shortage Contingency Planning	Appendix H
x	x	Sections 8.12 and 10.4	10635(c)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 30 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.3
x	x	Section 8.14	10632(c)	Make available the Water Shortage Contingency Plan to customers and any city or county where it provides water within 30 after adopted the plan.	Water Shortage Contingency Planning	Section 10.4
	x	Sections 9.1 and 9.3	10631(e)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	N/A
x		Sections 9.2 and 9.3	10631(e)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Chapter 9
x		Chapter 10	10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets (recommended to discuss compliance).	Plan Adoption, Submittal, and Implementation	Section 10.3
x	x	Section 10.2.1	10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. Reported in Table 10-1.	Plan Adoption, Submittal, and Implementation	Section 10.2

Attachment B

Retail	Wholesale	2020 Guidebook Location	Water Code Section	Summary as Applies to UWMP	Subject	2020 UWMP Location (Optional Column for Agency Review Use)
x	x	Section 10.4	10621(f)	Each urban water supplier shall update and submit its 2020 plan to the department by July 1, 2021.	Plan Adoption, Submittal, and Implementation	Section 10.4
x	x	Sections 10.2.2, 10.3, and 10.5	10642	Provide supporting documentation that the urban water supplier made the plan and contingency plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan and contingency plan.	Plan Adoption, Submittal, and Implementation	Chapter 10
x	x	Section 10.2.2	10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Section 10.2.1
x	x	Section 10.3.2	10642	Provide supporting documentation that the plan and contingency plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3
x	x	Section 10.4	10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4
x	x	Section 10.4	10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4
x	x	Sections 10.4.1 and 10.4.2	10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Section 10.4
x	x	Section 10.5	10645(a)	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5
x	x	Section 10.5	10645(b)	Provide supporting documentation that, not later than 30 days after filing a copy of its water shortage contingency plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5
x	x	Section 10.6	10621(c)	If supplier is regulated by the Public Utilities Commission, include its plan and contingency plan as part of its general rate case filings.	Plan Adoption, Submittal, and Implementation	Section 10.6
x	x	Section 10.7.2	10644(b)	If revised, submit a copy of the water shortage contingency plan to DWR within 30 days of adoption.	Plan Adoption, Submittal, and Implementation	Section 10.7

Appendix B: Correspondence

Notice of Preparation of Urban Water Management Plan and Water Shortage Contingency Plan - 2020 Update

The Urban Water Management Planning Act (California Water Code §10608–10656) requires that California Water Service (Cal Water) update its Urban Water Management Plan (UWMP) and associated Water Shortage Contingency Plan (WSCP) every 5 years.

Cal Water is currently reviewing its existing UWMP and associated WSCP, which were updated in 2016, and considering revisions for each plan. Coordination with other water suppliers, cities, counties, and community organizations in the region is an important part of the preparation of Cal Water's UWMP and WSCP. We are available to discuss the assumptions used in the development of the plans including available water supply, water demands, land use, as well as other aspects of the plans.

A draft of the 2020 UWMP and WSCP will be made available for public review and a public hearing will be scheduled in Spring 2021. We will notify you when the draft is available for review, how to access it, and details regarding the public hearing.

The updated UWMP and WSCP are due by July 1, 2021. If you would like more information regarding our 2015 UWMP and WSCP and the schedule for updating these documents, or if you would like to participate in the preparation of the 2020 UWMP and WSCP, please contact:

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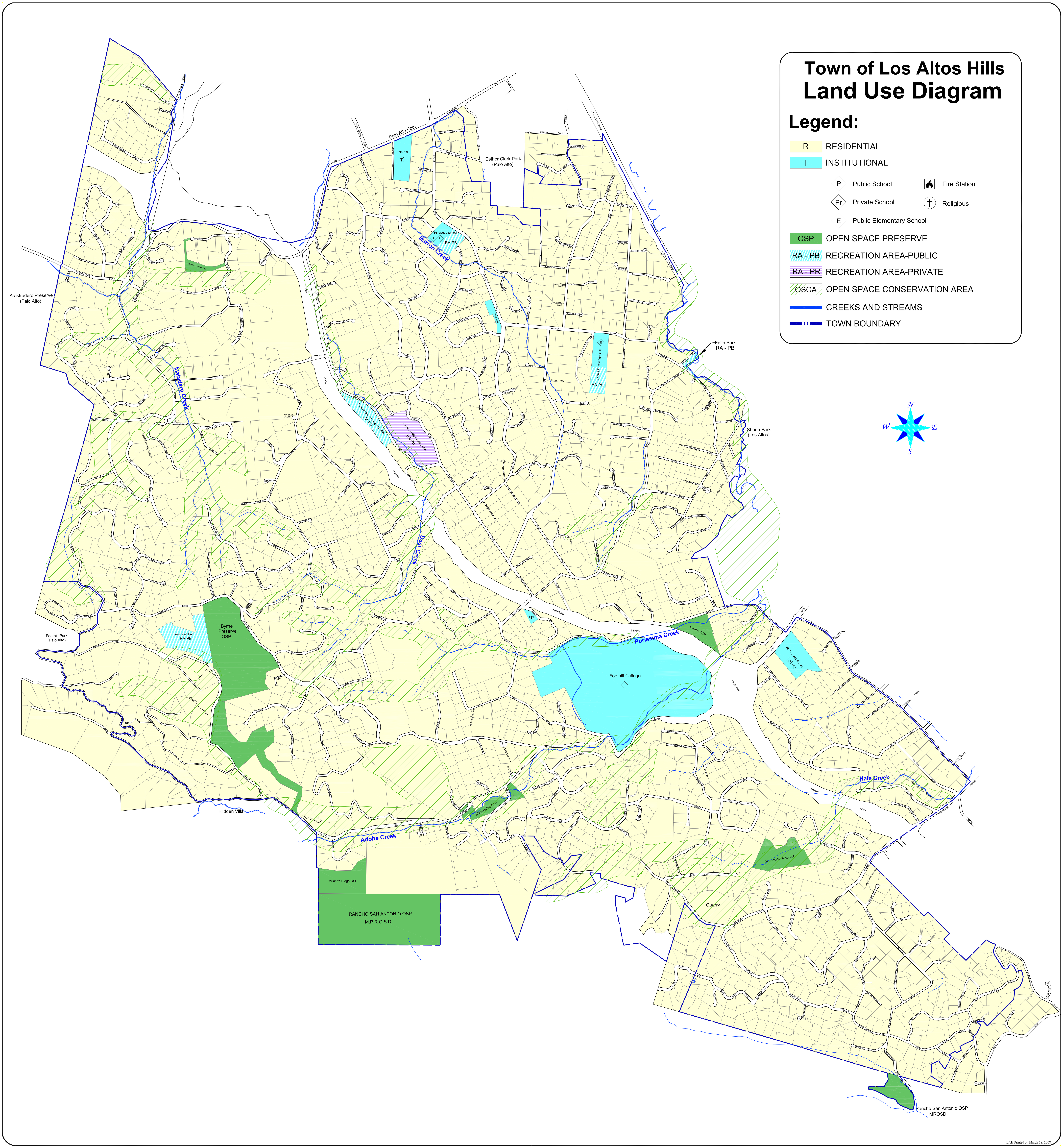
Appendix C: Public Meeting Notice

Appendix D: General Plan Land Use Maps

Attachment B

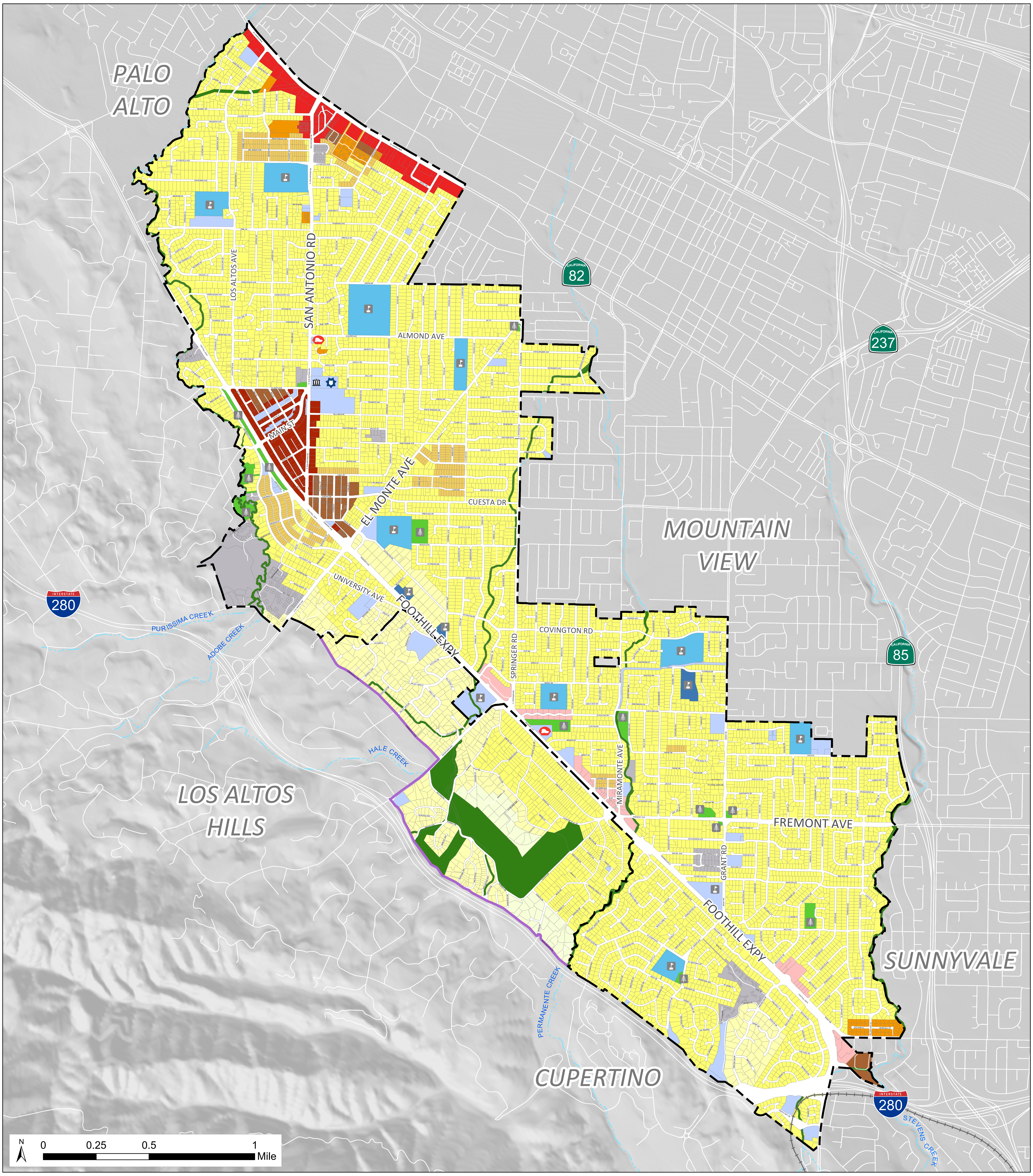
Attachment B



LAH Printed on March 18, 2008

Attachment B

CITY OF LOS ALTOS **LAND USE MAP**



LAND USE DESIGNATIONS

Residential

- *Single-Family One-Acre (SF-1)*
- *Single-Family Large Lot (SF-2)*
- *Single-Family Medium Lot (SF-4)*
- *Single-Family Small Lot (SF-10)*
- *Low Density Multi-Family (LDMF)*
- *Senior Housing (SH)*
- *Medium Density Multi-Family (MDMF)*

Commercial

- *Neighborhood Commercial (NC)*
- *Thoroughfare Commercial (TC)*
- *Downtown Commercial (DC)*

Public/Quasi Public

- *Public & Institutional (PI)*
- *Public School (PS)*
- *Private School (S)*

Open Space

- *Parks (P)*
- *Other Open Space (OS)*

Planned Community

- *Planned Community (PC)*

Map Features

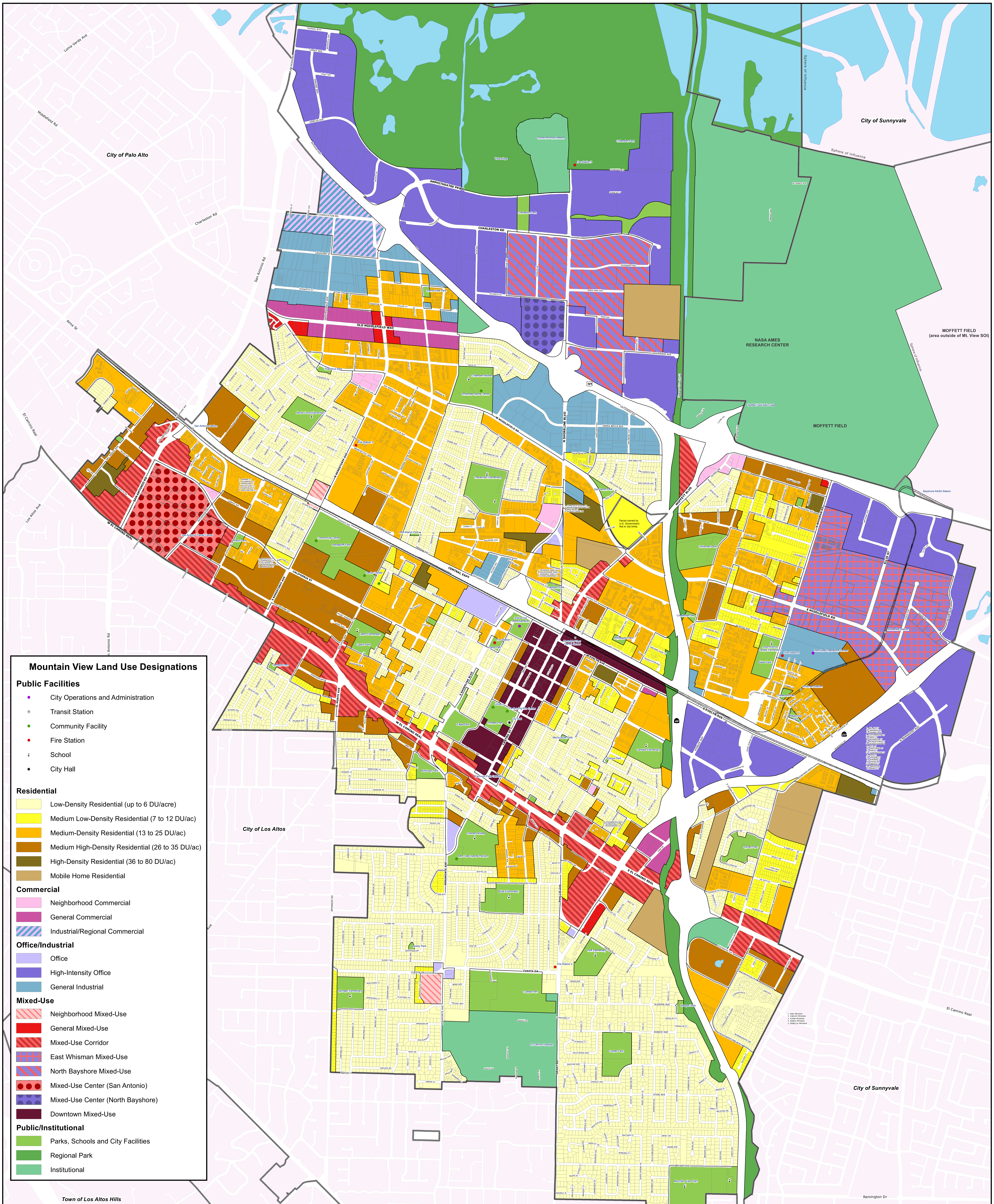
- *City Boundary*
- *Sphere of Influence*
- *Railroad*
- *Creek*

Public Facilities

- *School*
- *Park*
- *Fire Station*
- *Police Station*
- *City Hall*

** Creek corridors and Montclair Park shown as approximate.*

Sources:
City of Los Altos
Santa Clara County
RRM Design Group
10.26.18



CITY OF MOUNTAIN VIEW

General Plan Land Use Map

0 500 1,000 2,000 3,000 4,000 Feet

N

January 2020

Data sources: Santa Clara County GIS, City of Mountain View GIS.
Parcel-level map accuracy not implied; this map is not to be used for property transactions.
Note that with the exception of some private streets, land use designations' colors are parcel-based and are not shown extending to the centerline of rights-of-way.

PLEASE NOTE:

This General Plan Land Use Map is one of several General Plan diagrams that affect development in Mountain View. The General Plan text itself is an integral part of the land use plan for the City and must also be consulted.
The City of Mountain View is neither liable nor responsible for use of this map beyond its intended purposes.

Attachment B

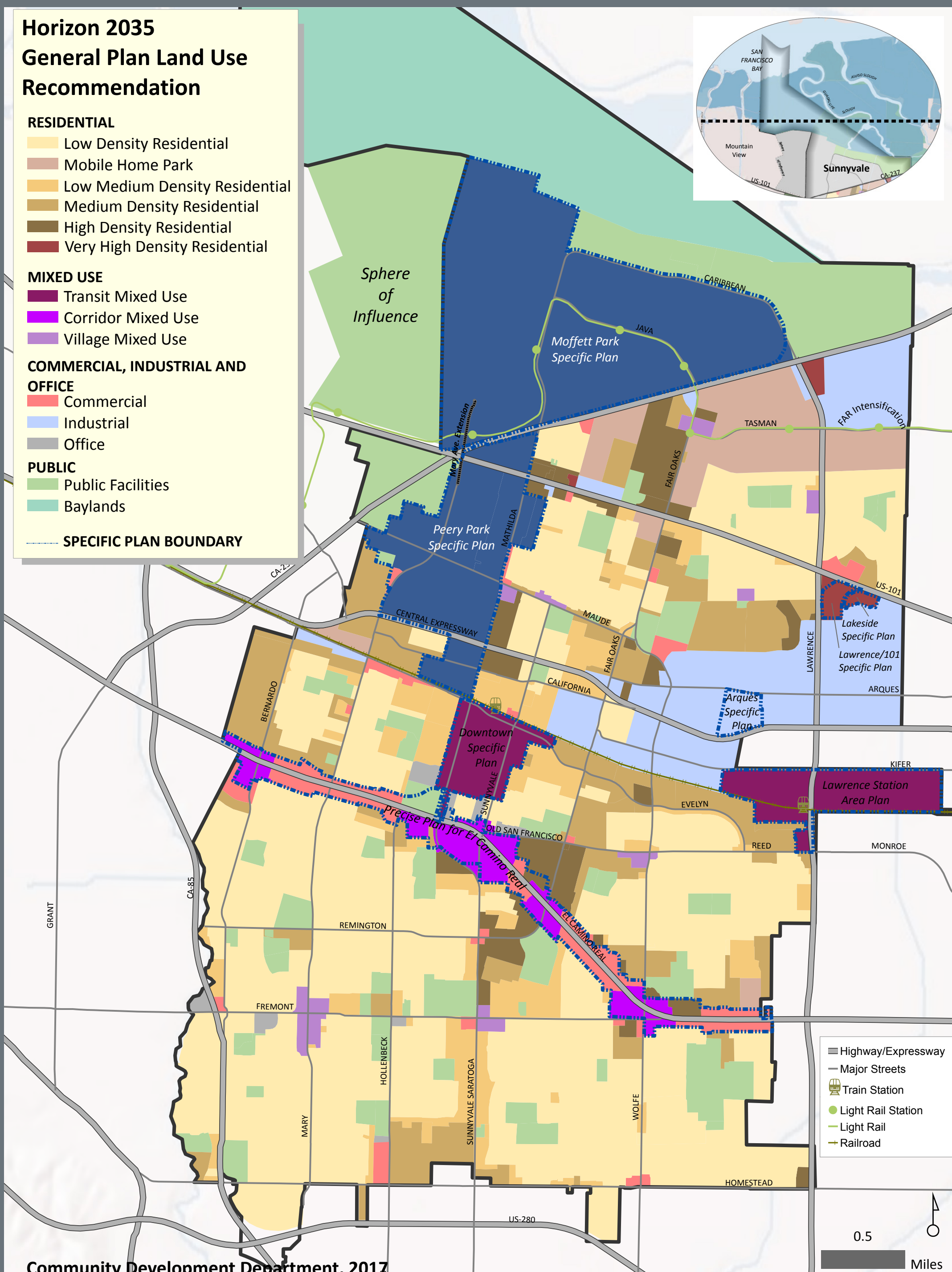


Figure 3-10: Land Use Designations

Appendix E: Summary of Demand Projection Methodology and Assumptions

Cal Water Long-Term Demand Forecast Model Overview

Forecast Domain
The forecast model generates separate forecasts for each customer class and distribution system. Table 1 lists Cal Water districts and distribution systems. Table 2 lists customer classes.

Forecast Horizon and Time Step
The forecast horizon is 30 years. The forecast has an annual time-step.

Normal, Wet, and Dry Year Forecasts
The forecast model generates normal-, wet-, and dry-year demand forecasts. The normal-year forecast is the default forecast. The wet- and dry-year forecasts can be substituted for the default forecast as necessary for system planning purposes. The model produces two different dry year forecasts: the single dry year forecast and the multiple dry year forecast. The latter represents the expected effect of prolonged drought conditions on unconstrained water demand.[1]

Relationship to GRC Sales Forecast
The first year of the forecast can be set to the current GRC sales forecast or actual consumption.

Relationship to PAWS
The demand model uses historical data on services, sales, production, and population from Cal Water's Production Analysis Worksheets (PAWS).

Accounting Rules
The model uses the following accounting rules to ensure forecast consistency:

- Population and conservation savings forecasts are functions of the service forecast.
- The sales forecast for a distribution system is the sum of the class-level sales forecasts for the distribution system. The production forecast for a distribution system is the sum of the sales and non-revenue water (NRW) forecasts for the distribution system.
- The sales and production forecasts for a district are the sum of the sales and production forecasts for its distribution systems.

Volume Units
Sales and production forecasts are in acre-feet (AF). Average sales and per capita forecasts are in gallons per day.

Per Capita Water Use
The model generates per capita forecasts for water use by single-family customers, water use by multi-family customers, water use by all residential customers, and water use by all district customers.

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[1] Unconstrained demand is what demand would be in the absence of water use restrictions or policies intended to curtail water use.

Service Forecast

The forecast model generates three alternative service forecasts:

- Average Y-Y Change in Services. The model bases the forecast on the historical year-to-year (y-y) change in the number of services. This forecast assumes additive growth.
- Average Y-Y % Change in Services. The model bases the forecast on the historical y-y percentage change in services. This forecast assumes exponential growth.
- Regional Growth Forecast. The model uses regional housing and employment growth forecasts to project future services. Districts in the Bay Area use census-tract level growth forecasts prepared by the Association of Bay Area Governments (ABAG). Districts in Southern California use census-tract-level growth forecasts prepared by the Southern California Association of Governments (SCAG). The remaining districts use county-level forecasts prepared by Caltrans.

Regional Forecasts

Table 3 lists the regional forecasts in the model. Table 4 summarizes how the model uses the regional forecasts to project future services.

Service Floors and Ceilings

The forecast can include floors and ceilings on the service growth. The floor (ceiling) is the minimum (maximum) number of services allowed in the forecast.

User-Specified Growth Rates

The model allows user-specified growth rates.

Water Supply Assessments

The user can add to the forecast projected services and water use from Water Supply Assessments prepared for proposed development projects. The user can specify how much of this projected growth in services and water use the model should treat as additive to the baseline forecast.

Population Forecasts

The population projection is a function of the residential service projections to ensure internal consistency. Population in year t is:

$$Population_t = \left[\frac{persons}{service}\right]_{SFR} \cdot SFRservices_t + \left[\frac{persons}{service}\right]_{MFR} \cdot MFRservices_t$$

For multi-family services, the calculation of average persons per service uses the equation below. The model uses county assessor data linked to Cal Water customer data to estimate average dwelling units per parcel and average parcels per service. It uses census data to estimate average persons per dwelling unit.

$$\left[\frac{persons}{service}\right]_{MFR} = \frac{Avg\ Dwelling\ Units}{Parcel} \cdot \frac{Avg\ Parcels}{Service} \cdot \frac{Avg\ Persons}{Dwelling\ Unit}$$

Sales/Service Forecast

The model generates separate forecasts of sales/service for each customer class and distribution system.

Sales/Service Initialization

The model user sets sales/service for first year of the forecast to either current year water use or the most recent General Rate Case sales forecast. The 2020 UWMP projections start with 2020 actual sales/service.

Sales/Service Adjustments

In each forecast year, the model adjusts the previous year's sales/service estimate for:

1. Rebound from the 2012-16 drought
2. Passive water savings from plumbing codes and appliance standards
3. Active water savings from Cal Water conservation programs
4. Real changes in the marginal cost of water service
5. Real changes in per capita income

The user can select which adjustments to apply. The 2020 UWMP projections include all the adjustments except the drought rebound adjustment. The 2020 UWMP projections exclude the drought rebound adjustment because analysis of recent consumption trends showed that further rebound from the 2012-2016 drought was unlikely.

A description of each adjustment follows.

Drought Rebound

The model adjusts the sales/service forecast for demand recovery following the 2012-2016 drought. The model makes this adjustment using data on the growth in sales/service between 2016 and 2017. The model assumes some of the savings achieved during the drought will be permanent. The user can set the level of permanent drought savings. The default setting is 20%.

Passive Water Savings

The model uses DWR projections of water savings from plumbing/building codes to forecast passive water savings.[2] The model extends the DWR projections, which run through 2040, to 2050.

Active Water Savings

The model uses conservation program savings projections from Cal Water's 2015 Conservation Master Plans to forecast active water savings.

Price and Income Adjustments

The model adjusts average sales for expected changes in real income and cost of water service. The adjustment equation is:[3]

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[2] M.Cubed. 2016. Projected Statewide and County-Level Effects of Plumbing Codes and Appliance Standards on Indoor GPCD. Technical Memorandum prepared by David Mitchell for the California Department of Water Resources. August 30, 2016.

[3] The model uses a constant-elasticity-of-demand specification: $Q_t = AP_t^{\varepsilon} I_t^{\delta}$

$$\Delta Q_t = Q_0\left(1 - \left(\frac{P_t}{P_0}\right)^{\varepsilon}\left(\frac{I_t}{I_0}\right)^{\delta}\right)$$

where Q_0 is sales/service in the base year of the forecast, $\left(\frac{P_t}{P_0}\right)$ and $\left(\frac{I_t}{I_0}\right)$ are the price of water and income relative to the base year of the forecast, and ε and δ are empirically derived estimates of price and income elasticity.

Sales Forecast

The sales forecast is the product of the service and average use per service forecasts.

Non-Revenue Water Forecast

The non-revenue water forecast is a function of the services forecast. The forecast starts with an initial estimate of non-revenue water, expressed in gallons/connection/day. The model decomposes this estimate into real and apparent loss. The model assumes future apparent loss is equal to the average apparent loss for the five year before the start of the forecast. In the case of real loss, the model assumes Cal Water's loss management program will reduce real losses over time. The amount of reduction depends on the staring estimate of real loss. If this estimate is 10 gallons/connection/day or less, the model assumes no further reduction. Otherwise, the model assumes real losses (in gallons/connection/day) will decrease until they are equal to 75% of the average real loss for the five years before the start of the forecast or the State Water Board draft real water loss standard for the distribution system, whichever is greater.[4] The model assumes the reduction in real loss will occur between 2020 and 2030.

Production Forecast

The production forecast is the sum of the sales and NRW forecasts.

Normal, Wet, Single Dry, and Multiple Dry Year Projections

The model generates normal, wet, single dry, and multiple dry year forecasts of sales and production. The model bases these forecasts on empirically derived relationships between monthly water sales, rainfall, and air temperature estimated for each Cal Water district.[5]

- Wet year – minus one standard deviation weather effect on sales and production
- Single dry year – plus one standard deviation weather effect on sales and production
- Multiple dry year – plus 1.6 standard deviations weather effect on sales and production

In the case of the dry year forecasts, the model is forecasting demand in the absence of drought water use restrictions or other policies that would limit water use in dry years.

[4] The State Water Board did not develop a draft water loss standard for every Cal Water distribution system. For those without a draft standard, the model assumes real losses will decrease until they are equal to 75% of the average real loss for the five year before the start of the forecast.

[5] A&N Technical Services, Cal Water Long Term Water Demand Forecast Model, December 2014.

Table 1. Long-Term Demand Model Districts and Systems

Label	District-System	Notes
AV	**Antelope Valley District**	
AV-FMT	Fremont System	
AV-LAN	Lancaster System	
AV-LKH	Lake Hughes System	
AV-LVY	Leona Valley System	
BG	**Bear Gulch District**	No sub-systems in district
BK	**Bakersfield District**	
BK-BK	Bakersfield System	
BK-NG	North Garden System	
CH	**Chico District**	
CH-CH	Chico System	
CH-HAM	Hamilton City System	
DIX	**Dixon District**	No sub-systems in district
DOM	**Dominguez District**	No sub-systems in district
ELA	**East Los Angeles District**	No sub-systems in district
HAW	**Hawthorne District**	No sub-systems in district
HR	**Hermosa-Redondo District**	No sub-systems in district
KC	**King City District**	No sub-systems in district
KRV	**Kern River Valley District**	
KRV-BDFLO	Lower Bodfish System	
KRV-BDFUP	Upper Bodfish System	
KRV-KNVARD	Kernville & Arden System	Includes KNV, KRVArdenWaterCo, COUN, MSH, POND
KRV-LKL	Lakeland System	
KRV-ONX	Onyx System	
KRV-SLK	South Lake System	Includes SQM
KRV-SPM	Split Mountain System	
LAS	**Los Altos District**	No sub-systems in district
LIV	**Livermore District**	No sub-systems in district

Label	District-System	Notes
MPS	**Mid-Peninsula District**	
MPS-SM	San Mateo System	
MPS-SC	San Carlos System	
MRL	**Marysville District**	No sub-systems in district
ORO	**Oroville District**	No sub-systems in district
PV	**Palos Verdes District**	No sub-systems in district
RDV	**Redwood Valley District**	
RDV-ARM	Armstrong System	
RDV-CSP	Coast Springs System	
RDV-HKN	Hawkins Water System	
RDV-LUC	Lucerne System	
RDV-NOH	Noel Heights System	
RDV-RPD	Rancho del Paradiso System	
SEL	**Selma District**	No sub-systems in district
SLN	**Salinas District**	
SLN-SLN	Salinas System	Includes Bolsa Knolls, Country Meadows
SLN-SLNH	Salinas Hills System	Includes Buena Vista, Indian Springs
SLN-OH	Oak Hill System	
SLN-LL	Las Lomas System	
SSF	**South San Francisco District**	No sub-systems in district
STK	**Stockton District**	No sub-systems in district
VIS	**Visalia District**	No sub-systems in district
WIL	**Willows District**	No sub-systems in district
WLK	**Westlake District**	No sub-systems in district

Table 2. Long-Term Demand Model Customer Classes

Label	Description	Revenue Class #
SFR	Single-Family Residential	1
FLT	Single-Family Flat Rate	4
RES	SFR + FLT	1, 4
MFR	Multi-Family	15
COM	Commercial/Business	2
GOV	Government/Public Authority	11
IND	Industrial	3
OTH	Other/miscellaneous	8,13
IRR	Dedicated irrigation customers	7

Table 3. Regional Forecasts used in First Generation Long-term Demand Model Forecasts

Regional Forecast	Version	Range
ABAG	Plan Bay Area 2040, GEOID10-level summary	2010 to 2040
SCAG	RTP07 GEOID10-level	2010 to 2035
Caltrans	2017 County Forecasts	2010 to 2050

Table 4. Regional Growth Rates used in the Service Growth Forecasts

Service Class	ABAG	SCAG	Caltrans
SFR	y-y % change in single-family dwelling units	y-y % change in all residential dwelling units	y-y % change in single-family dwelling units
MFR	y-y % change in multi-family dwelling units	y-y % change in all residential dwelling units	y-y % change in multi-family dwelling units
COM	y-y % change in total number of jobs	y-y % change in total number of jobs	y-y % change in county employment in retail, wholesale, information, financial, professional, and leisure sectors
GOV	y-y % change in gov't, information, and construction jobs	y-y % change in total number of jobs	y-y % change in county employment in federal, state, local government and education and healthcare sectors
IND	y-y % change in manufacturing jobs	y-y % change in total number of jobs	y-y % change in county employment in manufacturing sectors

Historical and Projected Services, Water Sales, and Total Production

District Demand Projection Report
Los Altos

General Rate Case Sales Baseline		2020
Historical Data Range	First Year	2000
	Last Year	2020
Forecast Range	First Year	2020
	Last Year	2050
Service Growth Basis	ABAG Growth Forecasts	

Service Growth Rates

	ABAG	Historical %Y-Y1			
Class	Projected	5-Yr	10-Yr	15-Yr	20-Yr
RES[2]	0.1%	0.1%	0.1%	0.1%	0.1%
MFR	1.0%	1.1%	1.4%	2.4%	1.8%
COM	1.5%	0.2%	0.2%	0.5%	0.5%
GOV	1.2%	0.5%	0.5%	-0.1%	0.2%
IND	0.4%	-6.7%	-5.5%	-5.9%	-4.4%
TOT		0.1%	0.1%	0.1%	0.2%

Water Supply Assessments

	WSA Name	Completion Date	Incorporated into Forecast (Y/N)
1			
2			
3			
4			
5			

Sales Forecast Adjustments

Drought Rebound	OFF
Plumbing Code	ON
Active Conservation	ON
Price Response	ON
Income Response	ON

Non-Revenue Water (NRW) Basis

Real loss (gal/con/day):
2016-2020 average if <= 10 gal/con/day
Draft Water Board standard or 75% of 2016-2020 average, whichever is greater, by 2030.
Apparent loss (gal/con/day): 2016-2020 average.

1. Account reclassifications can impact historical %Y-Y growth rates for individual customer classes.
2. RES = Metered and unmetered single-family residential customers.

District Demand Projection Report
Los Altos

Historical Service Counts

YEAR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
2000	16,575	119	1,068	200	7	15	0	17,984
2001	16,607	119	1,065	203	7	18	0	18,018
2002	16,618	119	1,074	203	7	21	0	18,042
2003	16,493	119	1,079	206	7	19	0	17,923
2004	16,671	119	1,086	209	7	19	0	18,110
2005	16,711	119	1,092	211	7	13	0	18,153
2006	16,751	119	1,098	213	7	16	1	18,204
2007	16,776	119	1,106	174	7	14	0	18,196
2008	16,734	136	1,136	187	5	14	0	18,212
2009	16,754	150	1,158	195	5	17	0	18,279
2010	16,784	149	1,151	198	5	19	0	18,306
2011	16,829	151	1,150	201	4	21	0	18,356
2012	16,831	156	1,159	203	4	21	0	18,375
2013	16,841	159	1,156	203	4	29	0	18,392
2014	16,903	159	1,152	203	4	35	0	18,458
2015	16,915	162	1,161	203	4	35	0	18,479
2016	16,931	171	1,193	202	4	34	0	18,535
2017	16,943	171	1,185	204	3	40	0	18,546
2018	16,961	171	1,182	209	3	23	0	18,549
2019	16,980	171	1,182	207	3	18	0	18,560
2020	16,985	171	1,173	208	3	20	0	18,559
2021								
2022								
2023								
2024								
2025								
2026								
2027								
2028								
2029								
2030								

CAGR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
5-Year	0.1%	1.1%	0.2%	0.5%	-6.7%	-10.4%		0.1%
10-Year	0.1%	1.4%	0.2%	0.5%	-5.5%	0.4%		0.1%
15-Year	0.1%	2.4%	0.5%	-0.1%	-5.9%	3.1%	-100.0%	0.1%
20-Year	0.1%	1.8%	0.5%	0.2%	-4.4%	1.7%		0.2%

CAGR = Compound Annual Growth Rate

District Demand Projection Report
Los Altos

Historical Sales (AF)

YEAR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
2000	10,404	736	2,600	634	49	10	0	14,432
2001	10,500	714	2,447	753	43	12	0	14,468
2002	10,644	708	2,407	667	32	15	0	14,473
2003	10,096	708	2,490	592	40	8	0	13,933
2004	10,643	728	2,489	627	31	14	0	14,532
2005	9,957	723	2,376	632	35	12	0	13,736
2006	10,023	741	2,475	616	40	12	3	13,909
2007	10,823	729	2,543	705	36	16	0	14,852
2008	10,602	748	2,547	728	33	15	0	14,674
2009	9,508	704	2,384	617	29	14	0	13,257
2010	8,796	656	2,318	499	22	10	0	12,301
2011	8,899	681	2,329	509	20	10	0	12,449
2012	9,639	698	2,457	517	17	14	0	13,343
2013	10,143	753	2,475	565	15	23	0	13,974
2014	8,755	682	2,267	525	18	97	0	12,343
2015	6,615	595	1,930	436	11	16	0	9,602
2016	6,441	615	1,839	462	10	22	0	9,389
2017	7,331	651	2,198	487	4	54	0	10,725
2018	7,926	662	2,552	532	5	11	0	11,689
2019	7,615	649	2,436	512	4	17	0	11,232
2020	8,645	685	2,335	496	5	11	0	12,177
2021								
2022								
2023								
2024								
2025								
2026								
2027								
2028								
2029								
2030								

CAGR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
5-Year	5.5%	2.9%	3.9%	2.6%	-13.6%	-6.9%		4.9%
10-Year	-0.2%	0.4%	0.1%	-0.1%	-13.3%	0.5%		-0.1%
15-Year	-0.9%	-0.4%	-0.1%	-1.6%	-11.9%	-0.6%		-0.8%
20-Year	-0.9%	-0.4%	-0.5%	-1.2%	-10.6%	0.6%		-0.8%

CAGR = Compound Annual Growth Rate

District Demand Projection Report
Los Altos

Historical Sales/Service (GPD)

YEAR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
2000	560	5,519	2,173	2,833	6,297	607		716
2001	564	5,361	2,052	3,318	5,423	610		717
2002	572	5,312	2,000	2,928	4,062	646		716
2003	546	5,309	2,061	2,567	5,160	362		694
2004	570	5,459	2,046	2,685	3,993	644		716
2005	532	5,427	1,943	2,675	4,438	841	0	676
2006	534	5,556	2,013	2,583	5,104	681	3,492	682
2007	576	5,466	2,053	3,612	4,736	1,014		729
2008	566	4,917	2,001	3,481	5,752	957		719
2009	507	4,185	1,838	2,830	5,113	751		647
2010	468	3,921	1,798	2,254	3,881	485		600
2011	472	4,033	1,808	2,262	4,048	454		605
2012	511	3,985	1,893	2,274	3,904	579		648
2013	538	4,229	1,912	2,480	3,272	698		678
2014	462	3,828	1,756	2,302	4,013	2,434		597
2015	349	3,278	1,485	1,923	2,426	405		464
2016	340	3,219	1,376	2,041	2,251	573		452
2017	386	3,406	1,656	2,128	1,195	1,214		516
2018	417	3,456	1,928	2,273	1,581	428		563
2019	400	3,390	1,840	2,205	1,176	834		540
2020	454	3,574	1,778	2,135	1,646	490		586
2021								
2022								
2023								
2024								
2025								
2026								
2027								
2028								
2029								
2030								

CAGR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
5-Year	5.4%	1.7%	3.7%	2.1%	-7.5%	3.9%		4.8%
10-Year	-0.3%	-0.9%	-0.1%	-0.5%	-8.2%	0.1%		-0.2%
15-Year	-1.0%	-2.7%	-0.6%	-1.5%	-6.4%	-3.5%		-0.9%
20-Year	-1.0%	-2.1%	-1.0%	-1.4%	-6.5%	-1.1%		-1.0%

CAGR = Compound Annual Growth Rate

Historical Production (AF)

YEAR	SALES	NRW	PROD	NRW %	NRW GPD/Svc
2000	14,432	679	15,111	4.5%	34
2001	14,468	727	15,196	4.8%	36
2002	14,473	631	15,104	4.2%	31
2003	13,933	806	14,738	5.5%	40
2004	14,532	1,366	15,898	8.6%	67
2005	13,736	1,022	14,758	6.9%	50
2006	13,909	609	14,518	4.2%	30
2007	14,852	599	15,451	3.9%	29
2008	14,674	816	15,490	5.3%	40
2009	13,257	835	14,092	5.9%	41
2010	12,301	-653	11,648	-5.6%	-32
2011	12,449	-1,090	11,358	-9.6%	-53
2012	13,343	-564	12,779	-4.4%	-27
2013	13,974	1,219	15,192	8.0%	59
2014	12,343	769	13,112	5.9%	37
2015	9,602	586	10,189	5.8%	28
2016	9,389	805	10,194	7.9%	39
2017	10,725	930	11,656	8.0%	45
2018	11,689	749	12,438	6.0%	36
2019	11,232	751	11,982	6.3%	36
2020	12,177	846	13,023	6.5%	41
2021					
2022					
2023					
2024					
2025					
2026					
2027					
2028					
2029					
2030					

CAGR	SALES	NRW	PROD		NRW GPD/Svc
5-Year	4.9%	7.6%	5.0%		7.5%
10-Year	-0.1%		1.1%		
15-Year	-0.8%	-1.2%	-0.8%		-1.4%
20-Year	-0.8%	1.1%	-0.7%		1.0%

CAGR = Compound Annual Growth Rate

Historical GPCD

		GPCD	
YEAR	POPULATION	RESIDIDENTIAL	TOTAL
2000	55,177	180	244
2001	56,245	178	241
2002	57,256	177	235
2003	57,917	167	227
2004	59,362	171	239
2005	60,450	158	218
2006	61,535	156	211
2007	62,584	165	220
2008	63,457	160	218
2009	64,492	141	195
2010	65,550	129	159
2011	66,660	128	152
2012	67,519	137	169
2013	67,940	143	200
2014	68,114	124	172
2015	68,604	94	133
2016	69,945	90	130
2017	70,015	102	149
2018	70,100	109	158
2019	70,148	105	152
2020	70,161	119	166
2021			
2022			
2023			
2024			
2025			
2026			
2027			
2028			
2029			
2030			

CAGR	POPULATION	RESIDIDENTIAL GPCD	TOTAL GPCD
5-Year	0.4%	4.8%	4.6%
10-Year	0.7%	-0.8%	0.4%
15-Year	1.0%	-1.9%	-1.8%
20-Year	1.2%	-2.1%	-1.9%

CAGR = Compound Annual Growth Rate

Projected Services

YEAR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
2020	16,985	171	1,173	208	3	20	0	18,559
2021	16,984	172	1,179	209	3	24	0	18,572
2022	16,983	173	1,186	211	3	24	0	18,581
2023	16,983	174	1,193	212	3	24	0	18,589
2024	16,982	175	1,200	214	3	24	0	18,598
2025	16,984	176	1,207	216	3	24	0	18,610
2026	16,986	177	1,215	217	3	24	0	18,623
2027	16,989	178	1,222	219	3	24	0	18,635
2028	16,991	179	1,230	221	3	24	0	18,647
2029	16,993	180	1,237	222	3	24	0	18,660
2030	17,013	181	1,258	225	3	24	0	18,704
2031	17,032	182	1,279	228	3	24	0	18,749
2032	17,052	183	1,300	231	3	24	0	18,794
2033	17,072	185	1,321	235	3	24	0	18,840
2034	17,091	186	1,343	238	3	24	0	18,886
2035	17,119	188	1,370	241	3	24	0	18,945
2036	17,147	191	1,397	244	3	24	0	19,006
2037	17,174	194	1,425	247	3	24	0	19,067
2038	17,202	196	1,453	250	3	24	0	19,129
2039	17,230	199	1,482	254	3	24	0	19,191
2040	17,258	201	1,511	257	3	24	0	19,255
2041	17,286	204	1,541	260	3	24	0	19,318
2042	17,314	207	1,572	263	3	24	0	19,383
2043	17,342	210	1,603	267	3	24	0	19,448
2044	17,370	212	1,634	270	3	24	0	19,515
2045	17,398	215	1,667	274	3	24	0	19,581
2046	17,426	218	1,700	277	3	24	0	19,649
2047	17,455	221	1,734	281	3	24	0	19,717
2048	17,483	224	1,768	284	3	24	0	19,787
2049	17,511	227	1,803	288	3	24	0	19,857
2050	17,539	230	1,839	292	3	24	0	19,927

Projected Sales (AF)

YEAR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
2020	8,645	685	2,335	496	5	11	0	12,177
2021	8,554	674	2,327	496	6	13	0	12,070
2022	8,601	675	2,320	495	6	13	0	12,110
2023	8,651	676	2,314	495	6	13	0	12,155
2024	8,708	678	2,309	495	6	13	0	12,209
2025	8,738	679	2,305	495	6	13	0	12,237
2026	8,770	680	2,302	495	6	13	0	12,266
2027	8,758	680	2,300	496	6	13	0	12,253
2028	8,761	681	2,297	496	6	13	0	12,255
2029	8,768	682	2,296	497	6	13	0	12,262
2030	8,784	685	2,320	501	6	13	0	12,308
2031	8,808	688	2,347	505	6	13	0	12,367
2032	8,802	691	2,375	510	6	13	0	12,397
2033	8,836	695	2,405	514	6	13	0	12,470
2034	8,864	699	2,434	519	6	13	0	12,535
2035	8,896	708	2,473	524	6	13	0	12,619
2036	8,905	716	2,512	529	6	13	0	12,680
2037	8,907	724	2,552	533	6	13	0	12,736
2038	8,930	733	2,593	538	6	13	0	12,813
2039	8,941	742	2,635	543	6	13	0	12,880
2040	8,954	752	2,678	548	6	13	0	12,950
2041	8,974	761	2,721	553	6	13	0	13,028
2042	8,996	771	2,766	558	6	13	0	13,110
2043	9,021	780	2,811	564	6	13	0	13,195
2044	9,054	791	2,857	569	6	13	0	13,289
2045	9,071	801	2,904	574	6	13	0	13,369
2046	9,091	811	2,952	580	6	13	0	13,452
2047	9,109	821	3,000	585	6	13	0	13,535
2048	9,132	832	3,050	591	6	13	0	13,624
2049	9,160	843	3,100	596	6	13	0	13,718
2050	9,190	854	3,152	602	6	13	0	13,817

Projected Sales/Service (GPD)

YEAR	RES	MFR	COM	GOV	IND	OTH	IRR	TOT
2020	454	3,574	1,778	2,135	1,646	490	0	586
2021	450	3,498	1,762	2,116	1,646	490	0	580
2022	452	3,481	1,746	2,099	1,646	490	0	582
2023	455	3,468	1,732	2,083	1,646	490	0	584
2024	458	3,456	1,718	2,067	1,646	490	0	586
2025	459	3,442	1,705	2,051	1,646	490	0	587
2026	461	3,431	1,692	2,037	1,646	490	0	588
2027	460	3,415	1,680	2,022	1,646	490	0	587
2028	460	3,402	1,668	2,009	1,646	490	0	587
2029	461	3,391	1,657	1,996	1,646	490	0	587
2030	461	3,382	1,646	1,983	1,646	490	0	587
2031	462	3,375	1,639	1,974	1,646	490	0	589
2032	461	3,365	1,632	1,966	1,646	490	0	589
2033	462	3,360	1,625	1,957	1,646	490	0	591
2034	463	3,356	1,618	1,949	1,646	490	0	593
2035	464	3,352	1,612	1,942	1,646	490	0	595
2036	464	3,347	1,605	1,934	1,646	490	0	596
2037	463	3,341	1,599	1,927	1,646	490	0	596
2038	463	3,338	1,593	1,920	1,646	490	0	598
2039	463	3,334	1,588	1,913	1,646	490	0	599
2040	463	3,331	1,582	1,906	1,646	490	0	600
2041	463	3,329	1,577	1,899	1,646	490	0	602
2042	464	3,326	1,571	1,892	1,646	490	0	604
2043	464	3,325	1,566	1,886	1,646	490	0	606
2044	465	3,324	1,561	1,879	1,646	490	0	608
2045	465	3,322	1,555	1,873	1,646	490	0	610
2046	466	3,320	1,550	1,866	1,646	490	0	611
2047	466	3,318	1,545	1,860	1,646	490	0	613
2048	466	3,317	1,540	1,854	1,646	490	0	615
2049	467	3,316	1,535	1,847	1,646	490	0	617
2050	468	3,316	1,530	1,841	1,646	490	0	619

Projected Production (AF)

YEAR	SALES	NRW	PROD
2020	12,177	846	13,023
2021	12,070	831	12,901
2022	12,110	816	12,926
2023	12,155	801	12,956
2024	12,209	786	12,995
2025	12,237	770	13,007
2026	12,266	755	13,022
2027	12,253	740	12,993
2028	12,255	725	12,980
2029	12,262	710	12,971
2030	12,308	696	13,003
2031	12,367	697	13,064
2032	12,397	699	13,096
2033	12,470	701	13,170
2034	12,535	702	13,238
2035	12,619	705	13,324
2036	12,680	707	13,387
2037	12,736	709	13,445
2038	12,813	711	13,525
2039	12,880	714	13,594
2040	12,950	716	13,666
2041	13,028	718	13,747
2042	13,110	721	13,831
2043	13,195	723	13,918
2044	13,289	726	14,015
2045	13,369	728	14,097
2046	13,452	731	14,183
2047	13,535	733	14,268
2048	13,624	736	14,360
2049	13,718	738	14,457
2050	13,817	741	14,558

% NRW	NRW GPD/Svc
6.5%	41
6.4%	40
6.3%	39
6.2%	38
6.0%	38
5.9%	37
5.8%	36
5.7%	35
5.6%	35
5.5%	34
5.3%	33
5.3%	33
5.3%	33
5.3%	33
5.3%	33
5.3%	33
5.3%	33
5.3%	33
5.3%	33
5.2%	33
5.2%	33
5.2%	33
5.2%	33
5.2%	33
5.2%	33
5.2%	33
5.2%	33
5.1%	33
5.1%	33
5.1%	33
5.1%	33

Projected GPCD

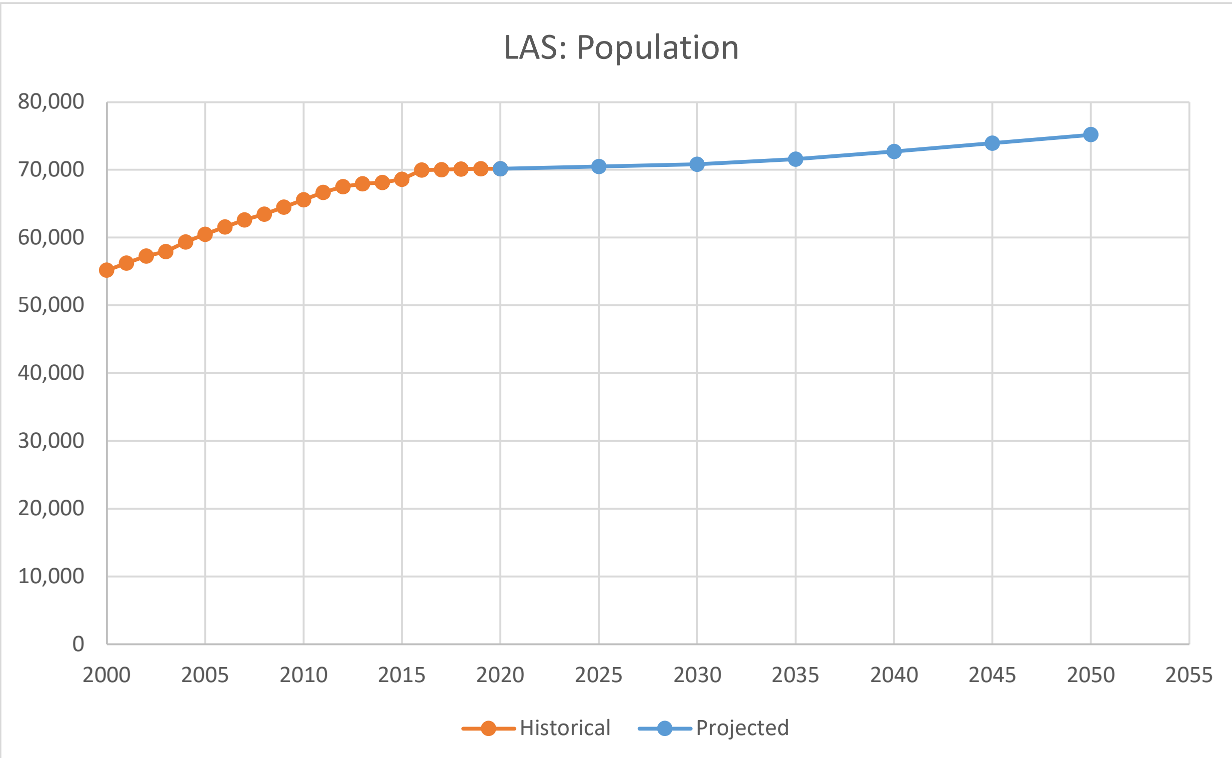
		GPCD	
YEAR	POPULATION	RESIDIDENTIAL	TOTAL
2020	70,161	144	166
2021	70,219	142	164
2022	70,278	143	164
2023	70,337	143	164
2024	70,396	144	165
2025	70,454	144	165
2026	70,511	145	165
2027	70,569	144	164
2028	70,627	144	164
2029	70,686	144	164
2030	70,815	144	164
2031	70,945	144	164
2032	71,075	144	164
2033	71,206	144	165
2034	71,337	144	166
2035	71,560	144	166
2036	71,786	144	166
2037	72,013	144	167
2038	72,243	144	167
2039	72,474	143	167
2040	72,708	143	168
2041	72,944	143	168
2042	73,183	143	169
2043	73,423	143	169
2044	73,666	143	170
2045	73,911	143	170
2046	74,159	143	171
2047	74,409	143	171
2048	74,661	142	172
2049	74,916	142	172
2050	75,173	142	173

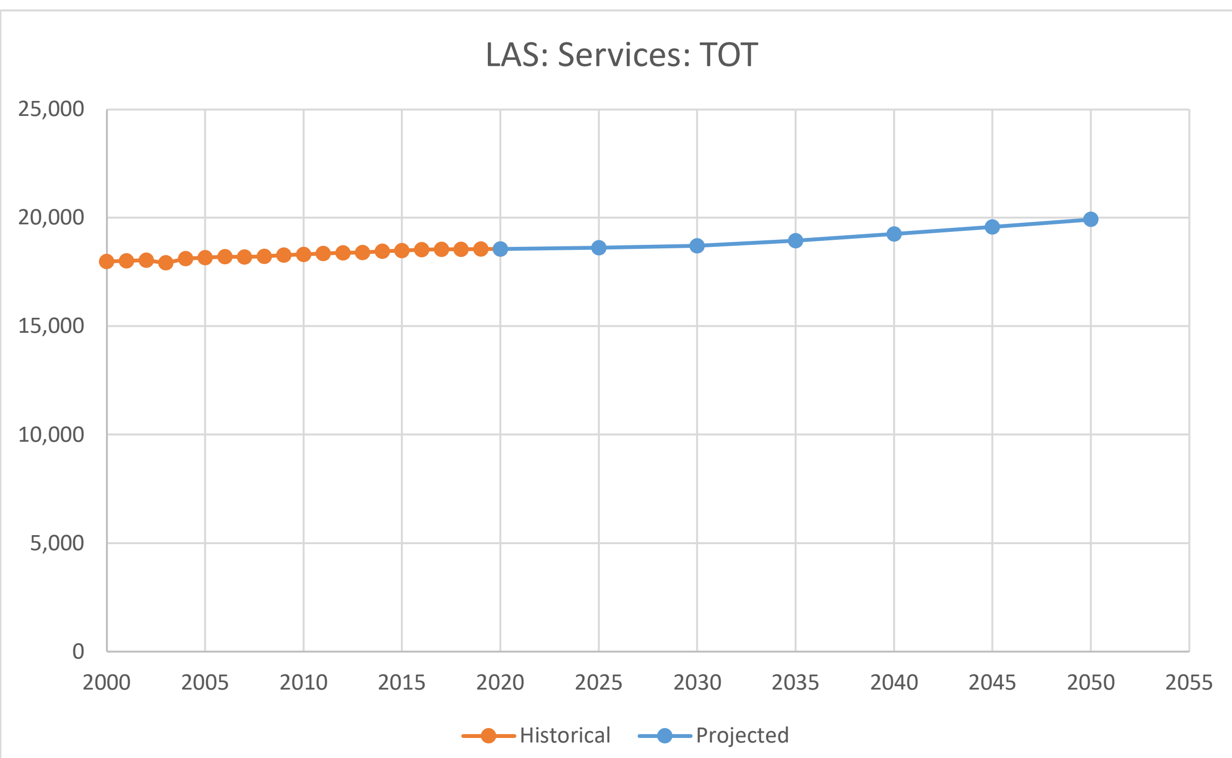
District Demand Projection Report
Los Altos

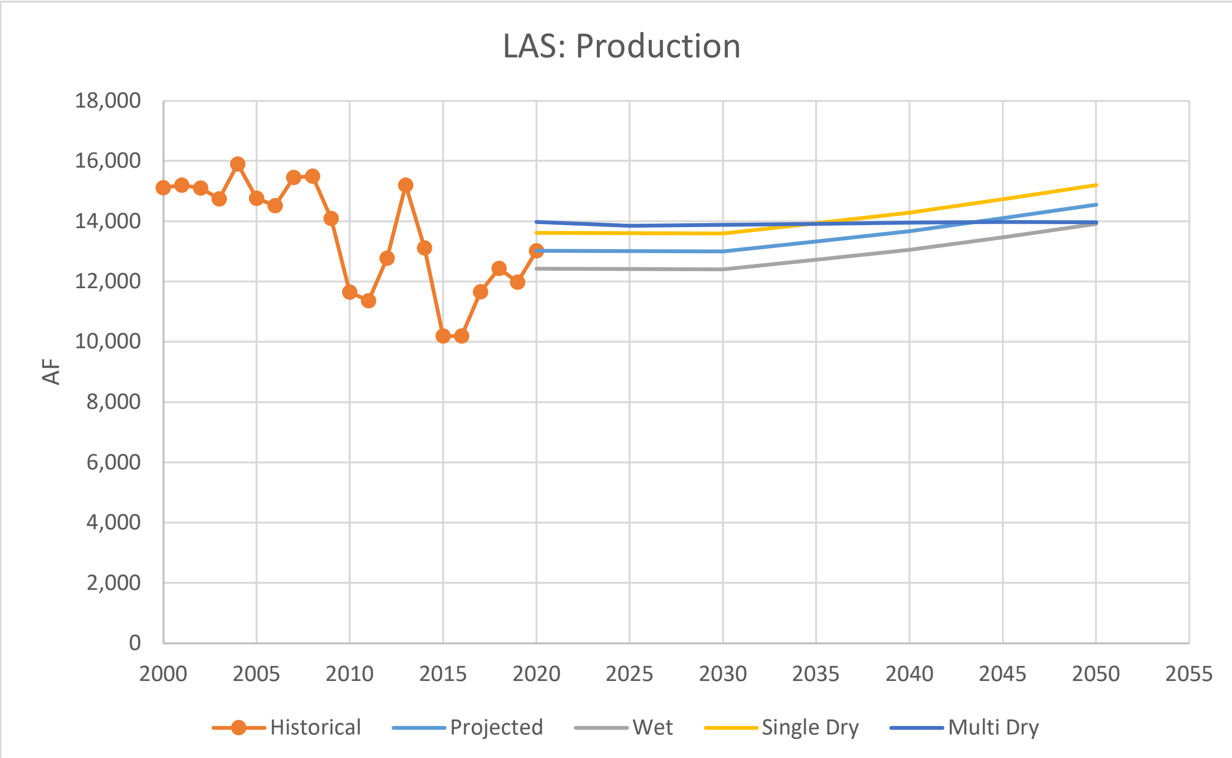
Normal, Single-Year, and Multi-Year Dry Year Demand (AF)

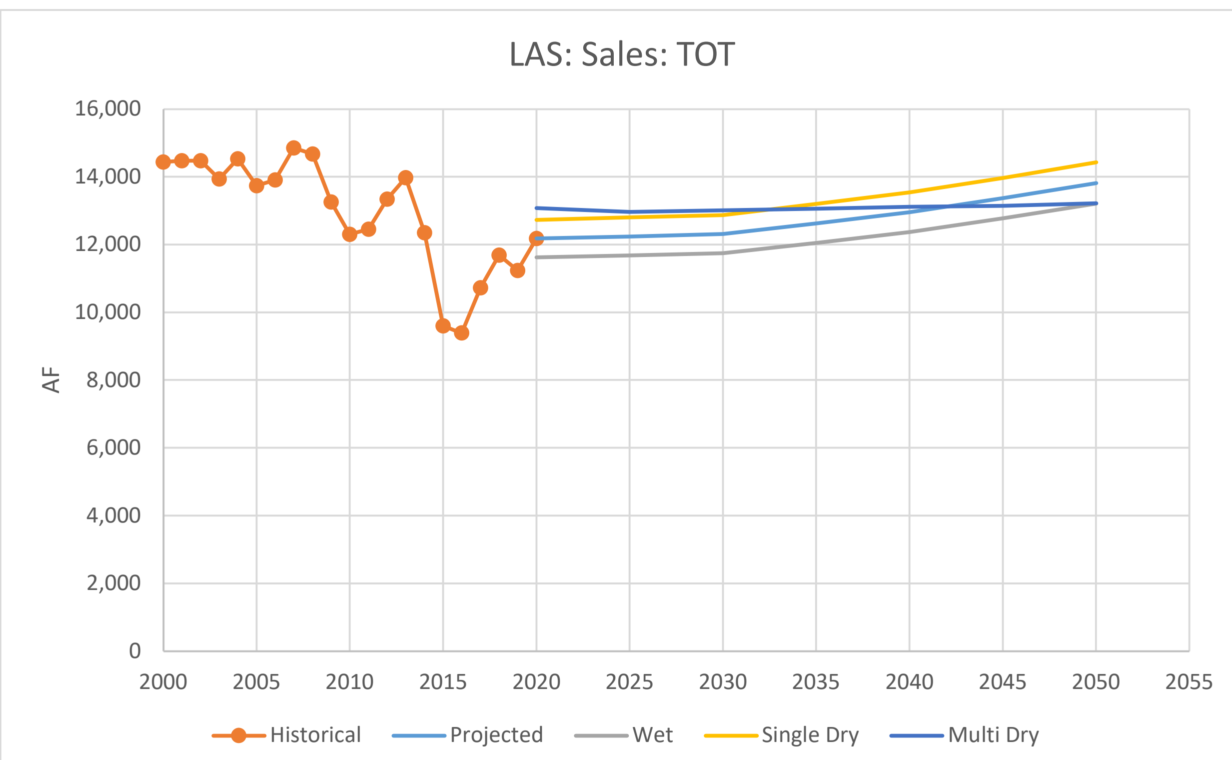
YEAR		NORMAL		SINGLE DRY YEAR	% OF NORMAL		MULTI DRY YEAR	% OF NORMAL
2020		13,023		13,617	105%		13,985	107%
2021		12,901		13,489	105%		13,853	107%
2022		12,926		13,516	105%		13,881	107%
2023		12,956		13,548	105%		13,914	107%
2024		12,995		13,589	105%		13,957	107%
2025		13,007		13,602	105%		13,970	107%
2026		13,022		13,618	105%		13,986	107%
2027		12,993		13,587	105%		13,955	107%
2028		12,980		13,574	105%		13,941	107%
2029		12,971		13,565	105%		13,933	107%
2030		13,003		13,598	105%		13,966	107%
2031		13,064		13,661	105%		14,030	107%
2032		13,096		13,693	105%		14,063	107%
2033		13,170		13,770	105%		14,142	107%
2034		13,238		13,840	105%		14,213	107%
2035		13,324		13,929	105%		14,304	107%
2036		13,387		13,994	105%		14,370	107%
2037		13,445		14,053	105%		14,430	107%
2038		13,525		14,136	105%		14,514	107%
2039		13,594		14,206	105%		14,585	107%
2040		13,666		14,281	104%		14,661	107%
2041		13,747		14,364	104%		14,746	107%
2042		13,831		14,450	104%		14,834	107%
2043		13,918		14,540	104%		14,925	107%
2044		14,015		14,641	104%		15,028	107%
2045		14,097		14,725	104%		15,114	107%
2046		14,183		14,813	104%		15,203	107%
2047		14,268		14,901	104%		15,293	107%
2048		14,360		14,995	104%		15,388	107%
2049		14,457		15,095	104%		15,490	107%
2050		14,558		15,200	104%		15,597	107%

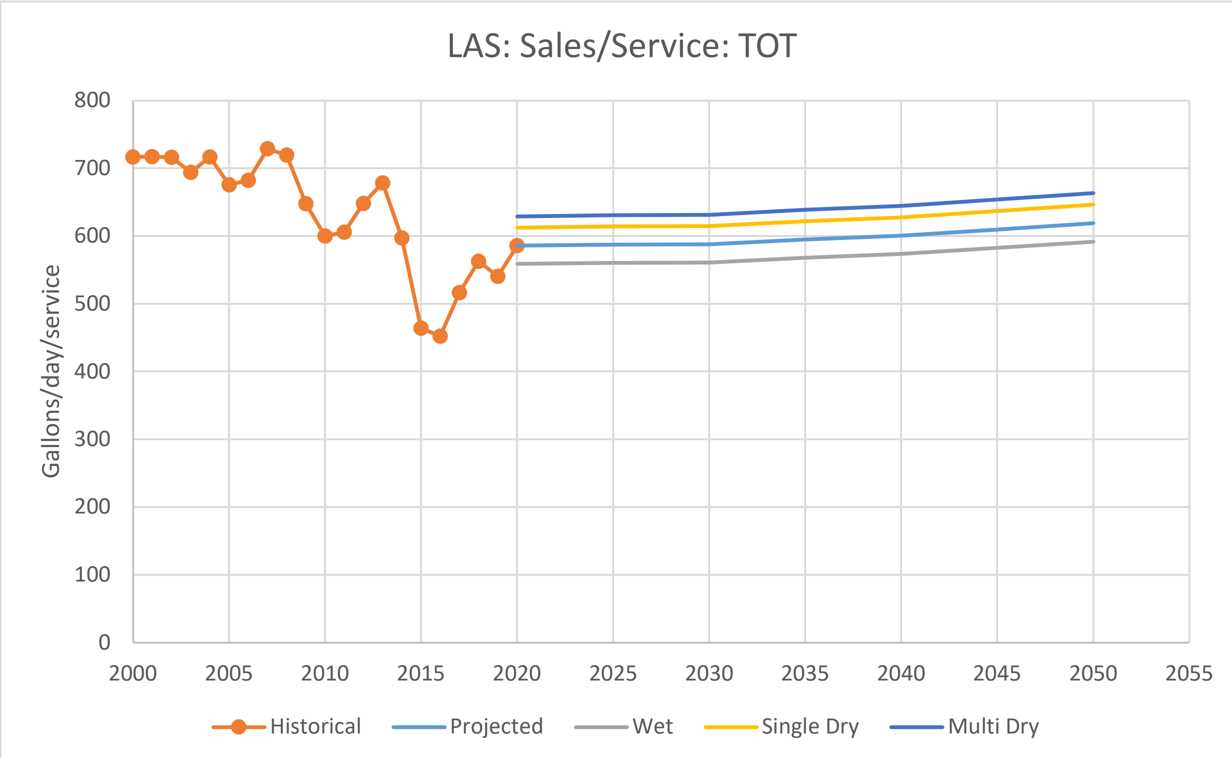
Charts

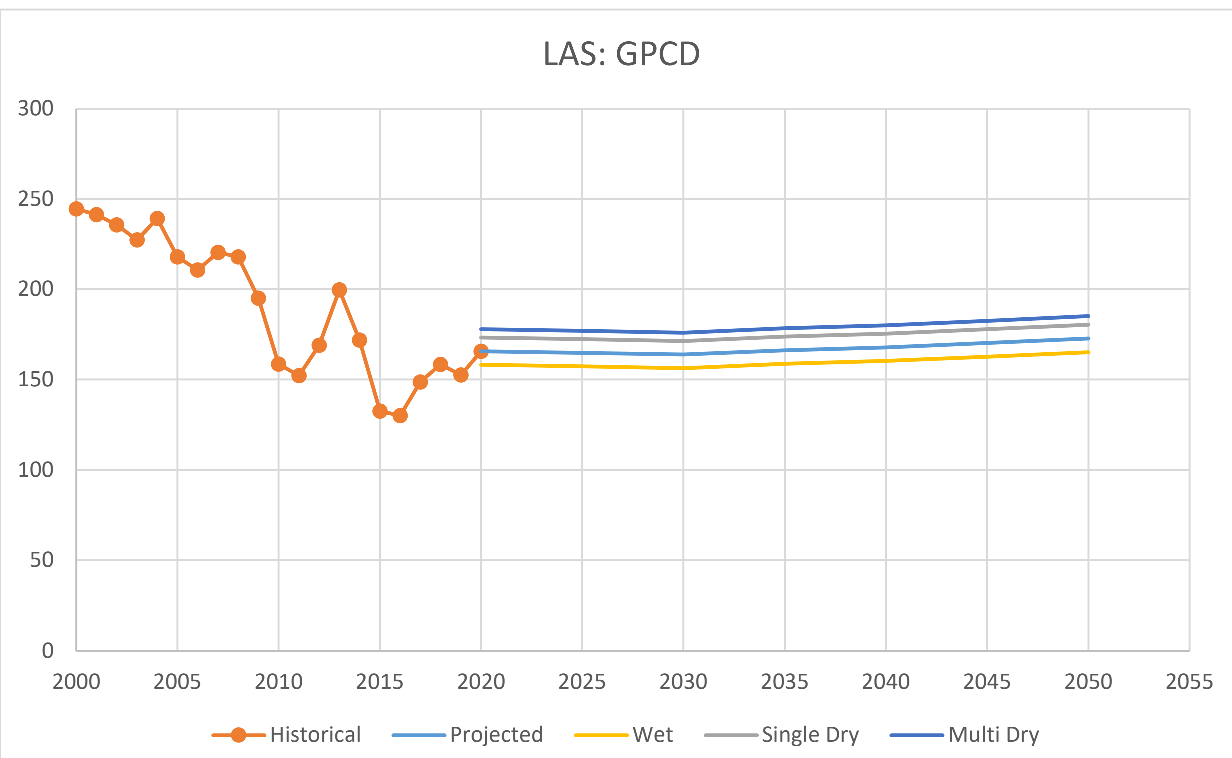

LAS: Population
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Historical
Projected


LAS: Services: TOT
25,000
20,000
15,000
10,000
5,000
0
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Historical
Projected


LAS: Production
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
AF
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Historical
Projected
Wet
Single Dry
Multi Dry


LAS: Sales: TOT
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
AF
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Historical
Projected
Wet
Single Dry
Multi Dry


LAS: Sales/Service: TOT
Gallons/day/service
0
100
200
300
400
500
600
700
800
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Historical
Projected
Wet
Single Dry
Multi Dry


LAS: GPCD
0
50
100
150
200
250
300
2000
2005
2010
2015
2020
2025
2030
2035
2040
2045
2050
2055
Historical
Projected
Wet
Single Dry
Multi Dry

California Water Service Company - Los Altos District
Water Supply and Demand Analysis and Projections
Total Annual Production

Year	Purchased MGD	Wells MGD	Leased MGD	Total MGD	Purchased AF	Wells AF	Leased AF	Total AF
1980	6.78	4.21	0.22	11.21	7,594	4,720	241	12,556
1981	5.97	5.39	0.13	11.48	6,685	6,036	141	12,862
1982	6.06	4.72	0.11	10.89	6,789	5,290	124	12,203
1983	7.12	4.38	0.10	11.60	7,981	4,904	111	12,995
1984	8.26	4.55	0.21	13.02	9,254	5,092	235	14,582
1985	8.49	4.47	0.09	13.05	9,509	5,005	105	14,619
1986	8.23	4.83	0.08	13.13	9,215	5,409	86	14,710
1987	8.36	4.98	0.04	13.38	9,360	5,579	49	14,988
1988	8.04	5.10	0.03	13.17	9,010	5,708	35	14,753
1989	7.18	4.04	0.00	11.22	8,038	4,528	5	12,571
1990	7.99	2.51	0.00	10.50	8,952	2,808	0	11,760
1991	5.40	3.78	0.00	9.18	6,044	4,234	4	10,282
1992	6.01	4.29	0.02	10.32	6,734	4,807	22	11,563
1993	7.71	3.72	0.02	11.45	8,637	4,170	19	12,826
1994	9.33	2.10	0.00	11.44	10,451	2,356	4	12,810
1995	9.40	1.74	0.01	11.15	10,528	1,951	9	12,488
1996	9.44	2.42	0.03	11.89	10,576	2,706	37	13,319
1997	9.39	3.53	0.01	12.93	10,513	3,956	9	14,479
1998	9.08	2.47	0.15	11.70	10,176	2,772	163	13,110
1999	9.30	3.45	0.00	12.75	10,418	3,860	0	14,278
2000	10.00	3.49	0.00	13.49	11,203	3,908	0	15,111
2001	10.09	3.48	0.00	13.57	11,298	3,898	0	15,196
2002	10.07	3.42	0.00	13.48	11,277	3,827	0	15,104
2003	9.20	3.96	0.00	13.16	10,305	4,433	0	14,738
2004	8.47	5.72	0.00	14.19	9,489	6,409	0	15,898
2005	8.56	4.61	0.00	13.17	9,593	5,165	0	14,758
2006	9.00	3.96	0.00	12.96	10,084	4,434	0	14,518
2007	9.93	3.86	0.00	13.79	11,126	4,325	0	15,451
2008	10.11	3.71	0.00	13.83	11,329	4,161	0	15,490
2009	7.94	4.64	0.00	12.58	8,892	5,200	0	14,092
2010	7.37	3.03	0.00	10.40	8,252	3,396	0	11,648
2011	7.57	2.57	0.00	10.14	8,478	2,881	0	11,358
2012	7.60	3.81	0.00	11.41	8,513	4,266	0	12,779
2013	9.11	4.45	0.00	13.56	10,203	4,990	0	15,192
2014	6.14	5.57	0.00	11.71	6,872	6,240	0	13,112
2015	6.11	2.98	0.00	9.10	6,848	3,341	0	10,189
2016	6.94	2.16	0.00	9.10	7,774	2,420	0	10,194
2017	6.61	3.79	0.00	10.41	7,407	4,249	0	11,656
2018	6.75	4.35	0.00	11.10	7,563	4,875	0	12,438
2019	8.54	2.16	0.00	10.70	9,569	2,414	0	11,982
2020	9.19	2.44	0.00	11.63	10,294	2,729	0	13,023
2021								
2022								
2023								
2024								
2025								
2026								
2027								
2028								
2029								
2030								

Appendix F: DWR SB X7-7 Verification Forms

Water Conservation Act of 2009
SB X7-7
Verification Forms

Los Altos Suburban District

2020 Urban Water Management Plan
Appendix F

SB X7-7 Table-1: Baseline Period Ranges			
Baseline	**Parameter**	**Value**	**Units**
10- to 15-year baseline period	2008 total water deliveries	15,490	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	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	1996	
	Year ending baseline period range[3]	2005	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range[4]	2007	

[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.

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☐	**1. Department of Finance** (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☑	**4. Other** DWR recommends pre-review
NOTES: Cal Water uses a population estimation methodology based on overlaying Census Block data from the 2000 and 2010 Censuses with the District's service area. LandView 5 and MARPLOT software are used with these data to estimate population per dwelling unit for 2000 and 2010. The per dwelling unit population estimates are then combined with Cal Water data on number of dwelling units served to estimate service area population for non-Census years. Cal Water also estimated service area population using DWR's Population Tool. The estimates prepared using Cal Water's methodology and DWR's Population Tool differed by less than one percent. Cal Water is electing to use the population estimates produced by its methodology in order to maintain consistency with population projections it has prepared in other planning documents and reports.	

SB X7-7 Table 3: Service Area Population		
Year		**Population**
10 to 15 Year Baseline Population		
Year 1	1996	53,094
Year 2	1997	53,481
Year 3	1998	54,755
Year 4	1999	55,092
Year 5	2000	55,177
Year 6	2001	56,245
Year 7	2002	57,256
Year 8	2003	57,644
Year 9	2004	59,362
Year 10	2005	60,450
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2003	57,644
Year 2	2004	59,362
Year 3	2005	60,450
Year 4	2006	61,529
Year 5	2007	62,565
2015 Compliance Year Population		
2015		68,604

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

Baseline Year *Fm SB X7-7 Table 3*		Volume Into Distribution System *This column will remain blank until SB X7-7 Table 4-A is completed.*	Deductions: Exported Water	Deductions: Change in Dist. System Storage (+/-)	Deductions: Indirect Recycled Water *This column will remain blank until SB X7-7 Table 4-B is completed.*	Deductions: Water Delivered for Agricultural Use	Deductions: Process Water *This column will remain blank until SB X7-7 Table 4-D is completed.*	Annual Gross Water Use
10 to 15 Year Baseline - Gross Water Use								
Year 1	1996	13,319			-		-	13,319
Year 2	1997	14,479			-		-	14,479
Year 3	1998	13,110			-		-	13,110
Year 4	1999	14,278			-		-	14,278
Year 5	2000	15,111			-		-	15,111
Year 6	2001	15,196			-		-	15,196
Year 7	2002	15,104			-		-	15,104
Year 8	2003	14,738			-		-	14,738
Year 9	2004	15,898			-		-	15,898
Year 10	2005	14,758			-		-	14,758
Year 11	0	-			-		-	-
Year 12	0	-			-		-	-
Year 13	0	-			-		-	-
Year 14	0	-			-		-	-
Year 15	0	-			-		-	-
10 - 15 year baseline average gross water use								**14,599**
5 Year Baseline - Gross Water Use								
Year 1	2003	14,738			-		-	14,738
Year 2	2004	15,898			-		-	15,898
Year 3	2005	14,758			-		-	14,758
Year 4	2006	14,518			-		-	14,518
Year 5	2007	15,451			-		-	15,451
5 year baseline average gross water use								**15,073**
2015 Compliance Year - Gross Water Use								
2015		10,188	-		-		-	**10,188**

* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3

SB X7-7 Table 4-A: Volume Entering the Distribution System(s) Complete one table for each source.				
Name of Source		Wells		
This water source is:				
☑	The supplier's own water source			
☐	A purchased or imported source			
Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1996	2,743		2,743
Year 2	1997	3,966		3,966
Year 3	1998	2,935		2,935
Year 4	1999	3,860		3,860
Year 5	2000	3,908		3,908
Year 6	2001	3,898		3,898
Year 7	2002	3,827		3,827
Year 8	2003	4,433		4,433
Year 9	2004	6,409		6,409
Year 10	2005	5,165		5,165
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-
5 Year Baseline - Water into Distribution System				
Year 1	2003	4,433		4,433
Year 2	2004	6,409		6,409
Year 3	2005	5,165		5,165
Year 4	2006	4,434		4,434
Year 5	2007	4,325		4,325
2015 Compliance Year - Water into Distribution System				
2015		3,341		3,341
** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*				
NOTES:				

SB X7-7 Table 4-A: Volume Entering the Distribution				
Name of Source		SCVWD		
This water source is:				
☐	The supplier's own water source			
☑	A purchased or imported source			
Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment* *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1,996	10575.6532		10,576
Year 2	1,997	10513.3395		10,513
Year 3	1,998	10175.4923		10,175
Year 4	1,999	10418.0415		10,418
Year 5	2,000	11202.8039		11,203
Year 6	2,001	11297.6232		11,298
Year 7	2,002	11276.6382		11,277
Year 8	2,003	10305.2017		10,305
Year 9	2,004	9489.14889		9,489
Year 10	2,005	9593.00296		9,593
Year 11	-			0
Year 12	-			0
Year 13	-			0
Year 14	-			0
Year 15	-			0
5 Year Baseline - Water into Distribution System				
Year 1	2,003	10305.2017		10,305
Year 2	2,004	9489.14889		9,489
Year 3	2,005	9593.00296		9,593
Year 4	2,006	10083.9659		10,084
Year 5	2,007	11125.7658		11,126
2015 Compliance Year - Water into Distribution System				
2015		6,848		6,848
** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*				

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1996	53,094	13,319	224
Year 2	1997	53,481	14,479	242
Year 3	1998	54,755	13,110	214
Year 4	1999	55,092	14,278	231
Year 5	2000	55,177	15,111	244
Year 6	2001	56,245	15,196	241
Year 7	2002	57,256	15,104	235
Year 8	2003	57,644	14,738	228
Year 9	2004	59,362	15,898	239
Year 10	2005	60,450	14,758	218
Year 11	0	-	-	
Year 12	0	-	-	
Year 13	0	-	-	
Year 14	0	-	-	
Year 15	0	-	-	
10-15 Year Average Baseline GPCD				**232**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2003	57,644	14,738	228
Year 2	2004	59,362	15,898	239
Year 3	2005	60,450	14,758	218
Year 4	2006	61,529	14,518	211
Year 5	2007	62,565	15,451	220
5 Year Average Baseline GPCD				**223**
2015 Compliance Year GPCD				
2015		68,604	10,188	**133**

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	232
5 Year Baseline GPCD	223
2015 Compliance Year GPCD	133

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

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	**2020 Target GPCD**
232	**185**

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target[1]	Calculated 2020 Target[2]	**Confirmed 2020 Target**
223	212	185	**185**

[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.

Appendix G: Climate Change Studies – Executive Summaries

Climate Change-Water Resource Monitoring and Adaptation Plan – Phase 1

December 17, 2020

California Water Service
1720 North First Street
San Jose, CA 95112

Submitted by:
ICF
555 W 5th St
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Executive Summary

Shifts in the frequency and severity of natural hazards resulting from climate change, often referred to as climate hazards, increasingly threaten water resources in California. These relevant climate hazards include reductions to snowpack, greater concentrations of precipitation in both a shorter rain season and isolated atmospheric river events, and more volatility between wet and dry water years.

To identify and prepare for impacts from these hazards, California Water Service (Cal Water) is seeking to identify climate change vulnerabilities to water supplies, operations and facilities, and to develop adaptation strategies to address those vulnerabilities through a Climate Change Water Resources Monitoring and Adaptation Plan. This body of work is intended to provide Cal Water with information to inform decisions on water system/asset management and resource planning to better prepare for and respond to current and projected changes to climate. This work represents a forward-looking approach in addressing climate risks for California utilities, as the large majority of water wholesaler and utilities have not completed climate vulnerability and adaptation plans.

In the first phase of this effort, the ICF team collaborated with Cal Water to conduct a literature and tools review as the foundation for subsequent phases of work. In Phase 2 of this project, the ICF team and Cal Water will undertake a vulnerability assessment of Cal Water's facilities and operations by developing an assessment approach that evaluates climate impacts to Cal Water, identifies asset vulnerabilities, and prioritizes climate risks. Phase 3 will focus on an assessment of climate-driven impacts to water supply resources and demand. This first phase of research and assessment will provide Cal Water with a clear "lay of the land" in understanding available methodologies and lessons learned in conducting vulnerability assessments and developing adaptation plans in the water sector. This work can provide key insights for Cal Water, industry practitioners, and Cal Water customers on best practices and needs in climate vulnerability and adaptation efforts.

This first phase will also act as a foundation for Cal Water to build on in subsequent phases of work. ICF and Cal Water will build on research and findings developed in Phase 1 to define the scope of Phases 2 and 3.

In Phase 1, the ICF team undertook three areas of review:

1) Literature and tools related to adaptation planning by water suppliers and other relevant organizations
2) Methods and data in Cal Water's 2016 Vulnerability Study "Potential Climate Change Impacts on the Water Supplies of California Water Service"
3) Climate change impact assessments and adaptation plans beyond Cal Water (wholesalers, state agencies) that could affect Cal Water's vulnerability or adaptive capacity

In the first part of our assessment, the studies we reviewed conclude that there is high certainty of climate-driven reductions to snowpack, wetter winter months, and more volatility between wet and dry water years. While California water systems are designed to operate under a wide range of hydrologic conditions, they are not designed to absorb and adapt to the projected levels of change, which could have impacts on historical supplies from reservoir systems and groundwater systems. These studies also revealed a suite of potential approaches to vulnerability assessment and risk assessment that are applicable to Phases 2 and 3.

Key studies that the ICF team referenced include Brown and Caldwell's "Impacts of Climate Change on Honolulu Water Supplies and Planning Strategies for Mitigation", the Water Research Foundation's (WRF)'s "Mapping Climate Exposure and Climate Information Needs to Water Utility Business Functions", the Metropolitan Water District's (MWD)'s "2015 Integrated Water Resources Plan" and "2015 Urban Water Management Plan", and the U.S. Environmental Protection Agency's (EPA's) Climate Resilience Evaluation and Awareness Toolkit (CREAT).

In the second part of our review, we found that Cal Water's 2016 Climate Change Vulnerability Study undertook a high-level investigation of impacts of climate change on water supply, including surface water, groundwater, and imported water throughout Cal Water service areas. However, the study did not use uniform metrics across water suppliers, was unable to apply the currently available downscaled climate projections, and did not consider the full suite of potential climate impacts to Cal Water's systems, including impacts of compounding climate hazards and impacts on Cal Water facilities and operations.

In the third part of this work, the ICF team researched and assessed existing climate vulnerability assessments and adaptation efforts that have an impact on Cal Water's ability to mitigate impacts from climate change. This included efforts by water supply wholesalers connected to Cal Water's system, and state agencies that regulate Cal Water's supplies, operations, and planning efforts. This will allow Cal Water to build on existing actions and avoid recreating adaptation efforts that are planned or have been implemented.

Cal Water has undertaken key steps toward adaptation planning since the 2016 Vulnerability Study, such as this work to provide additional vulnerability analysis, working locally to identify and prepare to meet Sustainable Groundwater Management Act (SGMA) requirements, and coordinating with wholesalers on their identified climate-driven vulnerabilities. Phases 2 and 3 of this work will further frame system vulnerabilities within an adaptation planning context for a flexible and anticipatory response.

The ICF team's literature review focused on identifying approaches for assessing water utility vulnerabilities of assets and water resources, and adaptation planning needs (summarized in Table 1). To identify these priority approaches, the team reviewed a list of publications with input from Cal Water on key sources. We reviewed and analyzed the relevant literature for applicability to Cal Water, the advantages and fit within a robust plan for assessment, and the potential disadvantages. We highlighted those approaches in the sections on key takeaways and the applicability of approaches to Cal Water. Table 1 provides important considerations raised by the ICF team during this process.

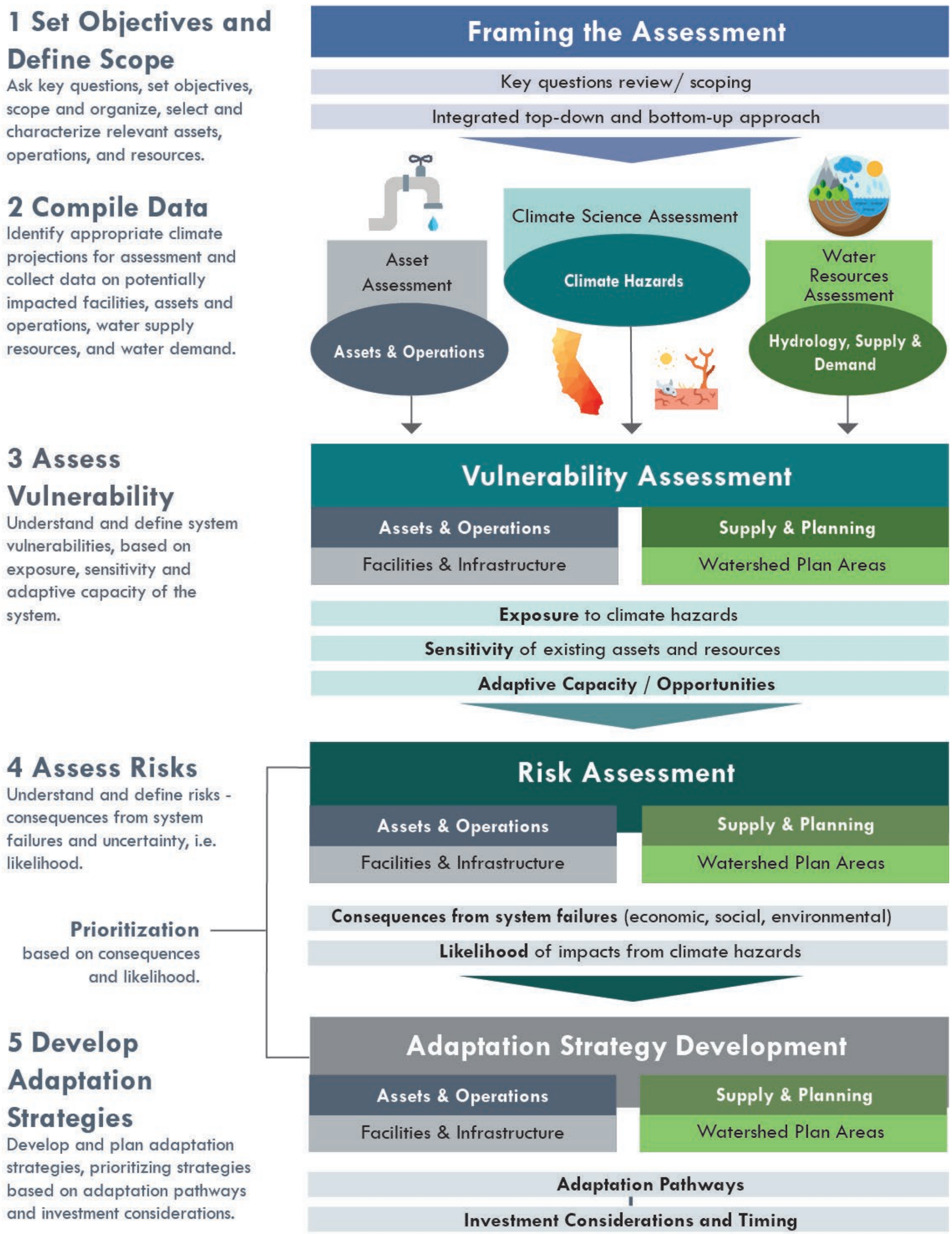
Table 1: Advantages and disadvantages of identified approaches

Identified Approach	Advantages	Disadvantages
Integrated resource-level (i.e., top-down) and asset-level (i.e., bottom-up) approaches to vulnerability assessment	• Allows for matching available information with appropriate methodologies • Supports evaluation of vulnerabilities in both water supply resources and physical systems: an integrated approach can help to address gaps in either area	• Bottom-up approaches can require extensive historical data and asset-level data • Integration of climate projections into hydrological models can be challenging. For example, data inputs for hydrological models and the outputs from climate projections may be incompatible or require additional data processing
Robust Decision-Making	• Supports identification of decisions for response under a range of potential climate futures • Supports alignment between climate impacts and operating units/business functions • Ensures the scope focuses on critical services, assets, and resources • Supports the development of adaptation pathways and measures • Provides a framework for information that can signal the need for critical decisions on adaptation	• Involves significant investment of time to identify performance metrics, business functions, and key variables • Even with significant time invested on the front end, scope can change and require rescoping later in the effort • Requires a strong understanding of utility decision-making
Applying climate projections to hydrologic modeling, future demand and planning scenarios	• Generates better understanding of impacts of extreme scenarios, snowpack loss, drought, increased temperatures, precipitation whiplash, and other hydrologic changes in water supply resources and downstream demands • Allows for modeling of a range of climate scenarios to better account for uncertainties in resource management and climate outcomes • Integrates climate projections with scaled historical time series data	• Can require substantial data, and may introduce bias (due to selected climate scenarios) • It is necessary to identify performance metrics and thresholds related to available climate variables; these can be difficult to identify and thresholds may not exist • Relies on necessary simplifying assumptions to model complex hydrologic systems
Stress testing and scenarios	• Supports management of uncertainty, especially in the absence of data • Allows for understanding of climate impacts on system performance within a risk framework	• Can require refined climate information (e.g. hydrological variables) and detailed asset information • Can require the integration of climate information into hydrological models, which may require

Identified Approach	Advantages	Disadvantages
	• Supports identification of major performance metrics and their potential for failure • Helps in understanding how the severity of impacts varies for facilities, operations, and water supplies under different climate change conditions.	significant data processing to be compatible with one another • Can result in qualitative or directional findings that don't provide straightforward adaptation responses
Engaging staff in climate change vulnerability assessments and adaptation plans	• Provides perspective for setting study parameters • Provides targeted input and data into assessment • Identifies existing data gaps and actions to address gaps • Supports development of institutional capacity for monitoring impacts, adaptation planning, and implementation	• Can be time-consuming for team members attending workshops and interviews; requires a targeted approach to ensure efficiency and that the right data is captured • Requires cross-team coordination that may be outside of "normal" communication pathways, e.g. between engineers and policy specialists
Evaluating costs of inaction	• Helps to prioritize adaptation planning needs • Creates a better understanding of the risks to Cal Water	• Requires scaling information on past costs without clear data on future impacts, creating uncertainties in estimates
Use of Flexible Adaptation Pathways	• Helps to select appropriate timing (including lead time from planning to implementation) and application of adaptation measures • Considers and compares multiple strategies in adaptation planning • Includes triggers that signal when decision-makers should decide on switching to another pathway • Allows for adaptive decisions under uncertainty by integrating points for re-assessing pathway and actions • Considers alternative external developments over time	• Does not provide a fixed timeline for actions • This approach is relatively new and may require coordination with budget cycles and external policy updates, since actions evolve over time • May push decision burden onto future decision-makers who did not develop original pathway

Our team synthesized these identified methodologies, findings, and insights into an overarching approach for characterizing climate vulnerabilities and planning for adaptation at both an asset level and water supply planning level to suit Cal Water's needs in addressing climate change impacts, shown in Figure 1.

Figure 1: Climate Assessment Framework



Source: Silvestrum Climate Associates, October 2020

Based on this review, the ICF team is making the following key recommendations for guiding Cal Water's efforts in identifying climate vulnerabilities and planning for adaptation:

- **Apply a standard conceptual framework to vulnerability assessment which integrates both top-down analysis and bottom-up analysis (see Figure 1).** The standard conceptual framework for assessing climate vulnerabilities and risks includes understanding exposure, sensitivity, and adaptive capacity, and potential impacts as components of vulnerability, and consequence and likelihood as components of risk. Top-down analysis would begin by applying downscaled Global Climate Model (GCM) projections to assess impacts on water supply resources and the bottom-up analysis would begin by identifying system sensitivities to climate hazards. These analyses are complementary.
- **Use a robust decision making (RDM) framework for vulnerability assessment and adaptation planning** by seeking to identify decisions for response under a range of potential climate futures, mapping impacts on operating units/business functions, and ensuring that the scope focuses on critical services, assets, and resources. A robust decision-making framing will support the development of adaptation pathways and measures by monitoring information that signals the need for critical decisions on adaptation.
- **Engage staff and key stakeholders in the planning process** to gain a holistic planning perspective for setting study parameters, providing targeted input into assessment and plan development, and supporting institutional capacity for adaptation.
- **Build off of the 2016 Cal Water Climate Change Impact study by applying updated climate models and projections for additional hydrologic variables** to hydrologic modeling, future demand and planning scenarios, and scaled historical time series data to better understand impacts of extremes, precipitation whiplash, and other hydrologic changes in water supply resources. We recommend presentation of this with uniform metrics for more actionable findings.
- **Assess climate impact consequence by stress-testing key water system performance metrics.** This includes developing a range of impact scenarios to understand how the severity of impacts varies for facilities, operations, and water supplies under different climate change conditions.
- **Evaluating the order of magnitude cost of inaction.** We recommend communicating consequences in terms of direct costs to Cal Water and customers without adaptation actions to prioritize adaptation response.
- **Follow a step-by-step, iterative process to adaptive management which fully aligns with potential exposure to climate hazards and vulnerabilities**, including:
    - Utilizing Flexible Adaptation Pathways in planning for selecting appropriate timing and application of adaptation measures
    - Planning for monitoring and evaluation
    - Evaluating adaptation investment decisions

During Phases 2 and 3 in which Cal Water and the ICF team will further assess vulnerability, we will frame the study outputs within a decision-making context for compatibility with adaptation planning concepts and eventual investment in adaptation measures.

Potential Climate Change Impacts on the Water Supplies of California Water Service

Prepared by

Gary Fiske and Associates, Inc.
Balance Hydrologics, Inc.

January 2016

Executive Summary

Introduction

California Water Service Company (Cal Water) provides water service to roughly 478,000 customers – about 1.7 million people – located in 83 state-wide communities in 24 service districts. Cal Water's districts rely on a variety of supply sources, including local groundwater, local surface water, and imported supplies. It is critical for Cal Water to gain a better understanding of the potential impacts of climate change on the availability of those supplies. Impacts are inherently uncertain, but Cal Water believes that the only responsible course is to carefully incorporate climate change into its ongoing water supply planning.

The present project and report represent a first step in that path. In order for Cal Water to determine how its long-term water supply planning should reflect climate change impacts, it must first have an understanding of what the impacts of climate change on its supply sources might be. That is the purpose of this study.

The work reported on here focuses on the sample of Cal Water districts highlighted in Figure ES-1. These districts account for 85% of Cal Water's total 2014 production and reflect the diversity of all Cal Water districts, including geographic, hydrologic, and climatic conditions and primary and secondary supply sources.

Changes in climate can affect the availability of local groundwater and surface water supplies, as well as purchased imported supplies. This study separately addresses the impacts on each of these for each sample district. It relies on the best available projections of changes in climate (temperature and precipitation) through the end of the century. It then uses the climate projections to examine how surface water flows and groundwater recharge rates may change.

For imported supplies, this study relies on studies already completed by wholesale providers where possible. Where no such studies have been done or where the data from such studies was unavailable, other approaches were developed to estimate climate change impacts on these supplies.

The results reported here provide an integrated view of how projected climate changes may affect water supply availability for Cal Water's service districts. The results also represent a first step in integrating potential future climate change impacts into Cal Water's ongoing supply planning. Because of the inherent uncertainties, a nuanced risk assessment may be needed to guide the incorporation of these results into long-range planning. Beyond the Company's supply/infrastructure planning, the results also can affect the Company's triennial General Rate Cases; they may also have potential operational implications.

Figure ES- 1. Cal Water Service Districts with Sample Districts Highlighted

Estimating Changes in Climate

Climate change is primarily driven by increased concentrations of greenhouse gases (GHGs) in the atmosphere. The trajectory of future climate change is a function of the rate at which those concentrations are projected to increase and the manner in which the atmosphere and oceans respond to increased concentrations. Both are difficult to model. Thus, while the scientific community overwhelmingly agrees that climate change will occur (and indeed may already have begun), the trajectory of those changes is very uncertain.

The projections of temperature and precipitation that underlie this study are based on 40 of the latest Global Circulation Models (GCMs) run as part of the Coupled Model Intercomparison Project Phase 5 (CMIP5). Generally speaking, this type of approach is termed an ensemble analysis, for which the downscaled climate projections for any particular Cal Water Service District were based on the median of the 40 downscaled GCM datasets. The GCMs used by the analysis are driven by two GHG emission pathways that bound the possible trajectories of GHG concentrations.

Impacts of Climate Change on Water Supplies

The supplies for each district consist of a mix of local surface water, local groundwater, and/or purchased imports. Climate change impacts were estimated for each of these components. The approaches used for each are described below. Based on the breakdown of district production among the supply sources, Table ES-1 shows the ranges of projected overall climate change impacts on available supply, relative to the historic average.[1] Table ES-2 groups this vulnerability into 4 categories of expected change, and Figure ES-2 maps the end-of-century vulnerability.

[1] The historical averages used here, and elsewhere in this report, are based on the entire range of historical data available for the district-specific analyses. These ranges vary across districts, and are specified within the district-specific technical memoranda.

Table ES- 1. Projected Changes in Available Supply due to Climate Change

District		Percentage Change in Supply		
		2020	2050	2100
BK	Minimum	-10%	-10%	-12%
	Maximum	-12%	-16%	-20%
VIS	Minimum	-7%	-8%	-8%
	Maximum	-9%	-10%	-14%
KRV	Minimum	-13%	-16%	-19%
	Maximum	-16%	-21%	-31%
MPS/SSF/BG	Minimum	0%	-2%	-6%
	Maximum	0%	-7%	-15%
LAS	Minimum	-3%	-3%	-10%
	Maximum	-4%	-18%	-28%
CH	Minimum	2%	2%	0%
	Maximum	3%	1%	-3%
ORO	Minimum	0%	8%	5%
	Maximum	0%	-8%	-7%
DOM/HR/PV	Minimum	0%	0%	-1%
	Maximum	0%	-2%	-3%
STK	Minimum	0%	0%	-8%
	Maximum	0%	-14%	-17%
SLN	Minimum	-6%	-6%	-6%
	Maximum	-7%	-7%	-7%

Table ES- 2. Categories of Projected Supply Vulnerability

District	Supply Vulnerability		
	2020	2050	2100
KRV	3	4	4
BK	3	3	4
LAS	1	3	4
VIS	2	2	3
STK	1	2	3
SLN	2	2	2
MPS/SSF/BG	1	1	3
DOM/HR/PV	1	1	1
ORO	1	1	1
CH	1	1	1

Districts in Category 1 expect <5% reduction in supply. Category 2 indicates a reduction of 5-10%. Category 3 indicates an expected reduction of 10-15%. Category 4 reductions exceed 15%.

Figure ES- 2. Cal Water 2100 Vulnerability to Climate Change

Vulnerability levels:
Green = Low
Yellow = Moderate
Light Red = High
Dark Red = Very High

Estimating Climate Change Impacts on Local Surface Supplies

For those Cal Water districts that obtain a portion of their water supplies from local surface water, projected average annual precipitation in each of three forecast years (2020, 2050, 2100) were compared to historical precipitation to estimate the projected average annual discharge for that forecast year. Table ES-3 shows the estimated percent changes in surface water availability compared to historical averages.

Table ES- 3. Estimated Impacts on Local Surface Supply Availability

District		Percent Change in Runoff		
		2020	2050	2100
BK	Minimum Impact	-17%	-18%	-19%
	Maximum Impact	-18%	-19%	-23%
KRV	Minimum Impact	-17%	-18%	-19%
	Maximum Impact	-18%	-19%	-23%
MPS/SSF/BG	Minimum Impact	+3%	+6%	+12%
	Maximum Impact	+3%	+5%	+6%

Of the three districts, the two in the southern San Joaquin Valley are projected to experience significant reductions in their local surface supplies. In contrast, the Bear Gulch district surface supply is forecast to increase.

Estimating Climate Change Impacts on Local Groundwater Supplies

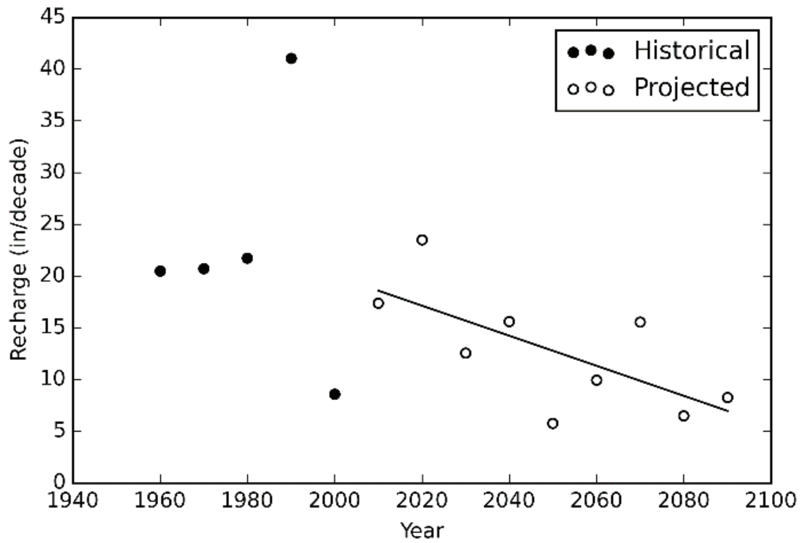
Climate change impacts on Cal Water's local groundwater supplies result from changes in projected groundwater recharge. The three groundwater recharge components include:

- Local river sources;
- Direct recharge from precipitation on the groundwater basin; and
- Recharge from agricultural and urban deep percolation.

The analysis first estimated the split of local recharge among these three components using geographic and geologic data, geochemical markers, and previously published reports and other supporting information. The climate change impacts on each component were then estimated, consolidated into overall projections of recharge impacts, and compared to estimated historical recharge rates.

Estimates of impacts on river recharge used the methodology for local surface supply described above. For the purposes of this phase of work, it was assumed that the change in recharge from the river is proportional to the change in total annual discharge. The estimated amount of water that will recharge directly into a groundwater basin from rain (or snow) is based on a balance of evapotranspiration (ET), precipitation rates, and soil water capacity. Recharge is estimated using both historical and projected precipitation and temperature data. Decadal averages in projected recharge are then used to calculate long-term trends. This is illustrated in Figure ES-3 for Kern River Valley.

Figure ES- 3. Historic and Projected Decadal Direct-Precipitation Recharge for Kern River Valley



A quantitative projection of recharge from deep percolation beneath irrigated fields and urban areas is beyond the scope of this phase. Instead, districts for which a significant proportion of recharge is from agricultural and urban water are identified and expected trends under climate change of this water source for those districts are estimated. At-risk service areas with decreasing agricultural and urban water sources can be explored further in future work.

The estimated percentage impacts on each of the recharge components are multiplied by the expected fractions that each component is of total recharge to calculate the range of expected recharge reductions. Table ES-4 shows those results for each district, excluding the impacts of urban/agricultural applied water percolation.

Actual impacts on Cal Water's ability to pump groundwater may be less than these recharge reductions because the storage volumes in different basins have differing degrees of responsiveness to changes in recharge. The degree to which changes in recharge volumes translate into available groundwater supply is a function of the hydrogeologic attributes of the basin. A detailed understanding of those characteristics would require a level of modeling that is well beyond the scope of this phase of work. Instead, the estimates of basin responsiveness were based on the historical record of how the basin's water level has varied with recent climate variability. For some districts, the basin appears to be highly responsive, while for others changes in climate do not have much impact.

Table ES- 4. Projected Changes in Average Annual Groundwater Recharge

District		Percentage Change in Recharge		
		2020	2050	2100
BK	Minimum	-14%	-15%	-15%
	Maximum	-14%	-15%	-18%
VIS	Minimum	-9%	-10%	-11%
	Maximum	-9%	-10%	-14%
KRV	Minimum	-13.4%	-19%	-23%
	Maximum	-15%	-22%	-35%
MPS/SSF/BG	Minimum	-2%	-4%	-6%
	Maximum	-2%	-6%	-12%
LAS	Minimum	-7%	-8%	-13%
	Maximum	-8%	-18%	-25%
CH	Minimum	6%	4%	1%
	Maximum	6%	2%	-4%
ORO	Minimum	0%	0%	0%
	Maximum	0%	0%	0%
DOM/HR/PV	Minimum	0%	0%	0%
	Maximum	0%	0%	0%
STK	Minimum	-2%	-3%	-6%
	Maximum	-2%	-4%	-7%
SLN	Minimum	-7%	-7%	-7%
	Maximum	-7%	-7%	-7%

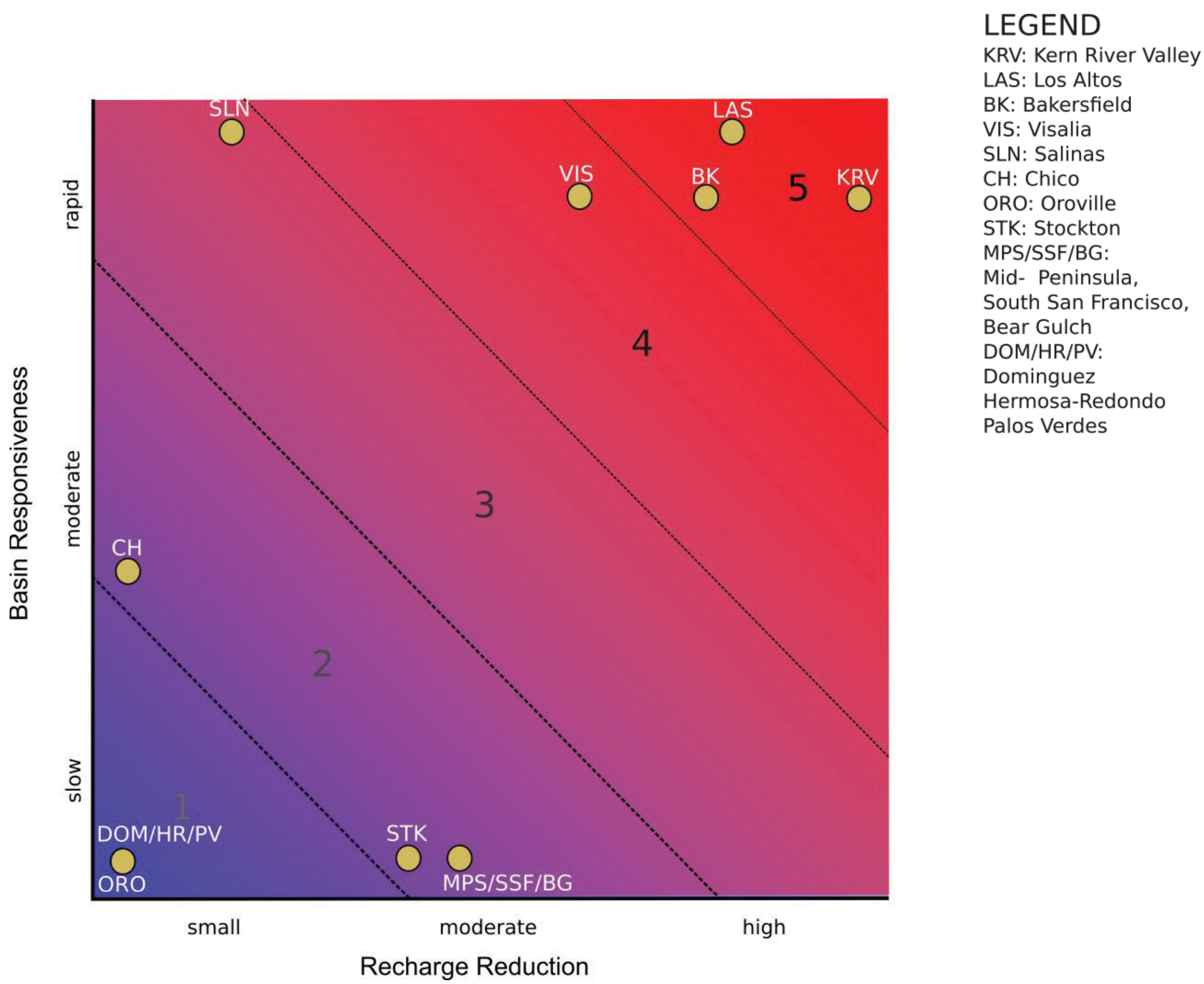
The overall risk to Cal Water's groundwater supplies for each district is based on the expected recharge reductions and the expected responsiveness of basin water level to those reductions. Table ES-5 rates each district's groundwater supply risk on a 1-5 scale, with 1 indicating little or no risk and 5 indicating high risk. Figure ES-4 is a visual depiction of these ratings.

Generally speaking, the groundwater supply impacts are large for the districts in the southern San Joaquin Valley. The Los Altos District also shows a high impact, largely because a significant portion of its recharge is from imported supplies, which are forecast to decrease significantly. Further north in the Central Valley, groundwater supplies are less affected. The Bay Area and Los Angeles Basin districts also show relatively smaller impacts.

Table ES- 5. District Groundwater Risk Ratings

District	Rating
BK	5
KRV	5
LAS	5
VIS	4
SLN	3
CH	2
MPS/SSF/BG	2
STK	2
ORO	1
DOM/HR/PV	1

Figure ES- 4. Groundwater Risk Ratings



Impacts of Climate Change on Imported Water Supplies

About half of Cal Water's supply is imported water that is purchased from wholesale suppliers. The supply and delivery systems of these suppliers are generally very complex and it is impossible within the confines of this project to independently model the impacts of climate change on those systems. The analysis therefore relied on available data, including the results of any climate change modeling that these suppliers themselves have done and other indicators of climate change impacts.

As a result, the climate change scenarios on which the estimates of impacts on different wholesale supplies are based will differ from one another and from the approach described above for the analysis of local supply impacts. The time frames of the results also differ. However, despite those limitations, important information about potential future climate change impacts on wholesale water supply availability was developed. Table ES-6 compares summary measures of central tendency for the potential district-specific climate change impacts on the availability of imported supplies.

Table ES- 6. Projected Climate Change Impacts on Imported Supplies

District	Source	Mid-Century	Late-Century
BK	SWP	-7%	-17%
LAS	SWP, CVP	-9%	-21%
ORO	SWP	-1%	-3%
MPS/SSF/BG	SFPUC	-10%	-20%
DOM/HR/PV	MWD	-1% to -2%	-2% to -5%
STK	USBR	-5%	-10%

Conclusions and Next Steps

The study results indicate significant risks for some districts. This points to the need for Cal Water to account for these risks in its future water supply planning if it is to minimize the adverse effects on its customers. The sole focus of this effort was to assess the potential climate change impacts on Cal Water's supplies. That is an important first step in integrating climate change into supply planning, but this study was not designed to:

- Analyze the impacts of these future supply limitations on Cal Water's ability to serve future customer demands. This is a function of such factors as water rights and contractual arrangements, how future demands are forecast to grow, how water conservation programming will affect those demands, and how Cal Water might modify the manner in which it operates its system.

- Develop mitigation plan to evaluate how potential supply and infrastructure investments and/or acquisition of new supplies might address any adverse impacts on water supply reliability.

- Formally assess alternative approaches to incorporating climate change in Cal Water's supply planning.

Possible next steps for Cal Water include:

- Methodological enhancements to reduce some of the uncertainties in the results reported herein;

- Development and acquisition of better and more complete data;

- Extending this study to other Cal Water districts;

- Developing a plan to mitigate anticipated climate change impacts on supply; and

- Integrating climate change into the Company's ongoing water supply planning.

Despite the study's limitations and uncertainties, three critical messages emerge:

- Cal Water supplies in the 21st century are likely to be adversely affected by climate change.

- These impacts will vary considerably across districts, depending on geography and source mix. For some districts, the impacts can be significant; for others, little or no impacts are projected.

- The impacts will generally increase over time. Anticipated late-century impacts are forecast to be significantly higher in some districts than impacts at mid-century. Moreover, during the period that climate change is forecast to increasingly constrain supplies, demands are also generally forecast to increase, further exacerbating the adverse impacts on water supply reliability.

Appendix H: Water Shortage Contingency Plan

Water Shortage Contingency Plan 2020 Update

Los Altos Suburban District

June 2021

DRAFT – May 2021

Attachment B

Chapter 1
Introduction

☑ ***CWC § 10640***

(a) 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.

(b) Every urban water supplier required to prepare a water shortage contingency plan shall prepare a water shortage contingency plan pursuant to Section 10632. The supplier shall likewise periodically review the water shortage contingency plan as required by paragraph (10) of subdivision (a) of Section 10632 and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

☑ ***CWC § 10632.3***

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

This document describes the water shortage contingency plan (WSCP) for the Los Altos Suburban District (also referred to herein as the "District"). The WSCP includes the stages of response to a water shortage caused by drought or by supply interruptions caused by infrastructure failure, regulatory mandate, or catastrophic human-caused or natural events. The primary objective of the WSCP is to ensure that the District has in place the necessary resources and management responses needed to protect health and human safety, minimize economic disruption, and preserve environmental and community assets during water supply shortages and interruptions.

Specifically, this Plan includes the following sections:

Chapter 1 - Introduction

Chapter 2 - Water Supply Reliability Analysis

Chapter 3 - Annual Water Supply and Demand Assessment Procedures

Chapter 4 - Water Shortage Levels

Chapter 5 - Shortage Response Actions

Chapter 6 - Communication Protocols

Chapter 7 - Compliance and Enforcement

Chapter 8 - Legal Authorities

Chapter 9 - Financial Consequences of WSCP

Chapter 10 - Monitoring and Reporting

Chapter 11 - WSCP Refinement Procedures

Chapter 12 - Plan Adoption, Submittal, and Availability

Chapter 2
Water Supply Reliability Analysis

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

As described in Chapter 6 of the District Urban Water Management Plan (UWMP), the District currently purchases water from the Santa Clara Valley Water District (Valley Water). In addition, the District overlies the overlies the Santa Clara Subbasin (also referred to herein as the "Basin") of the Santa Clara Valley Groundwater Basin (California Department of Water Resources [DWR] Basin No. 2-009.02). The Santa Clara Subbasin is not adjudicated, and DWR determined that the Basin is not in a condition of critical overdraft in its recent evaluation of California groundwater basins.[1]

Chapter 7 of the District UWMP demonstrates that the supplies available to the District are considered highly reliable in extended drought conditions, and are expected to continue to be sufficient to meet projected District demands in all hydrologic conditions evaluated, including an extended five-year drought period. Although water shortage conditions are not expected to arise due to drought, this WSCP addresses potential water shortage conditions resulting from any cause (e.g., droughts, impacted distribution system infrastructure, regulatory-imposed shortage restrictions, catastrophic events, etc.).

Under the Sustainable Groundwater Management Act (SGMA), GSAs have the authority to implement projects and management actions that help basins reach their sustainability goal. As described in Chapter 6 of the District UWMP, Valley Water is the exclusive GSA within its statutory boundary, which includes all of Santa Clara County, and has assumed responsibility for sustainable groundwater management of the Basin. The Los Altos Suburban District falls within the jurisdiction of the Valley Water GSA.

Valley Water adopted the 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins as the Alternative GSP in November 2016. The Alternative GSP was submitted to DWR in December 2016 and approved by DWR in July 2019. Valley Water is currently working on a five-year update to the Alternative GSP, which will be submitted to DWR January 1, 2022.

Projects and management actions to support achievement of the Basin's sustainability goal under SGMA are proposed by the Valley Water GSA and documented in the Alternative GSP. The long-term impacts of SGMA implementation in the Santa Clara Subbasin are still uncertain;

[1] DWR, 2019. Sustainable Groundwater Management Act 2018 Basin Prioritization, State of California, dated January 2019.

however, it is the intent of the projects and management actions planned by the GSA within the Basin to continue to provide for sustainable management of the groundwater resource.

Chapter 3
Annual Water Supply and Demand Assessment Procedures

☑ ***CWC § 10632 (a) (2)***

The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

(A) The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.

(B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:

(i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

(ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.

(iii) Existing infrastructure capabilities and plausible constraints.

(iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.

(v) A description and quantification of each source of water supply.

☑ ***CWC § 10632.1***

An urban water supplier shall conduct an annual water supply and demand assessment pursuant to subdivision (a) of Section 10632 and, on or before July 1 of each year, submit an annual water shortage assessment report to the department with information for anticipated shortage, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the supplier's water shortage contingency plan. An urban water supplier that relies on imported water from the State Water Project or the Bureau of Reclamation shall submit its annual water supply and demand assessment within 14 days of receiving its final allocations, or by July 1 of each year, whichever is later.

☑ ***CWC § 10632.2***

An urban water supplier shall follow, where feasible and appropriate, the prescribed procedures and implement determined shortage response actions in its water shortage contingency plan, as identified in subdivision (a) of Section 10632, or reasonable alternative actions, provided that descriptions of the alternative actions are submitted with the annual water shortage assessment report pursuant to Section 10632.1. Nothing in this section prohibits an urban water supplier from taking actions not specified in its water shortage contingency plan, if needed, without having to formally amend its urban water management plan or water shortage contingency plan.

On an annual basis, the District will conduct a Supply-Demand Assessment (SDA) to identify whether there is likely to be a water shortage condition in the coming year. This assessment will assume that the following year will experience a shortfall of 20%, corresponding to Water Shortage Level 3. Each element of the annual SDA is described below.

1. <u>Evaluation Criteria</u>

   The evaluation criteria that will be used to identify whether the District is likely to experience a water shortage in the coming year include:

   a. **Supply Well Operational Constraints -** A comparison of groundwater level elevations to well operational depths to identify the need to (1) lower pump depths, (2) deepen existing wells, or (3) site and drill additional supply wells.

   b. **Treatment and Distribution System Constraints -** An assessment of the probabilities of facility and infrastructure outages and the degree to which they could limit Cal Water's ability to access, convey, or treat adequate supplies, including any planned maintenance or capital improvements over the next year that could affect its ability to provide sufficient supply to meet demands.

   c. **Local Regulatory Conditions -** Evaluation of (1) any new GSA policies (e.g., pumping allocations) or sustainability criteria that could trigger a change in groundwater volume available for pumping, and (2) any new limitations on well permitting that could limit the ability to deepen existing supply wells or drill new supply wells.

   d. **State Regulatory Conditions -** Evaluation of any state-mandated drought or water use restrictions.

   These criteria will be assessed by Cal Water staff, including District staff with detailed knowledge of District operations, well conditions, and local GSA activities. The data used to support these assessments may include, but is not limited to, supply capacity, supply and pump capacity, firm capacities, tank storage capacity, groundwater level measurements, system demand, and zone demand.

2. <u>Water Supply</u>

   The District obtains its supplies from Valley Water and the Santa Clara Subbasin (DWR Basin No. 2-009.02) of the Santa Clara Valley Basin. As discussed in Chapter 7 of the District UWMP, these supplies are projected to be sufficient to serve future demands. The only identified potential constraints on water supply are the operational limitations and potential local regulatory conditions identified as evaluation criteria above.

3. <u>Unconstrained Customer Demand</u>

   The demand forecast described in Chapter 4 of the District UWMP yields the anticipated unconstrained water demand, i.e. the expected water use in the absence of shortage-caused reductions in water use. During a drought cycle, unconstrained demand typically increases due to higher than normal air temperatures and lower than normal precipitation. The supply reliability analysis and Drought Risk Assessment presented in Chapter 7 of the District UWMP accounts for this anticipated shift in unconstrained water demand, and as discussed above, even with these increases in demand the available groundwater supply is expected to be sufficient to meet these demands.

The model underlying the demand forecast described in Chapter 4 of the District UWMP has an annual time step. Cal Water has begun developing a short-term demand model with a monthly time step that will be more appropriate for the annual supply-demand assessments.

4. <u>Planned Water Use for Current Year Considering Dry Subsequent Year</u>

Cal Water will evaluate the anticipated supplies for the current year, assuming that the following year will be dry, as defined above, using the Evaluation Criteria identified above. Barring changes in supply availability per the Evaluation Criteria, the assumed dry subsequent year is not expected to affect the manner in which Cal Water will draw water from the basin in the current year, and the planned water use for the current year will equal the unconstrained demand.

5. <u>Infrastructure Considerations</u>

As part of its triennial General Rate Case applications to the California Public Utilities Commission (CPUC), Cal Water prepares a Supply-Demand Analysis (CPUC SD Analysis) for each of its Districts. The CPUC SD Analysis is an inventory of water production and pump assets that provide direct and indirect sources of supply to meet customer demands in accordance with CPUC General Order 103-A and California Code of Regulations (CCR) Title 22 Waterworks Standards. This CPUC SD Analysis is based on a combination of regulatory requirements, professional consultant recommendations, and industry standard practices, including those from the American Water Works Association (AWWA) and American Society of Civil Engineers (ASCE). It identifies specific vulnerabilities in different pressure zones within the system and evaluates the system against performance criteria that meet regulatory requirements and ensure operationally adequate levels of service.

Cal Water plans to extend the District CPUC SD Analysis to perform this analysis on an annual basis. This analysis will guide Cal Water’s annual evaluation of operational treatment/distribution constraints that could potentially limit the availability of supplies. This evaluation of supply well operational constraints and treatment and distribution constraints will be completed by March 31 of each year and will assess potential impacts on supply availability. If such constraints are identified, Cal Water will develop a plan to address these constraints, mitigate potential effects, and implement the appropriate water shortage stage of action per Chapter 5 below.

6. Other Factors

   As identified under the Evaluation Criteria above, local regulatory conditions could potentially limit the availability of supplies. Therefore, Cal Water will evaluate the development of new regulatory constraints by March 31 of each year and assess their potential impacts on supply availability. If such constraints are identified, Cal Water will develop a plan to address these constraints and mitigate potential effects and implement the appropriate water shortage stage of action per Chapter 5 below.

Consistent with California Water Code (CWC) § 10632.1, Cal Water will perform and submit an SDA to DWR by July 1st of each year beginning in 2022.

Chapter 4
Water Shortage Levels

☑ ***CWC § 10632 (a) (3)***

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

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

Consistent with the requirements of CWC § 10632(a)(3), this WSCP is based on the six water shortage levels (also referred to as "stages") shown in Table 4-1 for the water year ending September 2020. These shortage stages are intended to address shortage caused by any condition, including the catastrophic interruption of water supplies.

Table 4-1. Water Shortage Contingency Plan Levels (DWR Table 8-1)

Shortage Level	Percent Shortage Range	Shortage Response Actions
1	Up to 10%	Demand reduction (See Table 5-1)
2	Up to 20%	Demand reduction (See Table 5-1)
3	Up to 30%	Demand reduction (See Table 5-1)
4	Up to 40%	Demand reduction (See Table 5-1)
5	Up to 50%	Demand reduction (See Table 5-1)
6	>50%	Demand reduction (See Table 5-1)
NOTES:		

Shortage response actions for each of these stages are identified and discussed in Chapter 5.

Chapter 5
Shortage Response Actions

☑ ***CWC § 10632 (a) (4)***

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

(A) Locally appropriate supply augmentation actions.

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

(C) Locally appropriate operational changes.

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

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

☑ ***CWC § 10632 (b)***

For purposes of developing the water shortage contingency plan pursuant to subdivision (a), an urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

This chapter describes the response actions Cal Water will take to deal with the shortages associated with each of the six stages enumerated in Chapter 4. As discussed above, the existing groundwater supply of the District is expected to be able to serve 100% of future demands under all conditions of precipitation and hydrology. However, inasmuch as Cal Water may have to implement shortage response actions to comply with state mandates, local regulatory changes, or respond to catastrophic events, it is important to carefully identify and describe the anticipated necessary actions.

5.1 Demand Reduction

The combinations of demand-reduction actions required to resolve the shortages associated with each of the six drought stages are based on Cal Water's experiences in dealing with past drought-related shortages and also include other actions deemed appropriate to achieve the required demand reductions. In order to evaluate and ensure that the right actions would be implemented with the proper level of intensity, Cal Water employed the Drought Response Tool (DRT), an Excel spreadsheet model developed by EKI Environment and Water, Inc.

The DRT provides a quantitative framework that allows Cal Water to systematically estimate the monthly and cumulative annual demand reductions expected to result from particular combinations of drought response actions and associated implementation rates. Data inputs to the DRT include total production, class-specific water use, population, and assumptions regarding the split between indoor and outdoor water use for each customer class.

For each drought response action, the user specifies:

- The customer class(es) and end use(s) that are affected;
- The percent savings for those end use(s) for each account that implements the action. These are based on evaluations reported in the literature, or where such studies are not available, on best estimates based on Cal Water experience; and
- The percentage of accounts assumed to implement the action, which is presumed to be the result of the intensity level of Cal Water program implementation, including but not limited to marketing and enforcement activities.

Based on the foregoing inputs, the DRT model calculates the resulting monthly savings. Cal Water adjusted the combination of actions and implementation levels to achieve the targeted savings levels at each of the six shortage stages.

In order to evaluate the robustness of the DRT model, Cal Water modeled the actions implemented during the height of the last drought for a subset of its Districts, and found that the modeled water shortage reductions were generally consistent with the responses observed in its Districts. In short, the DRT is a robust, transparent tool to tie a particular set of shortage-response actions to an expected reduction in demand.

For each of the six water shortage stages, the modeling targeted the mid-range of the required demand reduction range, ergo:

- 5% for Stage 1,
- 15% for Stage 2,
- 25% for Stage 3,
- 35% for Stage 4,
- 45% for Stage 5, and
- 55% for Stage 6.

The key DRT inputs and outputs for each of the six water shortage stages are reproduced in Attachment A.

Table 5-1 shows the water shortage reduction actions, savings assumptions, and implementation rates that are required for the District to achieve the targeted annual demand reductions for each of the six shortage stages. At each stage, there are two types of demand-reduction actions identified:

- Restrictions on customer water usage; and
- Consumption reduction actions by Cal Water to encourage decreased water usage.

The total demand reductions are governed by is a set of user-specified constraints to ensure that usage levels do not endanger health and safety or result in unacceptable economic impacts. The DRT will not permit estimated usage reductions to violate these constraints, regardless of the demand reduction actions selected. For most Cal Water districts, including Los Altos Suburban, the following default constraints are used:

- A minimum residential indoor per capita daily usage of 25 gallons,
- A maximum residential outdoor usage reduction of 100%,
- A maximum Commercial, industrial, and institutional (CII) indoor usage reduction of 30%, and
- A maximum CII outdoor usage reduction of 100%.

Many actions are implemented across a number of stages, some at increasing implementation levels. Therefore the actions are listed as a row under the first stage at which they are implemented, and the implementation rate is shown under each stage column heading at the right. The unit savings represent a percentage savings of the end uses indicated in the table.

Because of the of the DRT logic described above, the format of Table 5-1 differs from that of the default DWR table.

Table 5-1. Demand Reduction Actions to Achieve Required Savings (DWR Table 8-2)

Water Shortage Response Action	End Use(s)	End Use Savings	IMPLEMENTATION RATES BY STAGE						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Stage 1: Minimal Shortage									
Restrictions									
Landscape - Limit landscape irrigation to specific times	Irrigation	**10%**	75%	75%	N/A	N/A	N/A	N/A	Yes
Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Leaks	**100%**	15%	20%	25%	50%	50%	75%	Yes
Landscape - Restrict or prohibit runoff from landscape irrigation	Irrigation	**3%**	15%	40%	50%	50%	50%	50%	Yes
Landscape - Prohibit application of potable water to outdoor landscapes within 48 hours of measurable rainfall	Irrigation	**20%**	15%	40%	50%	50%	100%	100%	Yes
Other - Prohibit use of potable water for washing hard surfaces	Misc. Outdoor	**17%**	15%	40%	50%	50%	50%	50%	Yes
CII - Lodging establishments must offer opt out of linen service	Fixtures & Appliances	**1%**	50%	50%	50%	50%	50%	50%	Yes
Consumption Reduction									
Expand Public Information/Media Campaign	All	**0.5%**	50%	50%	50%	50%	50%	75%	No
Water Bill Inserts	All	**1%**	100%	100%	100%	100%	100%	100%	No
Promote online water waste reporting	All	**10%**	0%	0%	0%	0%	1%	1%	No
Expand Rebates or Giveaways of Plumbing Fixtures and Devices	All	**10%**	1%	1%	2%	4%	5%	5%	No

Water Shortage Response Action	End Use(s)	End Use Savings	IMPLEMENTATION RATES BY STAGE						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Expand Rebates for Landscape Irrigation Efficiency	All	**10%**	1%	1%	2%	4%	5%	5%	No
Expand CII Water Use Surveys	All CII uses	**5%**	1%	1%	1%	2%	2%	3%	No
Expand Res Water Use Surveys	All Residential Uses	**5%**	1%	1%	1%	2%	2%	3%	No
Stage 2: Moderate Shortage									
Restrictions									
Prohibit the use of non-recirculating systems in all new conveyer car wash and commercial laundry systems	Fixtures & Appliances	**50%**		0%	0%	0%	0%	0%	Yes
Prohibit the use of single pass cooling systems in new connections	Cooling	**50%**		0%	0%	0%	20%	20%	Yes
CII - Restaurants may only serve water upon request	Fixtures & Appliances	**0.50%**		50%	50%	50%	50%	50%	Yes
No watering of landscape of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development	Irrigation	**50%**		0.10%	0.10%	0.10%	0.10%	0.10%	Yes
Prohibit Potable Water Use for Decorative Water Features that do not Recirculate Water	Misc. Outdoor	**50%**		50%	50%	50%	50%	50%	Yes
Consumption Reduction									
Water Efficiency Workshops, Public Events	All Residential Uses	**5.00%**		25%	25%	25%	25%	25%	No

Water Shortage Response Action	End Use(s)	End Use Savings	IMPLEMENTATION RATES BY STAGE						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Offer Water Use Surveys	All	**1%**		1%	1%	2%	2%	3%	No
Provide Rebates or Giveaways of Plumbing Fixtures and Devices	All	**10%**		1%	2%	4%	5%	5%	No
Provide Rebates for Landscape Irrigation Efficiency	All	**10%**		1%	2%	4%	5%	5%	No
Stage 3: Severe Shortage									
Restrictions									
Landscape - Limit landscape irrigation to 1-3 days/week	Irrigation	**15%-79%** [1]			25%	25%	25%	75%	Yes
Landscape - Prohibit irrigation of ornamental turf on public street medians with potable water	Irrigation	**100%**			20%	20%	25%	30%	Yes
Prohibit Filling Ornamental Lakes or Ponds	Irrigation	**100%**			1%	1%	1%	1%	Yes
Consumption Reduction									
Home or Mobile Water Use Reports	All	**5%**			15%	25%	25%	50%	No
Decrease Frequency and Length of Line Flushing	Non Revenue Water	**25%**			50%	50%	50%	50%	No
Reduce System Water Loss	Non Revenue Water	**100%**			10%	10%	10%	20%	No
Increase Water Waste Patrols/Enforcement	All	**10%**			1%	3%	5%	5%	No

Water Shortage Response Action	End Use(s)	End Use Savings	IMPLEMENTATION RATES BY STAGE						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Implement Drought Rate Structure and Customer Water Budgets (Res)	All Residential Uses	**30%-60%** [2]			40%	30%	25%	25%	No
Implement Drought Rate Structure and Customer Water Budgets (CII)	All CII uses	**10%-30%** [3]			40%	30%	25%	50%	No
Stage 4: Critical Shortage									
Water Use Restrictions									
Prohibit use of potable water for construction and dust control	Misc. Outdoor	**100%**				1%	1%	1%	Yes
Prohibit use of potable water for street washing	Misc. Outdoor	**100%**				1%	1%	1%	Yes
Prohibit vehicle washing except with recycled water	Misc. Outdoor	**10%**				50%	50%	50%	Yes
Consumption Reduction Actions									
Promote / Expand Use of Recycled Water	Irrigation	**100%**				0%	0%	0%	No
Stage 5: Emergency Shortage									
Water Use Restrictions									
Require net zero demand Increase on new water service connections	All	**100%**					0.21%	0.21%	Yes

Water Shortage Response Action	End Use(s)	End Use Savings	IMPLEMENTATION RATES BY STAGE						Penalty, Charge, or Other Enforcement?
			1	2	3	4	5	6	
Prohibit use of water for recreational purposes (Prohibit filling of pools)	Misc. Outdoor	**100%**					1%	1%	Yes
Prohibit single-pass cooling systems	Cooling	**50%**					20%	20%	Yes
Consumption Reduction Actions									
Require Pool Covers	Misc. Outdoor	**28%**					10%	10%	No
Stage 6: Extreme Shortage									
Water Use Restrictions									
Moratorium on new water service connections	All	**100%**						0.21%	Yes
Landscape - Prohibit all landscape irrigation	Irrigation	**100%**						50%	Yes
			8%	**14%**	**27%**	**34%**	**46%**	**54%**	

NOTES:
1. Watering restricted to 3 days/wk in Stage 3; 2 days/wk in Stage 4; 1 day/wk in Stage 5.
2. Residential water budgets of 30% for Stage 3, 40% for Stage 4; 50% for Stage 5, 60% for Stage 6.
3. CII water budgets of 10% for Stage 3, 20% for Stage 4, 30% for Stages 5 and 6.

5.2 Supply Augmentation

As indicated in Table 5-2, Cal Water has not identified any supply augmentation actions to assist in resolving future District water shortages. As identified in Chapter 3, Cal Water may consider deepening or drilling new wells if necessary due to declining groundwater levels. However, Cal Water considers these actions to be operational changes (described in Section 5.3), rather than accessing a new supply source.

Table 5-2. Supply Augmentation and Other Actions (DWR Table 8-3)

Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier	How much is this going to reduce the shortage gap?	Additional Explanation or Reference *(optional)*
NOTES:			

5.3 Operational Changes

As discussed above in Chapter 3, the primary operational change that Cal Water will consider in the District is extracting groundwater from a lower elevation, utilizing the deeper wells that are drilled following identification of this need as part of the annual SDA. As identified in Table 5-1, the District will also decrease the frequency and length of line flushing under Stage 3 and beyond. The District will also evaluate the potential benefits of altering other maintenance cycles and expediting infrastructure repairs to improve system efficiency, to the extent feasible.

In addition, Cal Water is actively participating in the GSP development process, and will make whatever operational changes are necessary to conform to the results of that process.

5.4 Mandatory Restrictions

The water shortage response actions included in Table 5-1 include a variety of mandatory customer water use restrictions that will be necessary to achieve the targeted demand reductions for the different shortage stages. The types of restrictions and the manner and degree of enforcement for these restrictions vary by stage, and are discussed in Chapter 7.

5.5 Emergency Response Plan

Cal Water has an Emergency Response Plan (ERP) in place that coordinates the overall response to a disaster.

The ERP addresses the Company's responsibilities in emergencies associated with natural disaster, human-caused emergencies, and technological incidents. It provides a framework for coordination of response and recovery efforts within the Company in cooperation with local, State, and Federal agencies, as well as other public and private organizations. The ERP establishes an emergency organization to direct and control operations during a period of emergency by assigning responsibilities to specific personnel.

The ERP does the following:

- It conforms to the State mandated Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS), and it effectively structures emergency response at all levels in compliance with the Incident Command System (ICS).
- It establishes response policies and procedures, while providing the Company clear guidance related to emergency planning.
- It describes and details procedural steps necessary to protect lives and property.
- It outlines coordination requirements.
- It provides a basis for unified training and response exercises to ensure compliance.

The Los Altos Suburban District has installed backup power generators at some of its well sites, booster sites, and pump storage sites that can be operated in the event of a system wide power outage. A complete loss of power has never been experienced, but the generators have been used in the past to overcome localized outages.

The District currently has a total of eleven emergency interties, including with San Jose Water Company (one connection), City of Santa Clara (one connection), City of Sunnyvale (six connections), and Purisima Hills Water District (three connections).

5.6 Seismic Risk Assessment and Mitigation Plan

☑ ***CWC § 10632.5***

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

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

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

Cal Water's ERP includes information on various hazards and a related fault map overlying the District. The Santa Clara County Emergency Operations Plan, which includes additional discussion of area earthquake risk and mitigation, can be found at https://emergencymanagement.sccgov.org/partners.

5.7 Shortage Response Action Effectiveness

Table 5-1 above shows the effectiveness of the specific demand-reduction actions and implementation levels necessary for the District to achieve the targeted savings for each water shortage stage. The bottom row indicates the total annual cumulative savings expected to be reached at each water shortage stage level. Additional details, including anticipated savings on a month-by-month basis are provided in the DRT model inputs and outputs included in Attachment A.

Chapter 6
Communication Protocols

☑ ***CWC § 10632 (a) (5)***

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

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

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

(C) Any other relevant communications.

Cal Water intends to escalate communication to customers and stakeholders, as needed, throughout any water shortage situation to help ensure they are aware of current conditions, any water use restrictions that are in effect, and the many ways Cal Water can help them reduce their water use. Cal Water's outreach efforts include multiple channels, including bill messages, bill inserts, direct mail, email, letters, social media, print, radio, music streaming services, TV, over-the-top media, movie theatre advertising, and group presentations.

These efforts will expand on current Cal Water outreach efforts and will be customized to the needs at the time of the shortage to ensure a proper channel mix so that the maximum audience is reached as efficiently as possible.

Chapter 7
Compliance and Enforcement

☑ ***CWC § 10632 (a) (6)*** *For an urban retail water supplier, customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined pursuant to Section 10632.2.*

7.1 Water Use Restrictions

In accordance with Rule 14.1, Cal Water is currently authorized to take the following actions to enforce the water use restrictions:

First Violation: Cal Water shall provide the customer with a written notice of violation.

Second Violation: If Cal Water verifies that the customer has used potable water for non- essential, wasteful uses after having been notified of the first violation, Cal Water shall provide the customer with a second written notice of violation and is authorized to install a flow-restricting device on the customer's service line.

Cal Water plans to submit to the California Public Utilities Commission (CPUC) an update to Rule 14.1 to align with the restrictions identified in this WSCP. Rule 14.1 and Schedule 14.1 are discussed in more detail in Chapter 8.

7.2 Non-Essential, Wasteful Uses

In the event that more stringent measures are needed, implementation of Schedule 14.1 would be requested from the CPUC. If implemented, Cal Water is currently authorized to take the following actions when its personnel verify a customer is using potable water for non-essential, wasteful uses.

First Violation: Cal Water shall provide the customer with a written notice of violation. In addition, Cal Water is authorized to take the following actions:

A. If the customer currently receives service through a metered connection, install a real- time water measurement device on the customer's service line and provide the customer with access to information from the device. The cost of the device, including installation and ongoing operating costs, may be billed to the customer, and nonpayment may result in discontinuance of service.

B. If the customer does not currently receive service through a metered connection, install a water meter on the customer's service line, charge the customer for water use pursuant to Cal Water's metered service tariffs and rules, and install a real-time water measurement device on the customer's service line and provide the customer with access to information from the device. The cost of the device, including installation and ongoing operating costs, may be billed to the customer, and nonpayment may result in discontinuance of service.

Second Violation: If Cal Water verifies that the customer has used potable water for non- essential, wasteful uses after having been notified of the first violation, Cal Water shall provide the customer with a second written notice of violation. In addition to the actions prescribed under the first violation above, Cal Water is authorized to take the following actions:

A. Apply the following waste of water penalties, which are in addition to any other charges authorized by this Schedule or other Cal Water tariffs.
   i. If Stage 1 is in effect, $25
   ii. If Stage 2 is in effect, $50
   iii. If Stage 3 is in effect, $100
   iv. If Stage 4 is in effect, $200
B. At its sole discretion, waive the waste of water penalty if the customer participates in a water use evaluation provided by Cal Water and/or provides documentation to Cal Water proving that a drip irrigation system, micro spray irrigation system, high-efficiency sprinkler system, or properly programmed smart irrigation controller has been installed, after a notice of violation was delivered, and is in use at the customer's service address.

Third Violation: If Cal Water verifies that the customer has used potable water for non-essential, wasteful uses after having been notified of the second violation, Cal Water shall provide the first and second violations above, Cal Water is authorized to take the following actions:

A. A. Apply the following waste of water penalties, which are in addition to any other charges authorized by this Schedule or other Cal Water tariffs.
   i. If Stage 1 is in effect, $50
   ii. If Stage 2 is in effect, $100
   iii. If Stage 3 is in effect, $200
   iv. If Stage 4 is in effect, $400
B. At its sole discretion, waive the waste of water surcharge if the customer participates in a water use evaluation provided by Cal Water and/or provides

documentation to Cal Water proving that a drip irrigation system, micro spray irrigation system, high- efficiency sprinkler system, or properly programmed smart irrigation controller has been installed, after notice of violations have been delivered, and is in use at the customer's service address.

Fourth Violation: If Cal Water verifies that the customer has used potable water for non- essential, wasteful uses after having been notified of the third violation, Cal Water shall provide the customer with a fourth written notice of violation. In addition to actions set forth in previous violations prescribed above, Cal Water is authorized to install a flow- restricting device on the customer's service line.

Egregious Violations: Notwithstanding the foregoing framework for penalties, customers who Cal Water has verified are egregiously using potable water for non-essential, wasteful uses are subject to having a flow- restricting device installed on their service line. After providing the customer with one notice of egregious violation, either by direct mail or door hanger, which documents the egregious use of potable water for non-essential, wasteful uses and explains that failure to correct the violation may result in the installation of a flow-restricting device on the customer's service line, Cal Water is authorized to install a flow-restricting device on the customer's service line.

Cal Water plans to submit to the CPUC an update to Schedule 14.1 to align with this WSCP including, but not limited to, consistency with the new six stage shortage level structure.

7.3 Drought Surcharges

Water budgets and associated drought surcharges are included as actions in Table 5-1. Cal Water will implement such actions through the implementation of Schedule 14.1.

Chapter 8
Legal Authorities

☑ ***CWC § 10632 (a) (7)***

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

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

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

Cal Water is an investor-owned water utility that is regulated by the CPUC. As such, it does not have the authority to adopt resolutions or ordinances. Rule 14.1, as filed with the CPUC, serves as Cal Water's WSCP and includes Mandatory Staged Restrictions of Water Use. In the event that more stringent measures are required, Cal Water may request the addition of Schedule 14.1 which includes Staged Mandatory Water Use Reductions. Cal Water shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency as defined in Section 8558 of the Government Code and to ensure consistency with local resolutions and ordinances.

On April 1, 2016, Cal Water filed its current Schedule 14.1 with the CPUC.[2] The Schedule lays out the staged mandatory reductions and drought surcharges associated with Cal Water's WSCP. This filing is consistent with Resolution W-5034, adopted by the Commission on April 9, 2015, ordering compliance with requirements of the State Water Resources Control Board (SWRCB).

Schedule 14.1 is an extension of the WSCP provided in Rule 14.1. The compliance and enforcement information presented in Chapter 7 is based on the current versions of both Rule 14.1 and Schedule 14.1, which are based, in part, on the specific SWRCB requirements associated with the Governor's Executive Order B-29-15, which required statewide cutbacks to address the unprecedented 2011-2017 drought, as well as the additional information required pursuant to the CWC.

Cal Water plans to submit an update to Rule 14.1 and Schedule 14.1 to the CPUC to align with this WSCP.

[2] For reference, the current version of Rule 14.1 is included as Attachment B.

In the event of a determination of a water shortage Cal Water shall declare a water shortage emergency in accordance with the Water Code Chapter 3 (commencing with Section 350) of Division 1 and implement the Water Shortage Contingency Plan at the appropriate Stage.

Chapter 9
Financial Consequences of WSCP

☑ ***CWC § 10632 (a) (8)***

A description of the financial consequences of, and responses for, drought conditions, including, but not limited to, all of the following:

(A) A description of potential revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(B) A description of mitigation actions needed to address revenue reductions and expense increases associated with activated shortage response actions described in paragraph (4).

(C) A description of the cost of compliance with Chapter 3.3 (commencing with Section 365) of Division 1.

In 2008, the CPUC approved the creation of a Water Revenue Adjustment Mechanism (WRAM) and Modified Cost Balancing Accounts (MCBA). The goals of the WRAM and MCBA are to sever the relationship between sales and revenue to remove the disincentive to reduce water use. The WRAM and MCBA are designed to be revenue neutral in order to ensure that both the utility and ratepayers are neither harmed nor benefitted.

In 2020, the CPUC ordered that regulated water utilities may not include the continuation of the WRAM and MCBA in their next general rate case filing but may propose the use of a Monterey-Style Revenue Adjustment Mechanism and Incremental Cost Balancing Account. As such, the WRAM and MCBA will no longer be in place for Cal Water beginning in 2023.

During a water shortage, Cal Water will file for a Drought Memorandum Account, or similar, to track incremental shortage-related expenses to be reviewed by the CPUC for future recovery in rates. Cal Water will also file for a Drought Lost Revenue Memorandum Account, or similar, to track reduced sales to be reviewed by the CPUC for future recovery in rates.

Both the Drought Memorandum Account and Drought Lost Revenue Memorandum Account are mechanisms that have been approved by the CPUC in previous droughts.

Chapter 10
Monitoring and Reporting

☑ ***CWC § 10632 (a) (9)*** *For an urban retail water supplier, monitoring and reporting requirements and procedures that ensure appropriate data is collected, tracked, and analyzed for purposes of monitoring customer compliance and to meet state reporting requirements.*

During the period 2014-16, in order to effectively respond to the drought, Cal Water realigned its organizational structure to ensure sufficient resources were available to implement its WSCP. The day-to-day implementation was overseen by the Director of Drought Management & Conservation, with the assistance of the Drought Response Project Manager. The Director of Drought Management & Conservation reported to a team of Cal Water's Officers (Steering Committee), including the President & CEO, the Vice President of Corporate Communications & Community Affairs, the Vice President of Customer Service & Information Technology, the Vice President of Operations, and the Vice President of Continuous Improvement.

Reporting to the Director of Drought Management & Conservation was a team of functional leads, each responsible for managing individual portions of Cal Water's Plan. This team included the Director of Customer Service, the Water Conservation Manager, the Manager of Corporate Communications, the Water Supply Manager, and the Government & Community Relations Manager.

Cal Water would implement a similar structure to effectively manage future water shortages.

This structure includes regular meetings with reporting on items such as:

- Aggregate customer demands,
- Customer compliance with water use restrictions,
- Current and projected water supply conditions,
- Customer outreach activities,
- Customer service inquiries, and
- Operations activities (e.g., water flushing activities, leak repairs, etc.).

Chapter 11
WSCP Refinement Procedures

☑ ***CWC § 10632 (a) (10)*** *Reevaluation and improvement procedures for systematically monitoring and evaluating the functionality of the water shortage contingency plan in order to ensure shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.*

Cal Water's Drought Steering Committee utilizes an adaptive management process to regularly assess and determine adjustments and changes to the implementation of the WSCP. These refinements are implemented by the Director of Drought Management & Conservation (or equivalent) through the team of functional leads.

Chapter 12
Plan Adoption, Submittal, and Availability

☑ ***CWC § 10632 (c)*** *The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.*

The deadline for public comments on the WSCP was June 9, 2021, the date of the public hearing. The final WSCP was formally adopted by Cal Water's Vice President of Customer Service & Chief Citizenship Officer on XX, 2021. The District UWMP includes a copy of the signed Resolution of Plan Adoption and contains the following:

- Letters sent to and received from various agencies regarding the UWMP and WSCP, and
- Correspondence between Cal Water and participating agencies.

This UWMP and WSCP were submitted to DWR within 30 days of adoption and by the July 1, 2021 deadline. The submittal was done electronically through Water Use Efficiency Data Portal, an online submittal tool. The adopted WSCP was also sent to the California State Library and to the cities and counties listed in Table 10-1 of the District UWMP.

On or about May 26, 2021, an electronic version of the draft 2020 UWMP and WSCP was made available for review on Cal Water's website: https://www.calwater.com/conservation/uwmp.

Attachment A
Key Drought Response Tool Tables and Charts

Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

Los Altos Suburban

Enter Agency Information	
Agency Name	Los Altos
Total Population Served	70,160
Conservation Goal (%)	5%
Drought Stage	Stage 1
Number of Residential Accounts	17,155
Number of Commercial, Industrial, and Institutional (CII) Accounts	1,406
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	84%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	85%
Comments	LAS

Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

Los Altos Suburban

Navigation	
USER'S GUIDE	Download and read the guide before using this Tool
1 - HOME	Enter agency information
2 - INPUT BASELINE YEAR WATER USE	Enter Baseline Year production and use
3 - BASELINE YEAR WATER USE PROFILE	Review and confirm entered information
4 - DROUGHT RESPONSE ACTIONS	Select Drought Response Actions and input estimated water savings and implementation rates.
5 - ESTIMATED WATER SAVINGS	Review estimated water production and compare estimated savings to conservation target.
6 - DROUGHT RESPONSE TRACKING	Track production and water savings against the conservation target.

Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

Los Altos Suburban

For questions about this tool or for additional information, contact:

Anona Dutton, P.G., C.Hg.
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(650) 292-9100

eki environment & water

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Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

2 - Input Baseline Year (2020) Water Use

Los Altos

Input Baseline Year (2020) Production and Water Use

Units: (mg)

Select the units to input monthly production and use data. Enter the total monthly potable water production for the Baseline Year. Next, enter monthly water use data by sector for the Baseline Year. If you bill on a bi-monthly basis, divide your billing data between the months that the billing cycle includes. If your single-family and multi-family accounts are tracked separately, enter the combined water use for both sectors in the Residential Water Use column. If your commercial, industrial, and institutional (CII) accounts are tracked separately, enter the combined water use for each sector in the CII Water Use column. Your non-revenue water use is calculated by subtracting your monthly residential, CII, and dedicated irrigation water uses from your monthly production. Your monthly residential gallons per capita per day (R-GPCD) is calculated by dividing your monthly residential water use by your population entered in Worksheet 1 - Home.

Date	Total Production (mg)	Residential Water Use (mg)	COM-GOV Water Use (mg)	Industrial Water Use (mg)	Non-Revenue Water Use (mg)	Total R-GPCD	Comments
October	409	298	98	2	11	137	
November	287	257	86	3	-59	122	
December	188	205	61	0	-77	94	
January	178	125	44	1	8	57	
February	182	127	56	0	0	64	
March	245	181	66	0	-2	83	
April	282	184	49	0	50	87	
May	405	228	69	0	108	105	
June	493	317	93	0	83	151	
July	506	369	114	0	23	170	
August	520	360	113	0	47	165	
September	415	329	99	2	-15	156	

Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

3 - Baseline Year (2020) Water Use Profile

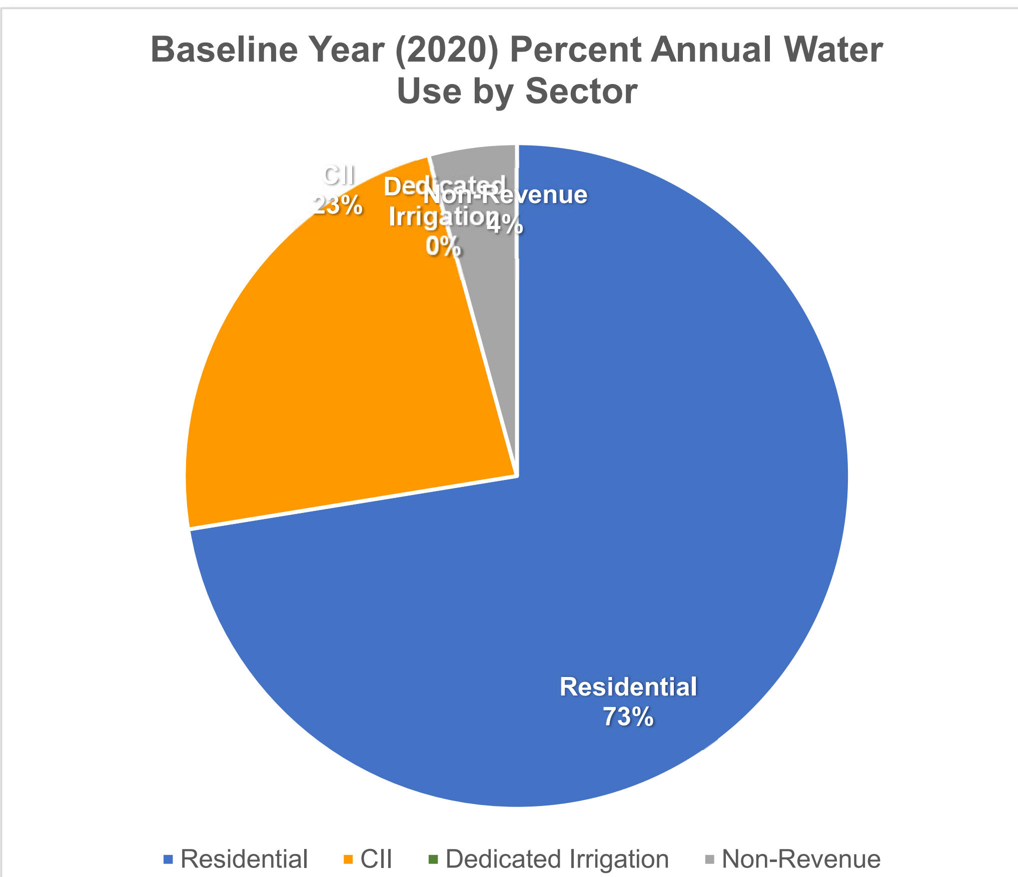
Los Altos

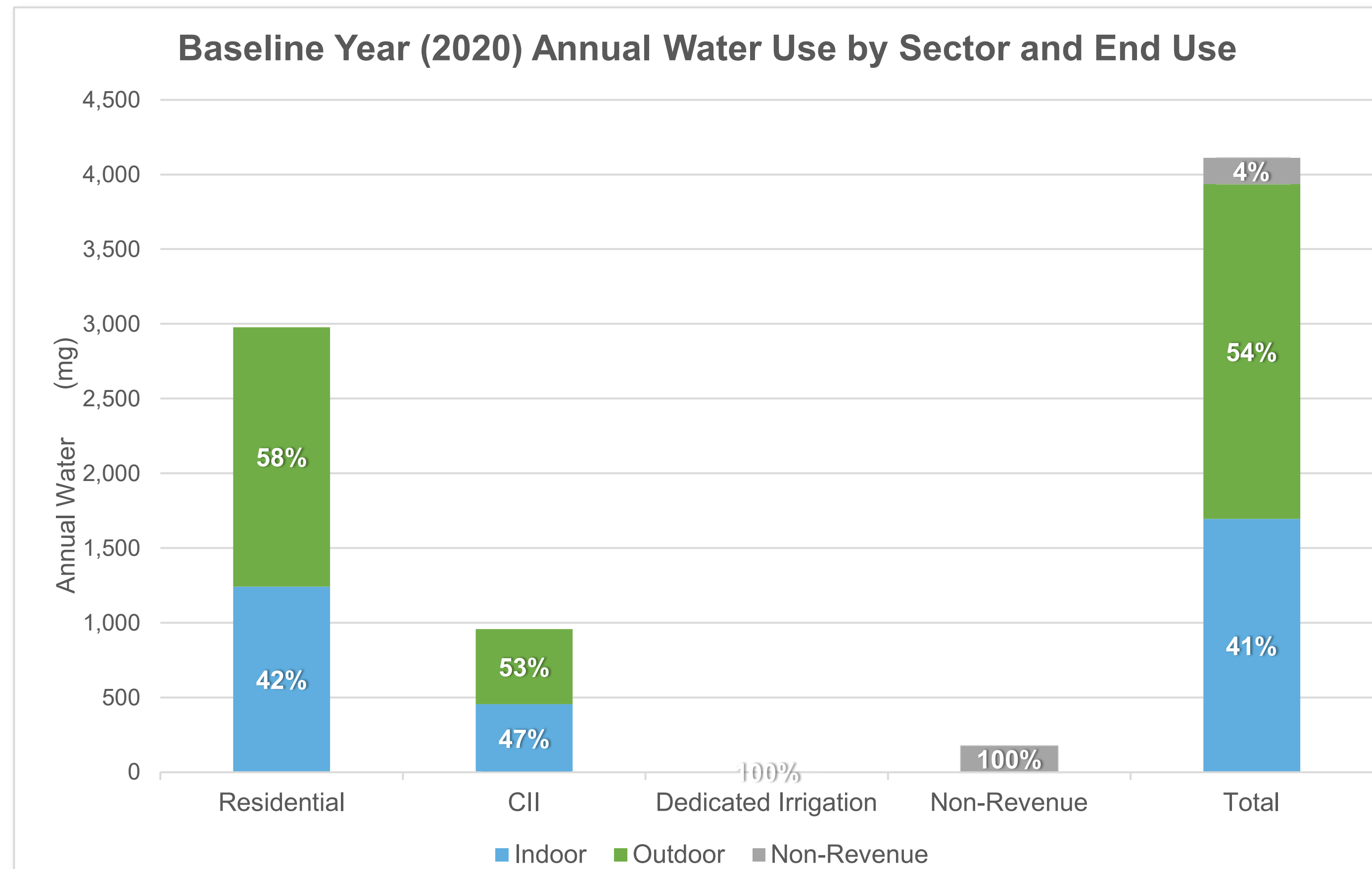
Baseline Year (2020) Annual Water Use Summary

Units: (mg)

A summary of your Baseline Year water use by sector and major end use category is shown below. Select the units in which your production and use data are displayed.

Water Use	Total Production (mg)	Water Use (mg)				Comments
		Residential	CII	Dedicated Irrigation	Non-Revenue	
Total	4,111	2,978	957	0	176	
Total Indoor	1,696	1,241	454	--	--	
Total Outdoor	2,240	1,736	503	0	--	
Total Non-Revenue	176	--	--	--	176	
Total Indoor %	41%	42%	47%	0%	--	
Total Outdoor %	54%	58%	53%	100%	--	
Total Non-Revenue %	4%	--	--	--	100%	

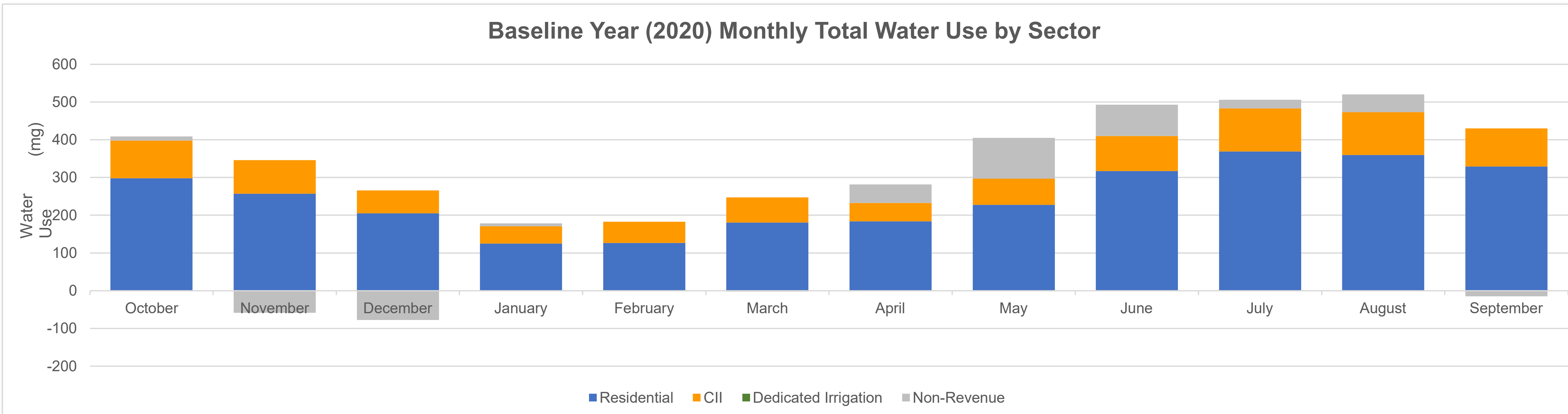


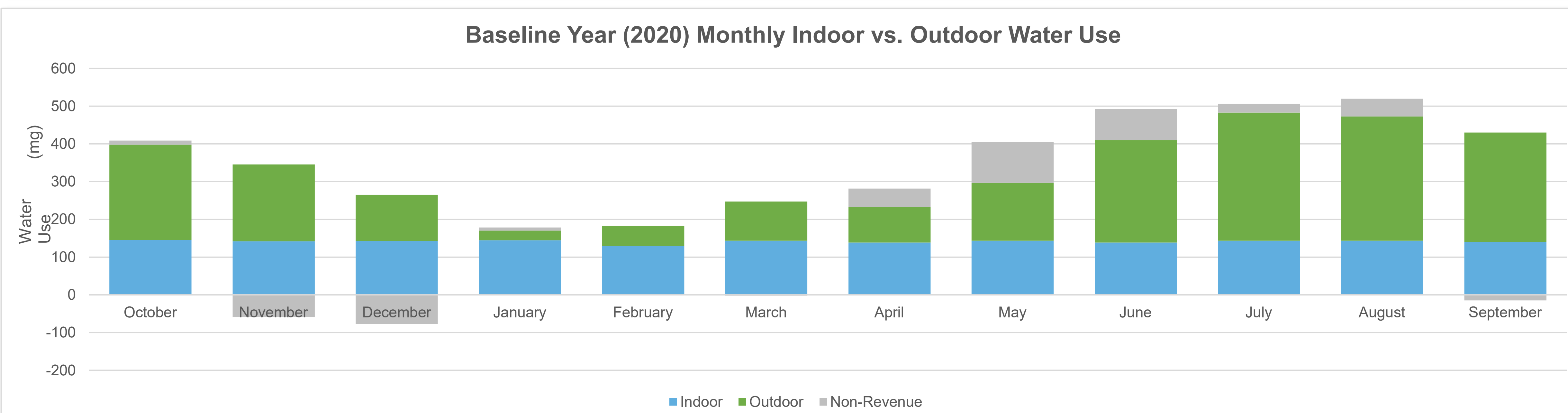


Drought Response Tool

3 - Baseline Year (2020) Water Use Profile

Los Altos





Drought Response Tool

5 - Estimated Water Savings - Stage 1

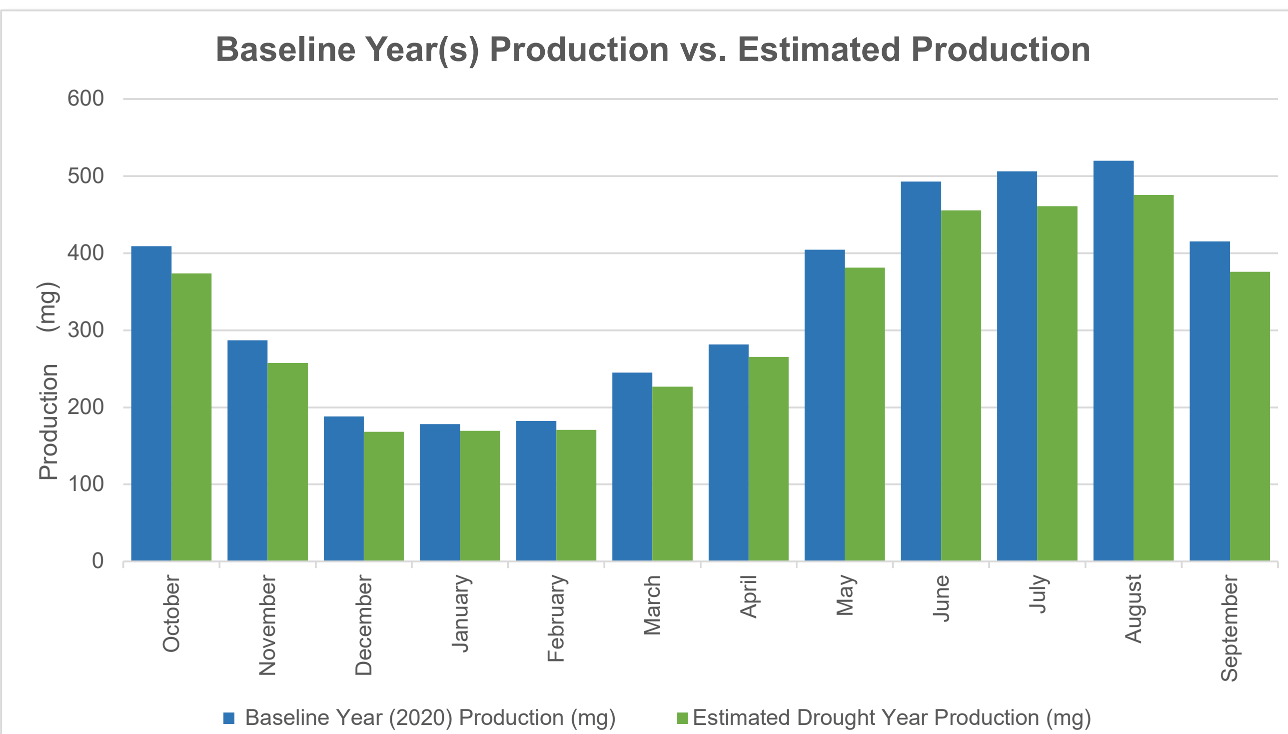
Los Altos

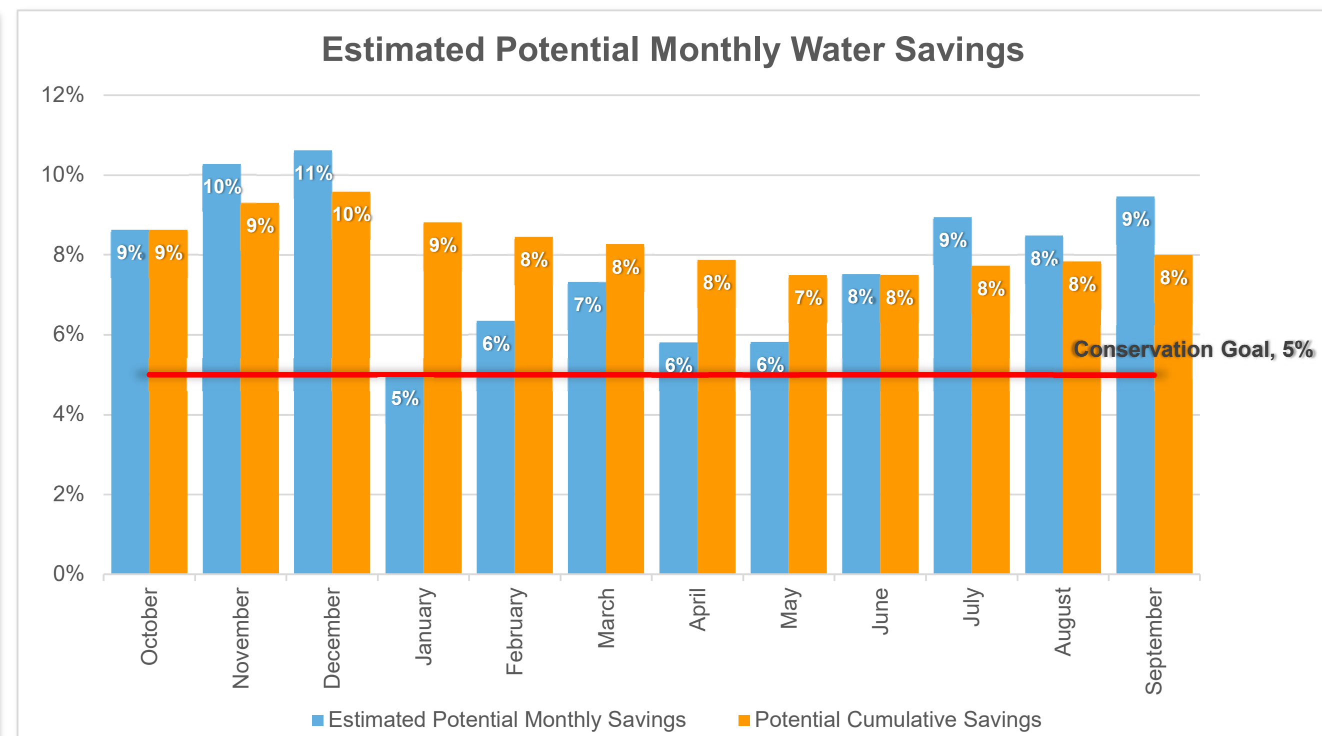
Estimated Monthly Water Use and Savings Summary

Units: (mg)

This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.

Month	Baseline Year (2020) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
October	409	374	9%	9%	5%	
November	287	258	10%	9%	5%	
December	188	168	11%	10%	5%	
January	178	170	5%	9%	5%	
February	182	171	6%	8%	5%	
March	245	227	7%	8%	5%	
April	282	265	6%	8%	5%	
May	405	381	6%	7%	5%	
June	493	456	8%	8%	5%	
July	506	461	9%	8%	5%	
August	520	476	8%	8%	5%	
September	415	376	9%	8%	5%	





Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

Los Altos Suburban

Enter Agency Information	
Agency Name	Los Altos
Total Population Served	70,160
Conservation Goal (%)	15%
Drought Stage	Stage 2
Number of Residential Accounts	17,155
Number of Commercial, Industrial, and Institutional (CII) Accounts	1,406
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	84%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	85%
Comments	LAS

Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

5 - Estimated Water Savings - Stage 2

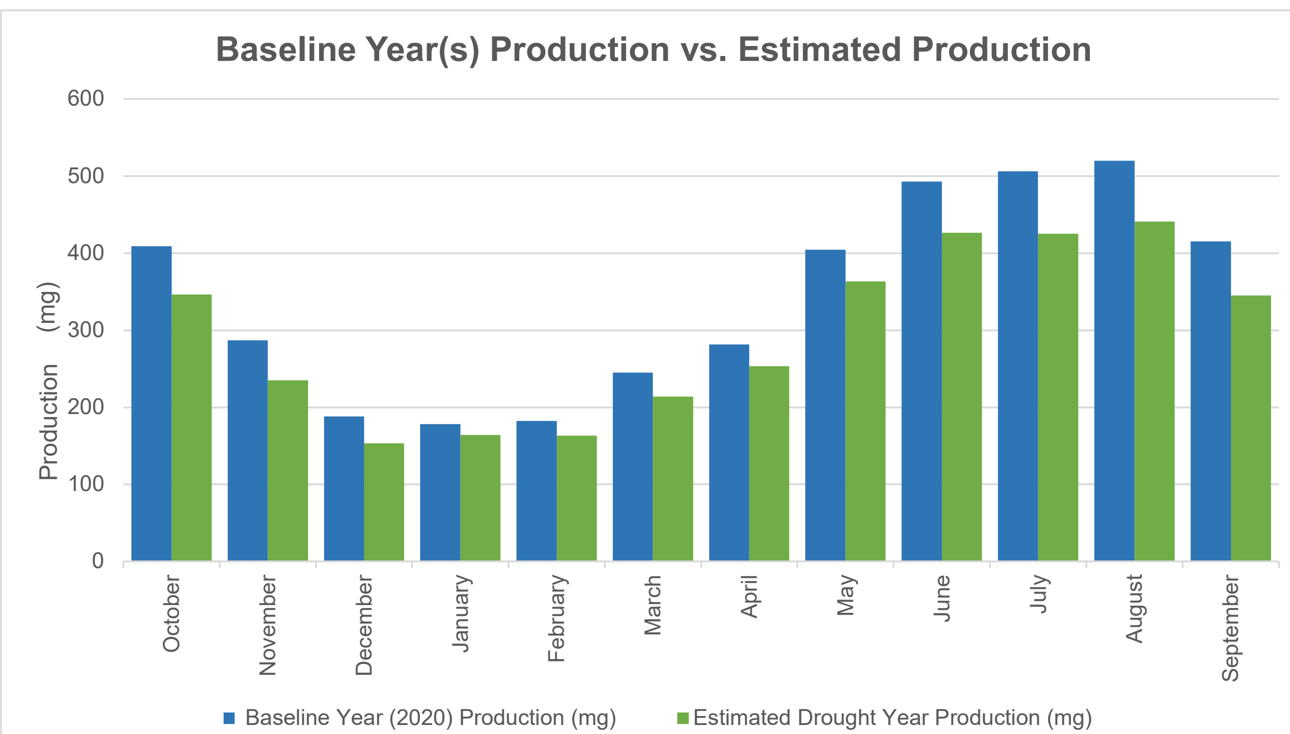
Los Altos

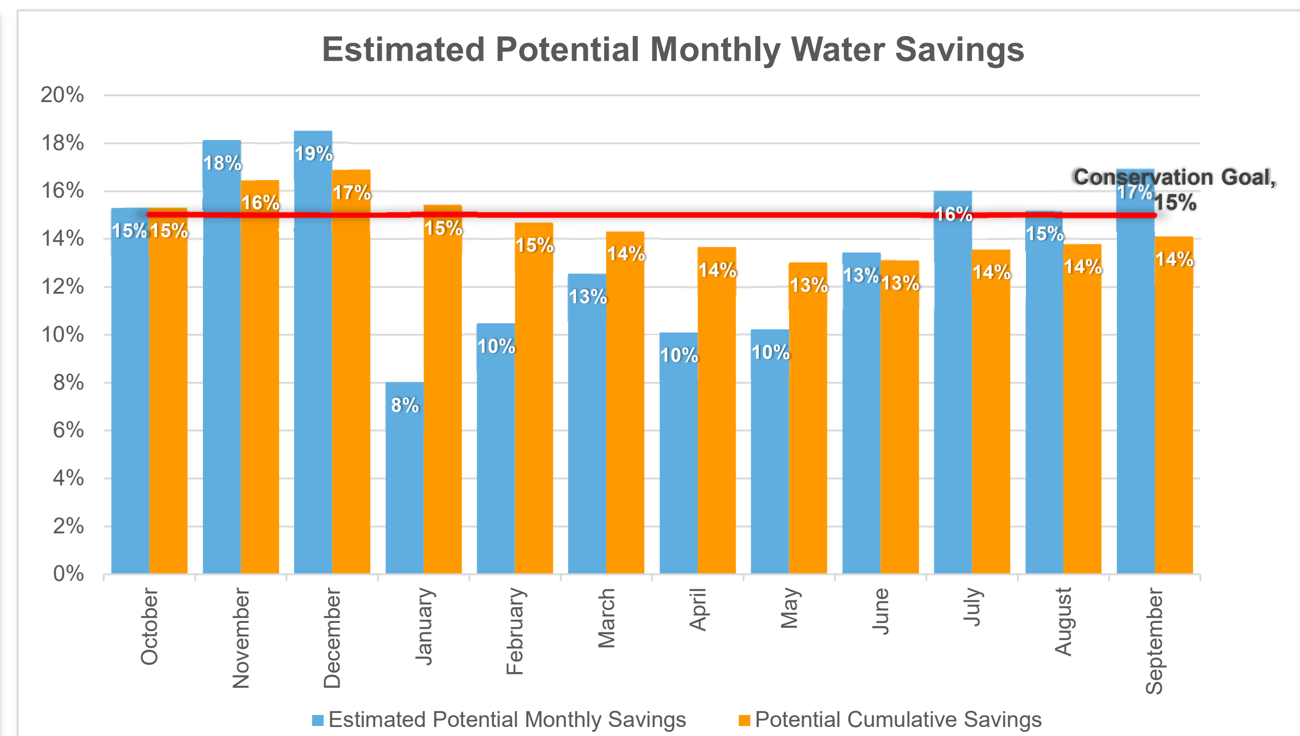
Estimated Monthly Water Use and Savings Summary

Units: (mg)

This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.

Month	Baseline Year (2020) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
October	409	346	15%	15%	15%	
November	287	235	18%	16%	15%	
December	188	153	19%	17%	15%	
January	178	164	8%	15%	15%	
February	182	163	10%	15%	15%	
March	245	214	13%	14%	15%	
April	282	253	10%	14%	15%	
May	405	363	10%	13%	15%	
June	493	427	13%	13%	15%	
July	506	425	16%	14%	15%	
August	520	441	15%	14%	15%	
September	415	345	17%	14%	15%	





Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

Los Altos Suburban

Enter Agency Information	
Agency Name	Los Altos
Total Population Served	70,160
Conservation Goal (%)	25%
Drought Stage	Stage 3
Number of Residential Accounts	17,155
Number of Commercial, Industrial, and Institutional (CII) Accounts	1,406
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	84%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	85%
Comments	LAS

Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

5 - Estimated Water Savings - Stage 3

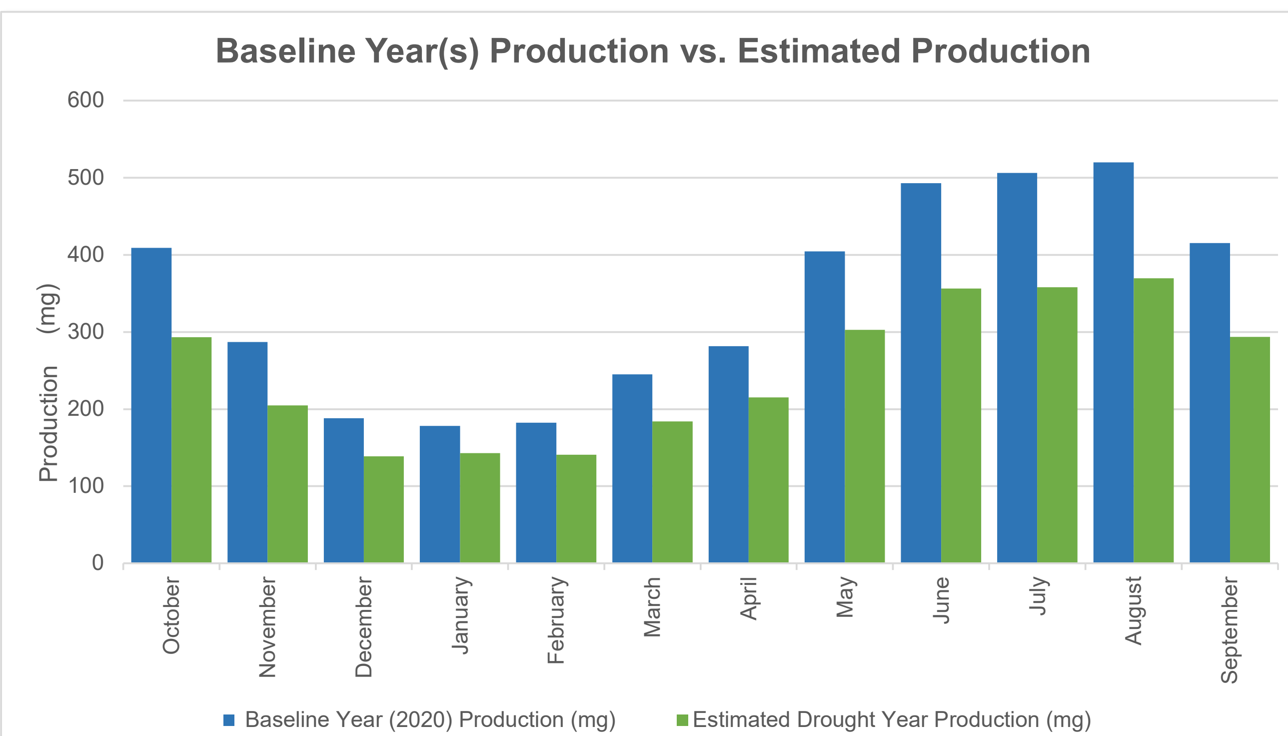
Los Altos

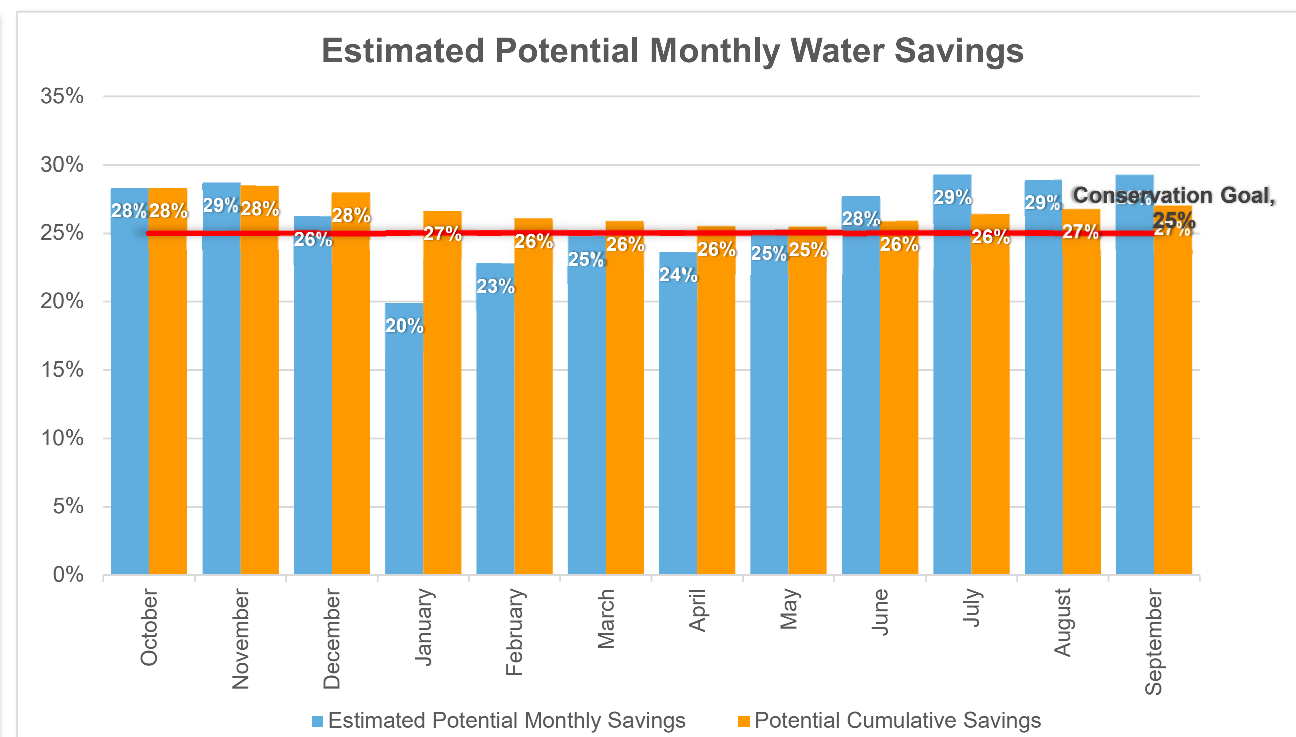
Estimated Monthly Water Use and Savings Summary

Units: (mg)

This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.

Month	Baseline Year (2020) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
October	409	293	28%	28%	25%	
November	287	205	29%	28%	25%	
December	188	139	26%	28%	25%	
January	178	143	20%	27%	25%	
February	182	141	23%	26%	25%	
March	245	184	25%	26%	25%	
April	282	215	24%	26%	25%	
May	405	303	25%	25%	25%	
June	493	356	28%	26%	25%	
July	506	358	29%	26%	25%	
August	520	370	29%	27%	25%	
September	415	294	29%	27%	25%	





Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

Los Altos Suburban

Enter Agency Information	
Agency Name	Los Altos
Total Population Served	70,160
Conservation Goal (%)	35%
Drought Stage	Stage 4
Number of Residential Accounts	17,155
Number of Commercial, Industrial, and Institutional (CII) Accounts	1,406
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	84%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	85%
Comments	LAS

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Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

5 - Estimated Water Savings - Stage 4

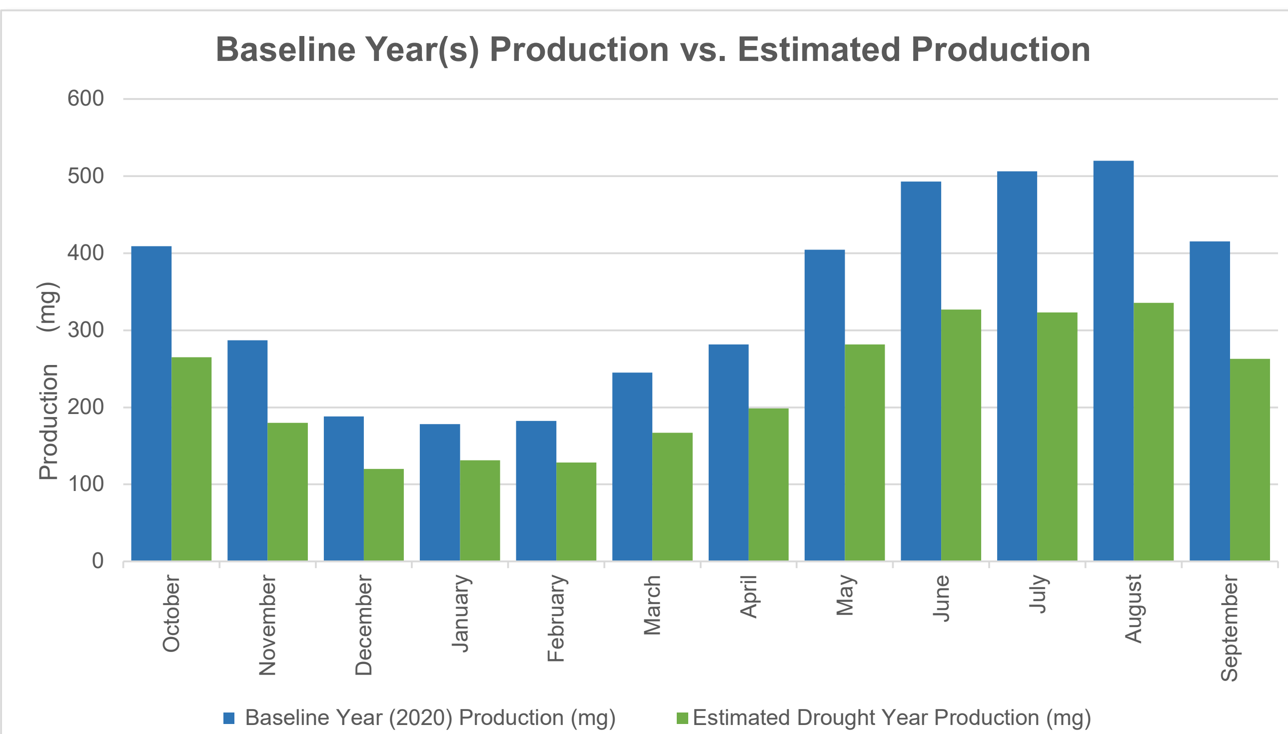
Los Altos Suburban

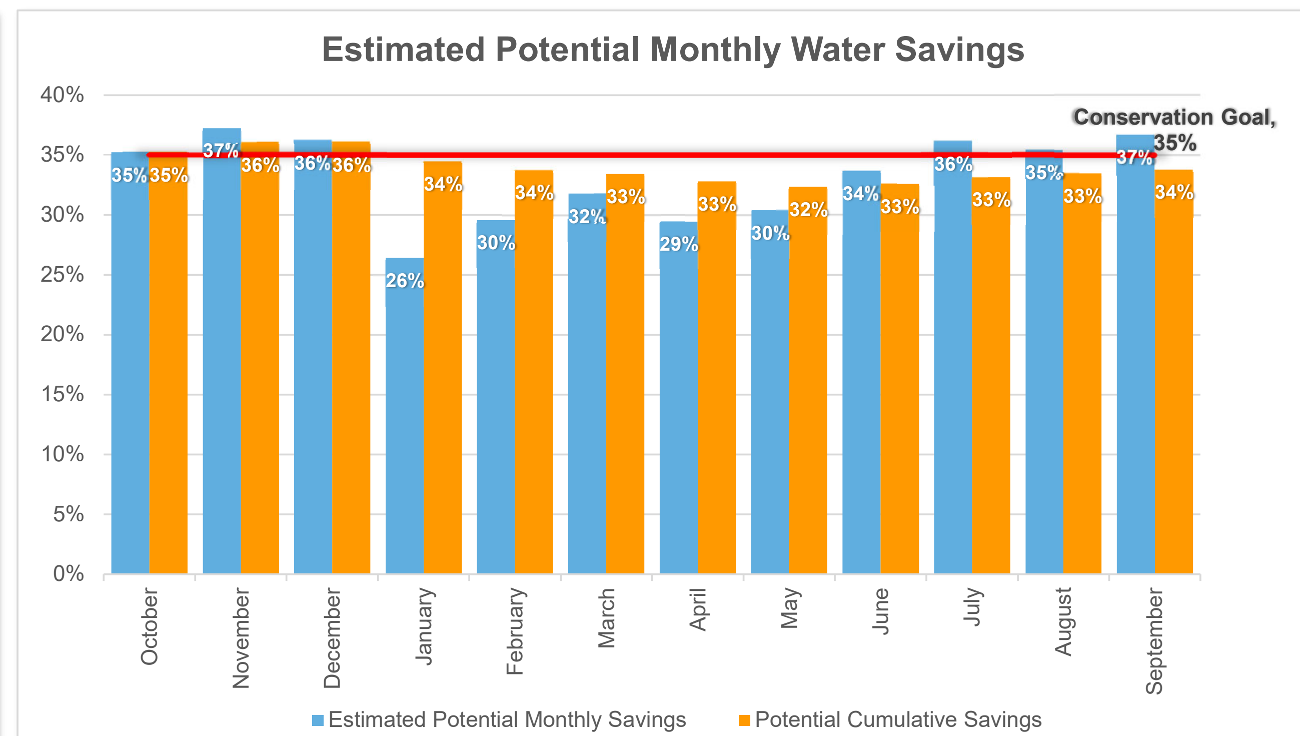
Estimated Monthly Water Use and Savings Summary

Units: (mg)

This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.

Month	Baseline Year (2020) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
October	409	265	35%	35%	35%	
November	287	180	37%	36%	35%	
December	188	120	36%	36%	35%	
January	178	131	26%	34%	35%	
February	182	128	30%	34%	35%	
March	245	167	32%	33%	35%	
April	282	199	29%	33%	35%	
May	405	282	30%	32%	35%	
June	493	327	34%	33%	35%	
July	506	323	36%	33%	35%	
August	520	336	35%	33%	35%	
September	415	263	37%	34%	35%	





Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

Los Altos Suburban

Enter Agency Information	
Agency Name	Los Altos
Total Population Served	70,160
Conservation Goal (%)	45%
Drought Stage	Stage 5
Number of Residential Accounts	17,155
Number of Commercial, Industrial, and Institutional (CII) Accounts	1,406
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	84%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	85%
Comments	LAS

Drought Response Tool

5 - Estimated Water Savings - Stage 5

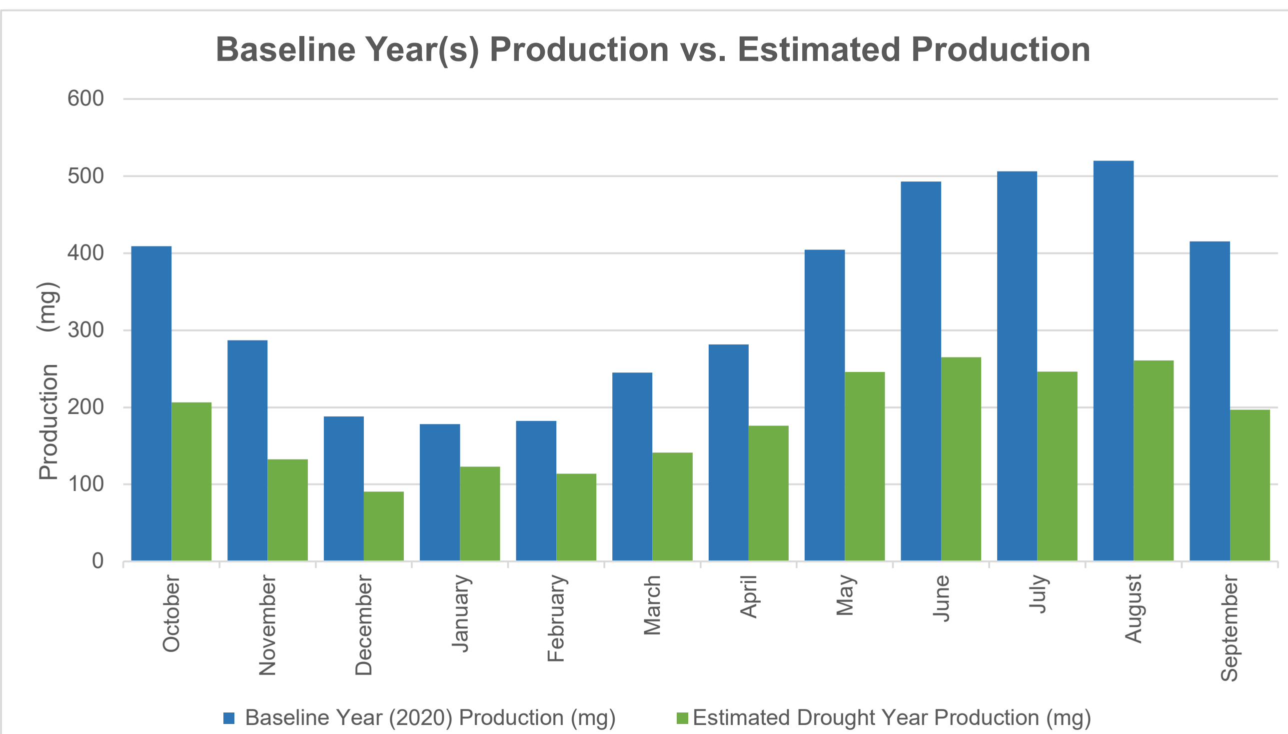
Los Altos

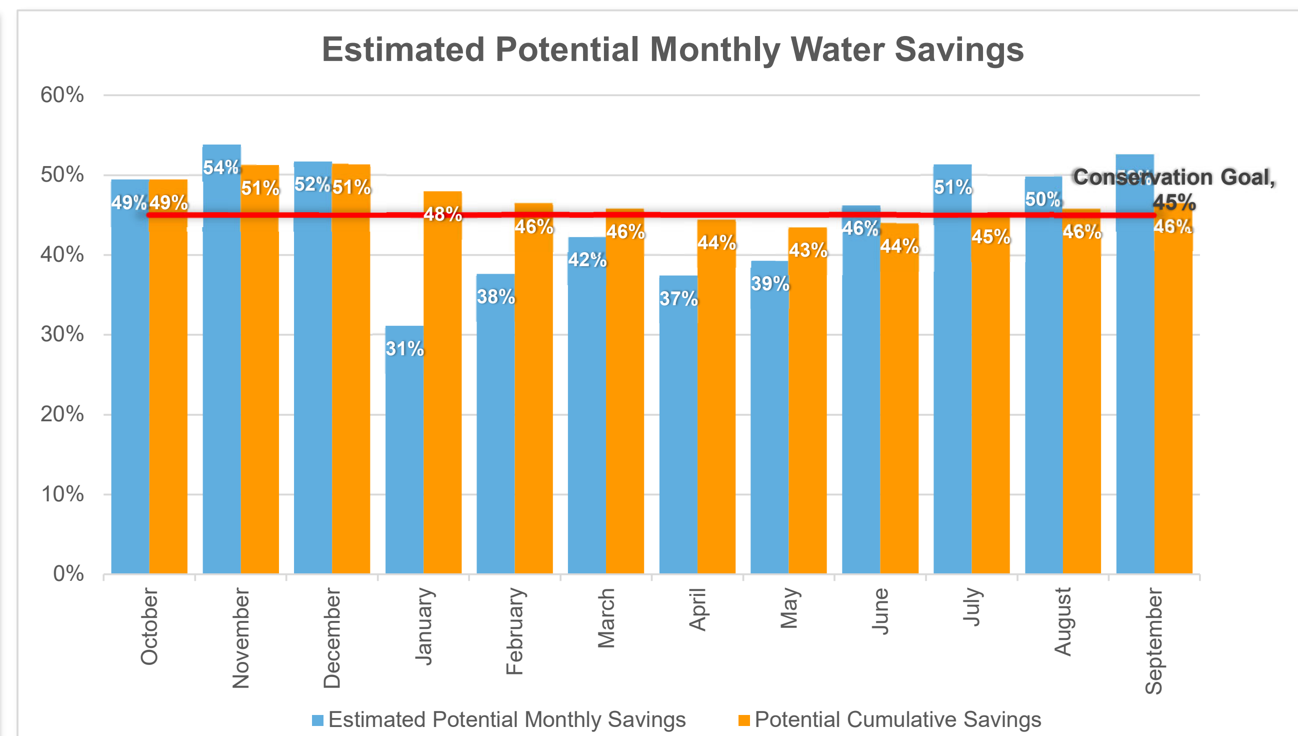
Estimated Monthly Water Use and Savings Summary

Units: (mg)

This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.

Month	Baseline Year (2020) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
October	409	207	49%	49%	45%	
November	287	133	54%	51%	45%	
December	188	91	52%	51%	45%	
January	178	123	31%	48%	45%	
February	182	114	38%	46%	45%	
March	245	141	42%	46%	45%	
April	282	176	37%	44%	45%	
May	405	246	39%	43%	45%	
June	493	265	46%	44%	45%	
July	506	246	51%	45%	45%	
August	520	261	50%	46%	45%	
September	415	197	53%	46%	45%	





Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

1 - Home

Los Altos Suburban

Enter Agency Information	
Agency Name	Los Altos
Total Population Served	70,160
Conservation Goal (%)	55%
Drought Stage	Stage 6
Number of Residential Accounts	17,155
Number of Commercial, Industrial, and Institutional (CII) Accounts	1,406
Number of Dedicated Irrigation Accounts	0
Baseline Year(s)	2020
Percentage of Residential Indoor Use During Minimum Month (%)	84%
Percentage of Comm-Gov Indoor Use During Minimum Month (%)	85%
Comments	LAS

Drought Response Tool

Home | Input Baseline Year Water Use | Baseline Year Water Use Profile | Drought Response Actions | Estimated Water Savings | Drought Response Tracking

5 - Estimated Water Savings - Stage 6

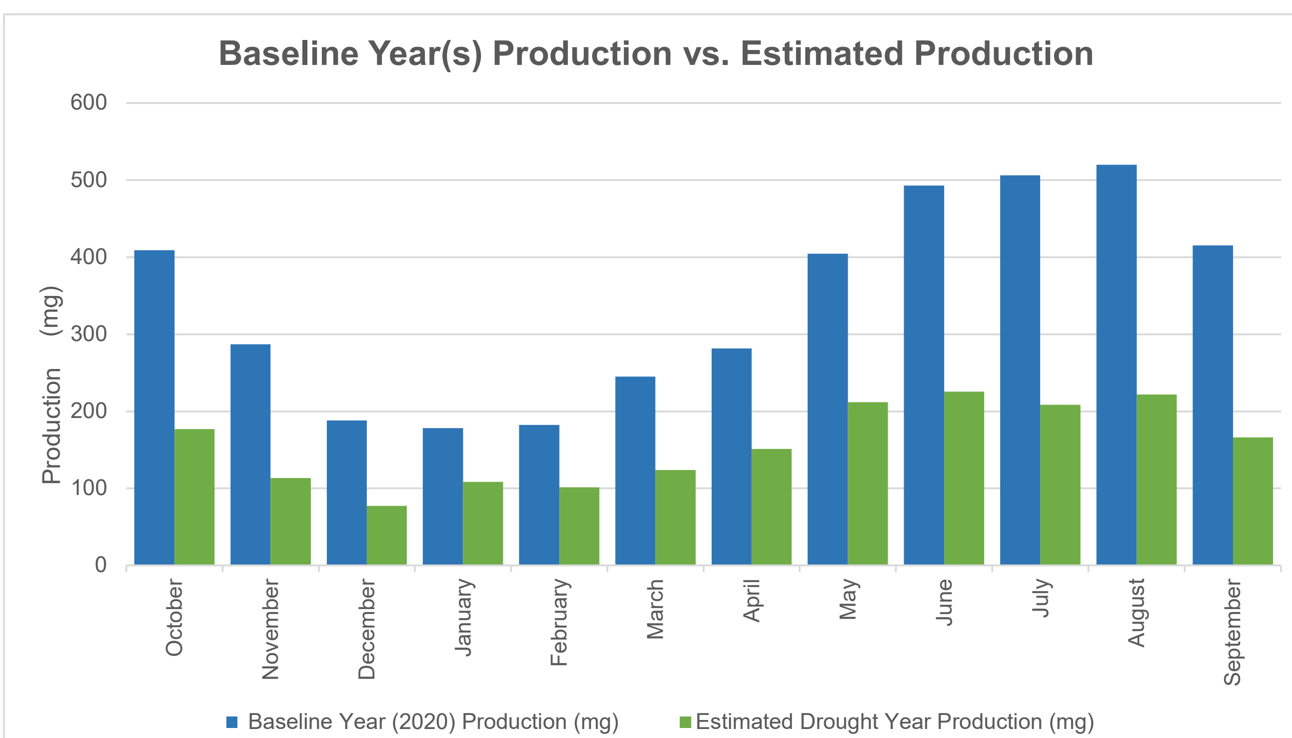
Los Altos Suburban

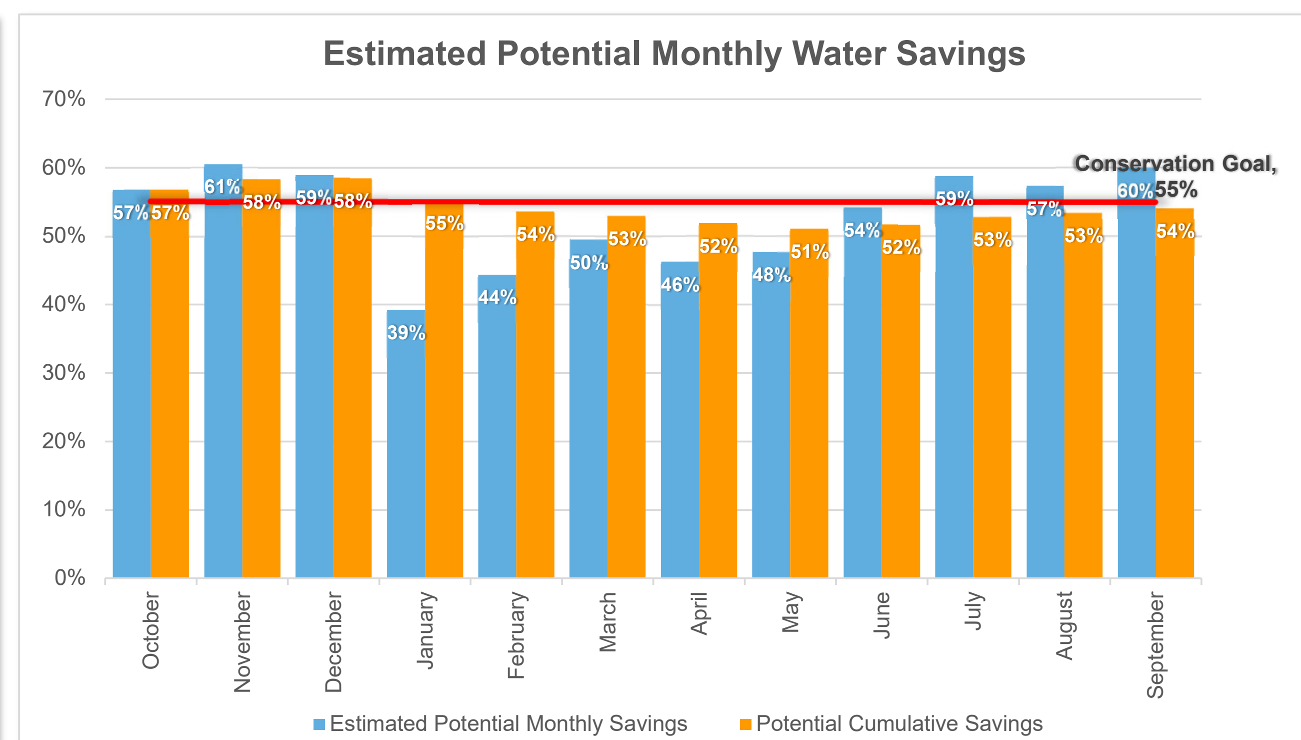
Estimated Monthly Water Use and Savings Summary

Units: (mg)

This provides a summary of the estimated production relative to Baseline Year production and potential water savings, assuming implementation of selected actions at the water savings and implementation rates indicated in the Drought Response Actions worksheet. Select the units that your production data are displayed in.

Month	Baseline Year (2020) Production (mg)	Estimated Drought Year Production (mg)	Estimated Potential Monthly Savings	Potential Cumulative Savings	Conservation Goal	Comments
October	409	177	57%	57%	55%	
November	287	113	61%	58%	55%	
December	188	77	59%	58%	55%	
January	178	108	39%	55%	55%	
February	182	101	44%	54%	55%	
March	245	124	50%	53%	55%	
April	282	151	46%	52%	55%	
May	405	212	48%	51%	55%	
June	493	226	54%	52%	55%	
July	506	209	59%	53%	55%	
August	520	222	57%	53%	55%	
September	415	166	60%	54%	55%	





Attachment B
CPUC Rule 14.1

Rule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 1) (T)

A. APPLICABILITY (N)

1. This schedule applies to all of California Water Service's regulated ratemaking areas in California, as well as Grand Oaks Water.

B. GENERAL INFORMATION

1. All expenses incurred by utility to implement Rule 14.1, and Schedule 14.1, and requirements of the California State Water Resources Control Board ("Water Board") that have not been considered in a General Rate Case or other proceeding shall be accumulated by Cal Water in a separate memorandum account, authorized in Resolution W-4976, for disposition as directed or authorized from time to time by the Commission.
2. To the extent that a Stage of Mandatory Water Use Restrictions in Schedule 14.1 has been activated, and a provision in this Rule is inconsistent with the activated Stage in Schedule 14.1, the provisions of Schedule 14.1 apply.

C. DEFINITIONS

For the purposes of this Rule, the following terms have the meanings set forth in this section.

1. "Commercial nursery" means the use of land, buildings or structures for the growing and/or storing of flowers, fruit trees, ornamental trees, vegetable plants, shrubs, trees and similar vegetation for the purpose of transplanting, for use as stock or grafting, and includes the retail sale or wholesale distribution of such items directly from the premises/lot.
2. "Drip irrigation system" means a non-spray, low-pressure, and low volume irrigation system utilizing emission devices with a precipitation or flow rate measured in gallons per hour (GPH), designed to slowly apply small volumes of water at or near the root zone of plants or other landscaping.
3. "Flow rate" means the rate at which water flows through pipes, valves, and emission devices, measured in gallons per minute (GPM), gallons per hour (GPH), inches per hour (IPH), hundred cubic feet (Ccf), or cubic feet per second (CFS).
4. "Flow-restricting device" means valves, orifices, or other devices that reduce the flow of potable water through a service line, which are capable of passing a minimum of 3 Ccf per person, per month, based upon the U.S. Census calculation of the average number of people in a household in the area.
5. "High-efficiency sprinkler systems" means an irrigation system with emission devices, such as sprinkler heads or nozzles, with a precipitation or flow rate no greater than one IPH.
6. "Irrigation" means the application of potable water by artificial means to landscape.
7. "Irrigation system" means the components of a system meant to apply water to an area for the purpose of irrigation, including, but not limited to, piping, fittings, sprinkler heads or nozzles, drip tubing, valves, and control wiring.
8. "Landscape" means all of the outdoor planting areas, turf areas, and water features at a particular location.
9. "Measureable rainfall" means any amount of precipitation of more than one-tenth of an inch (0.1").
10. "Micro spray irrigation system" means a low-pressure, low-volume irrigation system utilizing emission devices that spray, mist, sprinkle, or drip with a precipitation or flow rate measured in GPH, designed to slowly apply small volumes of water to a specific area. (N)

(continued)

Rule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 2) (T)

C. DEFINITIONS (Continued) (N)

11. “Ornamental landscape” means shrubs, bushes, flowers, ground cover, turf, lawns, and grass planted for the purpose of improving the aesthetic appearance of property, but does not include crops or other agricultural products or special landscape areas.

12. "Ornamental turf" means a ground cover surface of grass that can be mowed and is planted for the purpose of improving the aesthetic appearance of the property, but does not include crops or other agricultural products or special landscape areas.

13. “Plumbing fixture” means a receptacle or device that is connected to a water supply system, including, but not limited to, pipes, toilets, urinals, showerheads, faucets, washing machines, water heaters, tubs, and dishwashers.

14. “Potable water” means water supplied by Cal Water which conforms to the federal and state standards for human consumption.

15. “Properly programmed” means a smart irrigation controller that has been programmed according to the manufacturer’s instructions and site-specific conditions.

16. “Real-time water measurement device” means a device or system that provides regularly updated electronic information regarding the customer’s water use.

17. “Runoff” means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape onto other areas.

18. “Smart irrigation controller” means an automatic device used to remotely control valves that operate an irrigation system that has been tested by an American National Standards Institute accredited third-party certifying body or laboratory in accordance with the Environmental Protection Agency’s WaterSense program (or an analogous successor program), and certified by such body or laboratory as meeting the performance and efficiency requirements of such program, or the more stringent performance and efficiency requirements of another similar program.

19. “Special landscape area” means an area of the landscape dedicated solely to edible plants and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

20. “Turf” means a ground cover surface of grass that can be mowed.

21. “Water feature” means a design element where open, artificially supplied water performs an aesthetic or recreation feature, including, but not limited to, ponds, lakes, waterfalls, fountains, and streams.

22. “Water use evaluation” means an evaluation of the efficiency of indoor water-using devices, including, but not limited to, measurement of flow rates for all existing showerheads, faucets, and toilets, inspection for leaks, and providing written recommendations to improve the efficiency of the indoor water-using fixtures and devices and/or an evaluation of the performance of an irrigation system, including, but not limited to, inspection for leaks, reporting of overspray or runoff, and providing written recommendations to improve the performance of the irrigation system. (N)

(continued)

Rule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 3) (T)

D. ENFORCEMENT (N)

Each Stage of this Rule establishes certain restrictions on the use of potable water. Violating the restrictions set forth in a particular Stage while it is in effect is declared a non-essential, wasteful use of potable water. Subject to the schedule and conditions outlined below, Cal Water is authorized to install a flow-restricting device on the service line of any customer when its personnel verify a customer is using potable water for non-essential, wasteful uses. No person shall have any right or claim in law or in equity, against Cal Water because of, or as a result of, any matter or thing done or threatened to be done pursuant to the restrictions on using potable water for non-essential, wasteful uses.

1. FIRST VIOLATION: Cal Water shall provide the customer with a written notice of violation.

2. SECOND VIOLATION: If Cal Water verifies that the customer has used potable water for non-essential, wasteful uses after having been notified of the first violation, Cal Water shall provide the customer with a second written notice of violation and is authorized to install a flow-restricting device on the customer's service line. Cal Water shall not be held liable for any injuries, damages, and/or consequences arising from the installation of a flow restricting device.

3. NOTICES OF VIOLATION:

   A. Written notices of violation provided to customers pursuant to this Rule shall document the verified violation and alert the customer to the fact that future violations of the restricted uses of potable water may result in the installation of a flow-restricting device on the customer's service line or the discontinuation of the customer's service.

   B. If Cal Water elects to install a flow-restricting device on a customer's service line, the written notice of violation shall explain that a flow-restricting device has or will be installed on the customer's service line, document the steps the customer must take in order for the flow-restricting device to be removed, and explain that after the flow-restricting device is removed, it may be reinstalled, without further notice, if the customer is again verified by Cal Water's personnel to be using potable water for non-essential, wasteful uses.

4. FLOW RESTRICTING DEVICE CONDITIONS: The installation of a flow-restricting devide on a customer's service line is subject to the following conditions:

   a. The device shall be capable of providing the premise with a minimum of 3 Ccf per person, per month, based upon the U.S. Census calculation of the average number of people in a household in the area.

   b. The device may only be removed by Cal Water, and only after a minimum three-day period has elapsed.

   c. Any tampering with the device may result in the discontinuation of the customer's water service and the customer being charged for any damage to Cal Water's equipment or facilities and any required service visits. (N)

(continued)

Rule No. 14.1

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 4) (T)

D. ENFORCEMENT (Continued) (N)

d. After the removal of the device, if Cal Water verifies that the customer is using potable water for non-essential, wasteful uses, Cal Water may install another flow-restricting device without prior notice. This device may remain in place until water supply conditions warrant its removal. If, despite the installation of the device, Cal Water verifies that the customer is using potable water for non-essential and, unauthorized wasteful uses, then Cal Water may discontinue the customer's water service, as provided in its Rule No. 11.

5. FLOW-RESTRICTING DEVICE REMOVAL CHARGES: The charge to customers for removal of a flow-restricting device installed pursuant to this Rule is $100 during normal business hours, and $150 for the device to be removed outside of normal business hours.

E. WASTEFUL USES OF WATER

Except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency, customers are prohibited, at all times, from using potable water for the following actions, as each is declared a non-essential, wasteful use of water:

1. Use of potable water through a broken or defective plumbing fixture or irrigation system when Cal Water has notified the customer in writing to repair the broken or defective plumbing fixture or irrigation system, and the customer has failed to effect such repairs within seven (7) business days of receipt of such notice;
2. The application of potable water to landscapes in a manner that causes runoff such that water flows onto adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots, or structures;
3. The use of a hose that dispenses potable water to wash vehicles, including cars, trucks, buses, boats, aircraft, and trailers, whether motorized or not, except where the hose is fitted with a shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use.

F. MANDATORY STAGED RESTRICTIONS OF WATER USE

1. ADOPTION OF STAGED MANDATORY RESTRICTIONS: Cal Water may implement the following staged mandatory restrictions of water use, after notifying the Director of the Commission's Division of Water and Audits (DWA), by a Tier 1 advice letter in both hard-copy and emailed formats, of Cal Water's intent to implement a particular stage, if:

   a. Water supplies are projected to be insufficient to meet normal customer demand by Cal Water; or

   b. A water supply shortage or threatened shortage exists; or

   c. Water supplies are curtailed by a wholesale water supplier; or

   d. Directed to do so under a duly adopted emergency regulation by the Commission or other authorized government agencies. (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 5)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

2. PUBLIC NOTICE: Thirty (30) days prior to implementing a mandatory staged reduction in water use in this Rule, Cal Water shall notify its customer of the requirements of the particular stage implemented by Cal Water by bill insert, direct mailing, email, or bill message directing the customer to additional information on Cal Water's website.

3. STAGE 1 WATER SHORTAGE: A Stage 1 Water Shortage occurs when Cal Water, the Commission, a wholesale water supplier, or other authorized government agency determines that measures are needed to reduce water consumption by customers served by public water suppliers. In addition to the prohibitions outlined in **Section E**, the following restrictions may be imposed by Cal Water, except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency:

   a. Outdoor Irrigation Restrictions (Stage 1)

      i. Irrigating ornamental landscapes with potable water is limited to no more than **three (3) days** per week, on a schedule established and posted by Cal Water on its website or otherwise provided to customers by bill message, bill insert, direct mail, or email, or as follows:

         1. Customers with even-numbered addresses may irrigate on Saturdays, Tuesdays, and Thursdays.

         2. Customers with odd-numbered addresses may irrigate on Sundays, Wednesdays, and Fridays.

         3. Customers without a street address may irrigate on Saturdays, Tuesdays, and Thursdays.

         4. Notwithstanding the foregoing restrictions, irrigation of special landscape areas or commercial nurseries may occur as needed, provided that the customer who wishes to irrigate a special landscape area or commercial nursery presents Cal Water with a plan to achieve water use reductions commensurate with those that would be achieved by complying with foregoing restrictions.

         5. Notwithstanding the foregoing restrictions, when a city, county, or other local public agency in one of Cal Water's service areas duly adopts restrictions on the number of days or hours of the day that customers may irrigate which are different than those adopted by Cal Water, Cal Water may enforce the city, county, or other local public agency's restrictions.

      ii. Irrigating ornamental landscape with potable water is prohibited during the hours between **8:00 a.m. and 6:00 p.m**.

      iii. The foregoing restrictions do **not** apply to:

         1. Landscape irrigation zones that exclusively use drip irrigation systems and/or micro spray irrigation system; (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 6)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

[Stage 1 (cont.)]

2. Irrigating ornamental landscapes with the use of a hand-held bucket or similar container, with a continuously monitored hose which is fitted with an automatic shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use or monitored, or for the express purpose of adjusting or repairing an irrigation system.

b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the customer's plumbing fixture(s) or irrigation system(s) must be repaired within **five (5) business days** of written notification by Cal Water, unless other arrangements are made with Cal Water.

c. **Prohibited** Uses of Water: Customers are prohibited from using potable water for the following actions:

i. The application of potable water to driveways and sidewalks;

ii. The use of potable water in a water feature, except where the water is part of a recirculating system;

iii. The application of potable water to outdoor landscapes during and within forty-eight (48) hours after measurable rainfall.

d. Other duly adopted restrictions on the use potable water as prescribed from time to time by the Commission or other authorized government agencies are incorporated herein by reference.

4. STAGE 2 WATER SHORTAGE: A Stage 2 Water Shortage occurs when the Stage 1 Water Shortage restrictions are deemed insufficient to achieve identified water use goals established by Cal Water, the Commission, a wholesale water supplier, or other authorized government agency. In addition to the prohibited wasteful water use practices listed in Section D, the following restrictions may be imposed by Cal Water, except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency. Differences from or additions to the previous Stage are underlined.

a. Outdoor Irrigation Restrictions (Stage 2)

i. Irrigating ornamental landscapes with potable water is limited to no more than **three (3) days** per week, on a schedule established and posted by Cal Water on its website or otherwise provided to customers by bill message, bill insert, direct mail, or email, or as follows:

1. Customers with even-numbered addresses may irrigate on Saturdays, Tuesdays, and Thursdays.

2. Customers with odd-numbered addresses may irrigate on Sundays, Wednesdays, and Fridays. (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 7)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

[Stage 2 (cont.)]

3. Customers without a street address may irrigate on Saturdays, Tuesdays, and Thursdays.
4. Notwithstanding the foregoing restrictions, irrigation of special landscape areas or commercial nurseries may occur as needed, provided that the customer who wishes to irrigate a special landscape area or commercial nursery presents Cal Water with a plan to achieve water use reductions commensurate with those that would be achieved by complying with foregoing restrictions.
5. Notwithstanding the foregoing restrictions, when a city, county, or other public agency in one of Cal Water's service areas duly adopts restrictions on the number of days or hours of the day that customers may irrigate which are different than those adopted by Cal Water, Cal Water may enforce the city, county, or other local public agency's restrictions.

ii. Irrigating ornamental landscape with potable water is prohibited during the hours between **8:00 a.m. and 6:00 p.m**.

iii. The foregoing restrictions do **not** apply to:

1. Landscape irrigation zones that exclusively use drip irrigation systems and/or micro spray irrigation system;
2. Irrigating ornamental landscapes with the use of a hand-held bucket or similar container, a continuously monitored hose which is fitted with an automatic shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use or monitored, or for the express purpose of adjusting or repairing an irrigation system.

b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the customer's plumbing fixture(s) or irrigation system(s) must be repaired within **three (3) business days** of written notification by Cal Water, unless other arrangements are made with Cal Water.

c. **Prohibited** Uses of Water: Customers are prohibited from using potable water for the following actions:

i. The application of potable water to driveways and sidewalks;

ii. The use of potable water in a water feature, except where the water is part of a recirculating system;

iii. The application of potable water to outdoor landscapes during and within forty-eight (48) hours after measurable rainfall;

iv. 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; (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 8)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

[Stage 2 (cont.)]

v. Irrigation of ornamental landscape on public street medians;

vi. Irrigation outside of newly constructed homes and buildings with potable water in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.

d. Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guest room using clear and easily understood language.

e. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to the implementation of any staged mandatory restrictions of water use as described in this Rule.

f. Other duly adopted restrictions on the use of potable water as prescribed from time to time by the Commission or other authorized government agencies are incorporated herein by reference.

5. STAGE 3 WATER SHORTAGE: A Stage 3 Water Shortage occurs when the Stage 2 Water Shortage restrictions are deemed insufficient to achieve identified water use goals established by Cal Water, the Commission, a wholesale water supplier, or other authorized government agency. In addition to the prohibited wasteful water use practices listed in Section D, the following restrictions may be imposed by Cal Water, except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency. Differences from or additions to the previous Stages are underlined.

a. Outdoor Irrigation Restrictions

i. Irrigating ornamental landscapes with potable water is limited to no more than **two (2) days** per week, on a schedule established and posted by Cal Water on its website or otherwise provided to customers by bill message, bill insert, direct mail, or email, or as follows:

1. Customers with even-numbered addresses may irrigate on Saturdays and Tuesdays (previous Stages allowed Thursdays as well).

2. Customers with odd-numbered addresses may irrigate on Sundays and Wednesdays (previous Stages allowed Fridays as well).

3. Customers without a street address may irrigate on Saturdays and Tuesdays (previous Stages allowed Thursdays as well). (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 9)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

[Stage 3 (cont.)]

4. Notwithstanding the foregoing restrictions, irrigation of special landscape areas or commercial nurseries may occur as needed, provided that the customer who wishes to irrigate a special landscape area or commercial nursery presents Cal Water with a plan to achieve water use reductions commensurate with those that would be achieved by complying with foregoing restrictions.

5. Notwithstanding the foregoing restrictions, when a city, county, or other local public agency in one of Cal Water's service areas duly adopts restrictions on the number of days or hours of the day that customers may irrigate which are different than those adopted by Cal Water, Cal Water may enforce the city, county, or other local public agency's restrictions.

ii. Irrigating ornamental landscape with potable water is prohibited during the hours between **8:00 a.m. and 6:00 p.m.**

iii. The foregoing restrictions do **not** apply to:

1. Landscape irrigation zones that exclusively use drip irrigation systems and/or micro spray irrigation system;

2. Irrigating ornamental landscapes with the use of a hand-held bucket or similar container, a continuously monitored hose which is fitted with an automatic shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use or monitored, or for the express purpose of adjusting or repairing an irrigation system.

b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the customer's plumbing fixtures and/or irrigation system must be repaired within **two (2) business days** of written notification by Cal Water, unless other arrangements are made with Cal Water.

c. **Prohibited** Uses of Water: Customers are prohibited from using potable water for the following actions:

i. The application of potable water to driveways and sidewalks;

ii. The use of potable water in a water feature, except where the water is part of a recirculating system;

iii. The application of potable water to outdoor landscapes during and within forty-eight (48) hours after measurable rainfall;

iv. 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;

v. Irrigation of ornamental turf on public street medians;

vi. Irrigation outside of newly constructed homes and buildings with potable water in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.

vii. Use of potable water for street cleaning with trucks, except for initial wash-down for construction purposes (if street sweeping is not feasible); (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 10)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

[Stage 3 (cont.)]

viii. Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses unless no other source of water or other method can be used.

d. Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guest room using clear and easily understood language.

e. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to the implementation of any staged mandatory restrictions of water use as described in this Rule.

f. Other duly adopted restrictions on the use of potable water as prescribed from time to time by the Commission or other authorized government agencies are incorporated herein by reference.

6. STAGE 4 WATER SHORTAGE: A Stage 4 Water Shortage occurs when the Stage 3 Water Shortage restrictions are deemed insufficient to achieve identified water use goals established by Cal Water, the Commission, a wholesale water supplier, or other authorized government agency. In addition to the prohibited wasteful water use practices listed in Section D, the following restrictions may be imposed by Cal Water, except where necessary to address an immediate health or safety need or to comply with a term or condition in a permit issued by a state or federal agency. Differences from or additions to the previous Stage are underlined.

a. Irrigating ornamental landscape with potable water is prohibited, except when a hand-held bucket or a similar container, or a continuously monitored hose which is fitted with an automatic shut-off nozzle or device attached to it that causes it to cease dispensing water immediately when not in use or monitored is used to maintain vegetation, including trees and shrubs.

b. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the customer's plumbing fixtures or irrigation system must be repaired within **one (1) business day** of written notification by Cal Water, unless other arrangements are made with Cal Water.

Prohibited Uses of Water: Customers are prohibited from using potable water for the following actions:

i. The application of potable water to driveways and sidewalks;

ii. The use of potable water in a water feature, except where the water is part of a recirculating system;

iii. The application of potable water to outdoor landscapes during and within forty-eight (48) hours after measurable rainfall; (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 11)

F. MANDATORY STAGED RESTRICTIONS OF WATER USE (Continued)

[Stage 4 (cont.)]

iv. 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;

[Note that items previously identified as (v) and (vi) in Stage 3 have been eliminated.]

v. Use of potable water for street cleaning with trucks (the previous Stage allowed certain exceptions);

vi. Use of potable water for construction purposes, such as consolidation of backfill, dust control, or other uses (the previous Stage allowed certain exceptions).

c. Operators of hotels and motels shall provide guests with the option of choosing not to have towels and linens laundered daily. The hotel or motel shall prominently display notice of this option in each guest room using clear and easily understood language.

d. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to the implementation of any staged mandatory restrictions of water use as described in this Rule.

f. Other duly adopted restrictions on the use of utility-supplied potable water as prescribed from time to time by the Commission or other authorized government agencies, commissions, or officials are incorporated herein by reference.

G. ADOPTION OF STAGED MANDATORY WATER USE REDUCTIONS (for Schedule 14.1)

1. ADDITION OF SCHEDULE 14.1: If, in the opinion of Cal Water, more stringent water conservation measures are required due to supply conditions or government directive, Cal Water may request the addition of a Schedule No. 14.1 – Staged Mandatory Water Use Reductions, via a Tier 2 advice letter.

   A. Cal Water may not activate Schedule No. 14.1 until it has been authorized to do so by the California Public Utilities Commission, as delegated to its Division of Water and Audits.

   B. A Schedule No. 14.1 that has been authorized by the California Public Utilities Commission shall remain dormant until triggered by specific conditions detailed in the Schedule 14.1 tariff and Cal Water has requested and received authorization for activating a stage by the California Public Utilities Commission. (N)

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 12)

G. ADOPTION OF STAGED MANDATORY WATER USE REDUCTIONS (for Schedule 14.1) (continued)

c. Notice of the Tier 2 advice letter and associated public participation hearing, if required, shall be provided to customers through a bill insert or a direct mailing, as set forth in Subsection 5 (Public Notice) below.

d. Cal Water shall comply with all requirements of Sections 350-358 of the California Water Code.

e. The Tier 2 advice letter requesting the addition of a Schedule No. 14.1 shall include, but not be limited to:

i. A proposed Schedule No. 14.1 tariff, which shall include but not be limited to:

1. Applicability,
2. Territory applicable to,
3. A detailed description of each stage of water budgets (the number of stages requested for a ratemaking area may vary depending on the specifics of the water shortage event),
4. A detailed description of the trigger(s) that activates each stage of water budgets,
5. A detailed description of each water use restriction for each stage of water budgets,
6. Water use violation levels, written warning levels, associated fines, if applicable, and exception procedures,
7. Conditions for installation of a flow restrictor,
8. Charges for removal of flow restrictors, and
9. Special conditions

ii. Justification for, and documentation and calculations in support of the water budgets.

2. Conditions for Activating Schedule No. 14.1: Cal Water may file a Tier 1 advice letter to request activation of a particular stage of its Schedule No. 14.1 tariff if:

a. Cal Water, the California Public Utilities Commission, wholesale water supplier, or other government agency declares an emergency requiring mandatory water budgets, mandatory water rationing, or mandatory water allocations; or

b. A government agency declares a state of emergency in response to severe drought conditions, earthquake or other catastrophic event that severely reduces Cal Water's water supply; or

c. Cal Water is unable to achieve water conservation targets set by itself; or

d. Water conservation targets set by itself or a governing agency are insufficient; or

e. Cal Water chooses to subsequently activate a different stage of its Schedule No. 14.1 tariff.

(continued)

Rule No. 14.1 (N)

WATER SHORTAGE CONTINGENCY PLAN (continued)

(Page 13)

G. ADOPTION OF STAGED MANDATORY WATER USE REDUCTIONS (for Schedule 14.1) (continued)

a. Include, but not be limited to, a justification for activating the particular stage of mandatory water use reductions, as well as the period during which the particular stage will be in effect.

b. Be accompanied by the customer notification measures detailed in sub-section 5 (Public Notice) below.

4. De-Activating Schedule No. 14.1: When Schedule No. 14.1 is activated and Cal Water determines that water supplies are again sufficient to meet normal demands, and mandatory water use reductions are no longer necessary, Cal Water shall seek the approval of the California Public Utilities Commission, via a Tier 1 advice letter, to de-activate the particular stage of mandatory water use reductions that had been authorized.

5. Public Notice

a. When Cal Water requests the addition of a Schedule 14.1 – Staged Mandatory Water Use Reductions Tariff, via a Tier 2 advice letter, it shall provide notice of the Tier 2 advice letter and associated public hearing provided to customers through bill inserts or direct mailing, and it shall comply with all requirements of Sections 350-358 of the California Water Code (CWC), including but not limited to the following:

i. In order to be in compliance with both the General Order 96-B and CWC, notice shall be provided via both newspaper and bill insert/direct mailing.

ii. One notice shall be provided for each advice letter filed, that includes both notice of the filing of the Tier 2 advice letter as well as the details of the public hearing (date, time, place, etc.).

iii. The public meeting shall be held after the Tier 2 advice letter is filed, and before the Commission authorizes the addition of Schedule 14.1 to the tariff except in cases of emergency water shortages approved by DWA.

iv. Cal Water shall consult with Division of Water and Audits staff prior to filing advice letter, in order to determine details of public meeting.

b. In the event that Schedule No. 14.1- Staged Mandatory Water Use Reductions Tariff is triggered, and Cal Water requests activation through the filing of a Tier 1 advice letter, Cal Water shall notify its customers and provide each customer with a summary of Schedule No. 14.1 by means of bill insert or direct mailing. Notification shall take place prior to imposing any penalties associated with this plan. If activation of Schedule No. 14.1 occurs one year or more since the public hearing associated with adding Schedule 14.1 to its tariffs, then Cal Water shall conduct a public hearing pursuant to California Water Code Section 351 prior to activating a stage of its Mandatory Water Use Reduction Tariff.

c. During the period that a stage of Schedule No. 14.1 is activated, Cal Water shall provide customers with updates in at least every other bill, regarding its water supply status and the results of customers' conservation efforts. (N)

[end]

Appendix I: Conservation Master Plan

Attachment B

CONSERVATION MASTER PLAN 2021 – 2025

April 2021

Los Altos Suburban District

California Water Service

Prepared by M.Cubed

Table of Contents

List of Acronyms

AB	Assembly Bill
AF	Acre-feet (one AF equals 325,851 gallons)
AMI	Advanced metering infrastructure
AMR	Automatic meter reading
AWE	Alliance for Water Efficiency
BCR	Benefit Cost Ratio
BMP	Best Management Practice
CalWEP	California Water Efficiency Partnership
CII	Commercial, industrial, and institutional
CPUC	California Public Utilities Commission
CUWCC	California Urban Water Conservation Council
EO	Executive Order
GPCD	Gallons per capita per day
GPF	Gallons per flush
GPM	Gallons per minute
GRC	General Rate Case
HET	High efficiency toilet
HEU	High efficiency urinal
HEW	High efficiency clothes washer
IOU	Investor-owned utility
MaP	Maximum performance toilet testing program
MGD	Million gallons per day
MOU	Memorandum of Understanding Regarding Urban Water Conservation in California
SB	Senate Bill
SB X7-7	Senate Bill X7-7 Water Conservation Act of 2009
ULFT	Ultra low flow toilet
UWMP	Urban Water Management Plan
WF	Water Factor
WSCP	Water Shortage Contingency Plan

1 Introduction

1.1 Master Plan Scope and Objectives

Cal Water is committed to helping its customers use water efficiently and has developed a range of water conservation programs to support this goal. To ensure that it is providing the right mix of programs in a cost-effective manner, Cal Water routinely conducts comprehensive conservation program analysis and planning. This is done on a five-year cycle in tandem with the Urban Water Management Plan (UWMP). The results of this planning for the Los Altos Suburban District are summarized in this report, which covers the period 2021 to 2025.

The main purposes of this Conservation Master Plan are to:

- Serve as a broad guidance document that helps inform annual conservation activities, such as program levels, staffing, and budget needs both internally and for stakeholders.
- Summarize the mix of conservation measures that Cal Water plans to implement going forward, including the estimated water savings, costs, and effects on water demand.
- Explain the evaluation process and factors considered in selecting conservation measures.
- Provide an update to the 2016-20 Conservation Master Plan as part of a five-year review cycle to assess program performance and identify the need for any adjustments; and
- Ensure Cal Water districts are positioned to comply with the state's Making Water Conservation a California Way of Life regulations.

1.2 Relationship to GRC and UWMP

Cal Water's operations are regulated by the California Public Utilities Commission (CPUC), which approves the budgets and rates for each Cal Water district every three years in a General Rate Case (GRC) proceeding. The district's conservation programs and expenditures are part of the GRC proceeding. The last GRC covered the three-year period 2020-22 and a new GRC covering the period 2023-25 is presently underway. The conservation programs and budgets for 2021 in this plan reflect those authorized in the last GRC while those recommended for 2023-25 reflect programs and budgets being proposed by Cal Water in the current GRC.

This plan is an update to the Conservation Master Plan Cal Water completed in 2016 covering the period 2016-20. It constitutes the primary source of information on historical and proposed implementation of conservation programs reported in the Los Altos Suburban District's 2020 UWMP. A copy of this plan is provided as an appendix to the UWMP.

1.3 Relationship to Water Shortage Contingency Plan

The Water Conservation Master Plan is distinct from Cal Water's Water Shortage Contingency Plan (WSCP), which is also part of each district's UWMP. While the main purpose of the WSCP is to provide a blue-print for responding to water shortage emergencies caused by drought or other events resulting in temporary disruption to water supplies, the goal of the Water Conservation Master Plan is to provide a blue-print for providing education, assistance, and incentives to help customers use water efficiently all the time. Regardless of drought, water in California is an increasingly scarce resource. Investing in water use efficiency has repeatedly been shown to be a cost-effective way to ensure adequate supply of water for the future. While the conservation programs Cal Water implements are critically important during periods of water shortage, their primary purpose is to help make sure Cal Water can reliably serve customer water needs far into the future.

1.4 Report Organization

The remainder of this report is organized as follows:

- Section 2 provides a brief overview of the District, including the communities it serves, its sources of water supply, and its customer water demands.
- Section 3 discusses Cal Water's conservation goals and accomplishments, in particular with respect to the Water Conservation Act of 2009, CPUC conservation requirements, and the state's pending Making Water Conservation a California Way of Life regulations.
- Section 4 describes the conservation programs Cal Water currently offers to its customers and discusses new programs Cal Water intends to offer.
- Section 5 presents the water savings, costs, and benefits expected from the recommended conservation programs.
- Section 6 discusses metrics used to assess program performance.
- Section 7 addresses program monitoring and future updates to the Conservation Master Plan.

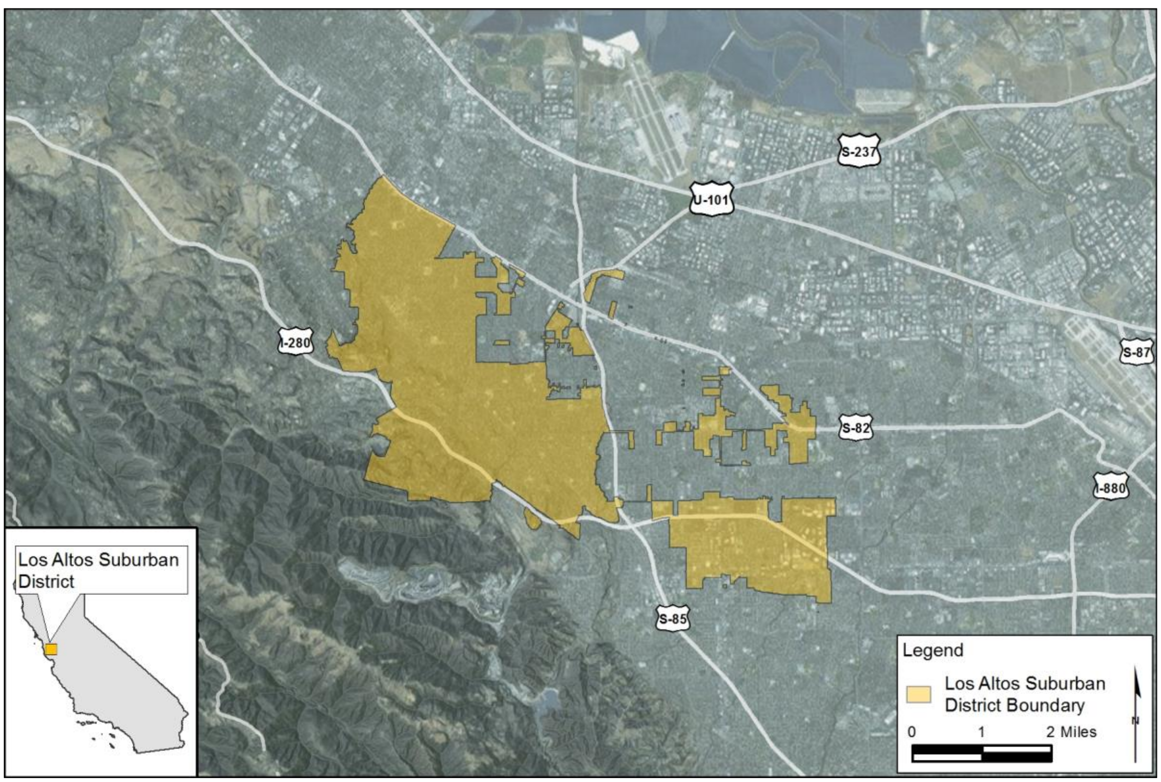
2 District Overview

District Quick Facts:

- Communities Served: Los Altos, fringe sections of the cities of Cupertino, Los Altos Hills, Mountain View, Sunnyvale
- Population served in 2020: 70,161
- Residential Customers: 92% of total services and 75% of total use
- Sources of Supply: 72% purchased surface water, 28% groundwater
- Average Annual Water Deliveries Last Five Years: 11,900 AF
- Average Per Capita Water Use Last Five Years: 151 GPCD

The Los Altos Suburban District serves the entire city of Los Altos, sections of the cities of Cupertino, Los Altos Hills, Mountain View, Sunnyvale and adjacent unincorporated areas of Santa Clara County. The District delivers up to 25 million gallons of water per day to more than 18,000 service connections through a system that includes 297 miles of pipeline, 65 booster pumps, and 46 storage tanks. A map of the service area boundaries is shown in Figure 1.

Figure 1. Los Altos Suburban District Service Area Boundaries



Cal Water estimates the service area population was 70,161 in 2020. Service area population has been growing at an annual rate of approximately one percent for the past 15 years. Between 2016 and 2020, the District's population increased at an average rate of 0.4 percent per year.

The District delivers a combination of local groundwater water and imported water purchased from the Santa Clara Valley Water District (SCVWD). Approximately 72 percent is purchased from SCVWD and 28 percent is produced from the District's groundwater wells.

The District delivers water to residential, commercial, industrial, and governmental customers. Residential customers account for 92 percent of water services in the District. The share of services in 2020 by customer category is shown in Figure 2. The share of total water sales by customer category over the period 2016-2020 is shown in Figure 3. Residential customers accounted for 75 percent of water use over this period.

Annual demand has averaged 11,900 acre-feet (AF) over the five-year period 2016-2020. Total annual demands and sources of water supply since 1980 are shown in Figure 4.

Figure 2. Share of Services in 2020 by Customer Category

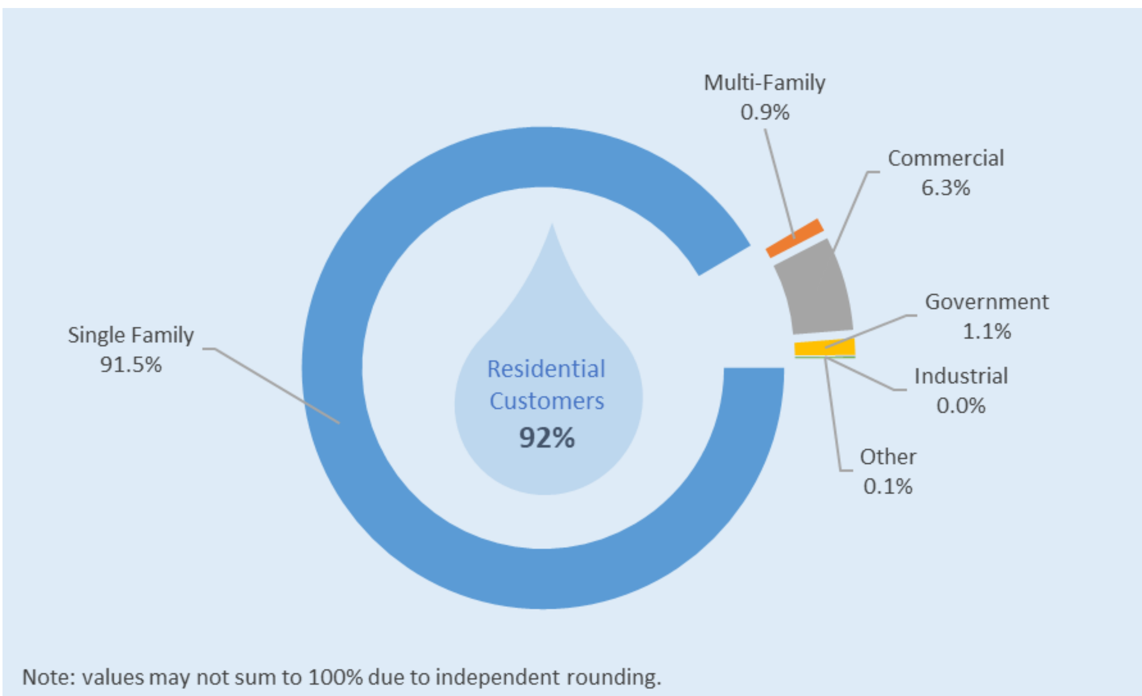
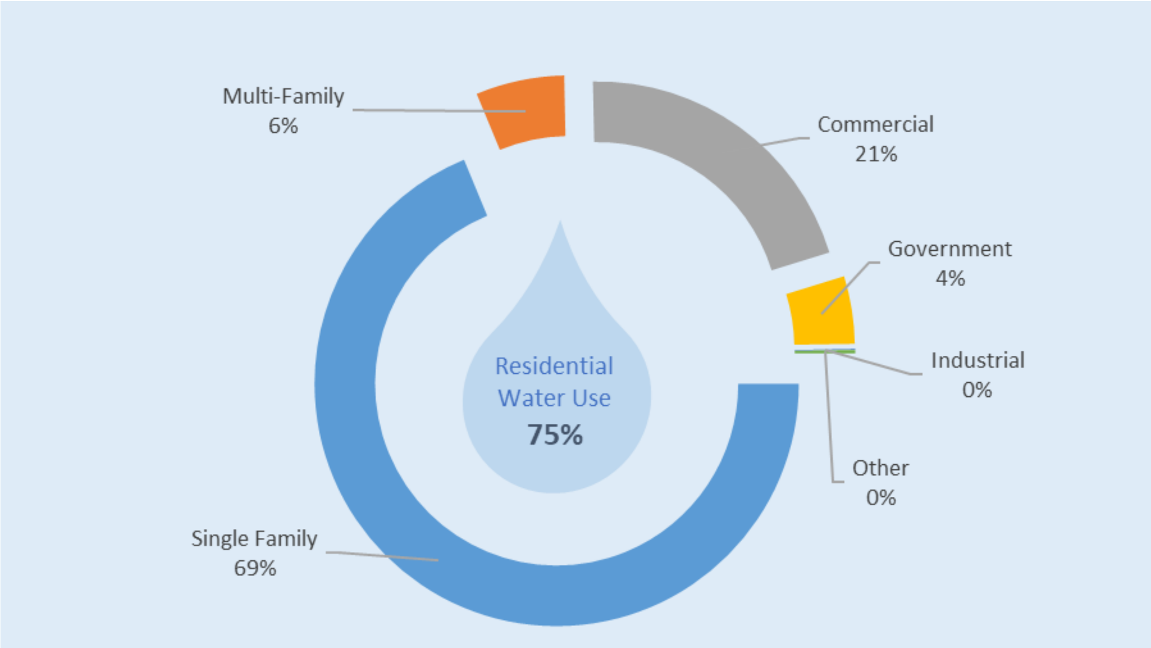
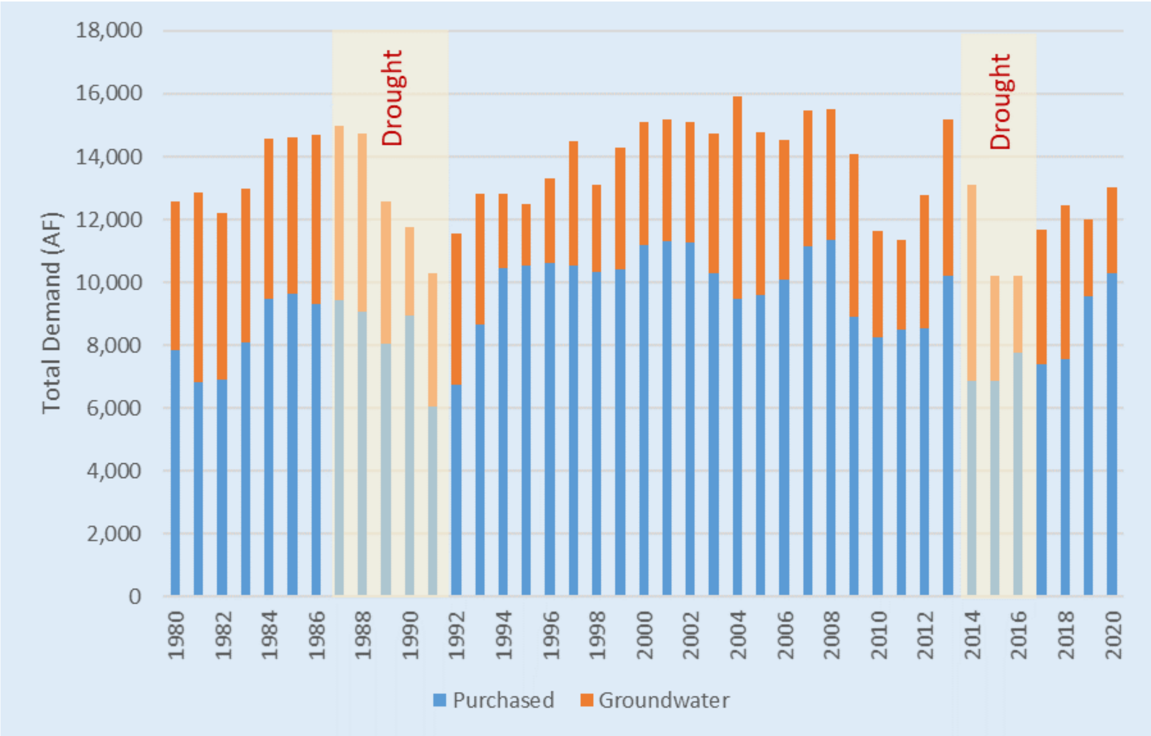


Figure 3. Share of Water Sales by Customer Category: 2016-2020



Note: values may not sum to 100% due to independent rounding.

Figure 4. Total Demand and Sources of Supply: 1980 - 2020



3 Conservation Goals and Progress

In this section, conservation goals and progress for the Los Altos Suburban District are presented.

3.1 Conservation Program Activity and Water Savings

Cal Water uses the Alliance for Water Efficiency's Water Conservation Tracking Tool to track program activity and estimate water savings. Conservation program activity for 2016-20 is shown in Table 1. This activity is expected to generate water savings of 97 AF/year and cumulative lifetime savings of 1,455 AF.

Table 1. Conservation Program Activity and Water Savings: 2016-20

1. Plumbing Fixture Replacement	2016 – 2020 Total Activity
Toilets & Urinals (number distributed)	2,183
Clothes Washers (number distributed)	448
Consv. Kits (number distributed)	183
2. Irrigation Equip./Landscape Upgrades	
Smart Controllers (number distributed)	392
Nozzles & Spray Bodies (number distributed)	304
Turf Replacement (sq ft removed)	5,727
3. Residential Customer Assistance	
Surveys/Audits (homes receiving)	66
4. Non-Residential Customer Assistance	
Surveys/Audits (sites receiving)	7
Large Landscape Reports (sites receiving)	100
Average Annual Water Savings (AF)	**97**
Cumulative Lifetime Water Savings (AF)	**1,455**

3.2 Plumbing Codes and Water Use Efficiency Standards

Cal Water's conservation programs are operated within the context of existing plumbing codes and water use efficiency standards that are designed to improve the future water use efficiency of major water using appliances and fixtures, such as toilets and clothes washers, as well as water used outdoor for landscaping. Cal Water estimates that plumbing codes and water use efficiency standards will cumulatively save more than 9,100 AF in the District over the next 25 years. The primary drivers for the expected water savings are as follows:

- AB 715, enacted in 2007, requires that any toilet or urinal sold or installed in California on or after January 1, 2014 cannot have a flush rating exceeding 1.28 and 0.5 gallons per flush, respectively. AB 715 superseded the state's previous standards for toilet and urinal water use set in 1991 of 1.6 and 1.0 gallons per flush, respectively. On April 8, 2015, in response to the Governor's Emergency Drought Response Executive Order (EO B-29-15), the California Energy Commission approved new standards for urinals requiring that they not use more than 0.125 gallons per flush, 75% less than the standard set by AB 715.

- Water use standards for residential and commercial clothes washers and dishwashers are established by the U.S. Department of Energy through its authority under the federal Energy Policy and Conservation Act. Water use efficiency is summarized by the water factor for the appliance which measures the gallons of water used per cycle per cubic foot of capacity. A typical top-loading residential clothes washer manufactured in the 1990s had a water factor of around 12. In 2015, the allowable water factor for top- and front-loading residential clothes was reduced to 8.4 and 4.7, respectively. In 2018, the water factor standard for top-loading residential clothes washers was reduced to 6.5. In 2010 the allowable water factor for top- and front-loading commercial clothes washers was reduced to 8.5 and 5.5, respectively. The maximum water factor for Energy Star compliant top- and front-loading washers is 3.7 and 4.3, respectively. An Energy Star compliant washer uses about two-thirds less water per cycle than washers manufactured in the 1990s. There also are federal dishwasher efficiency standards. The maximum water use for standard and compact sized dishwashers is 5.0 and 3.5 gallons per cycle, respectively.

- New construction and renovations in California are subject to CalGreen Code requirements. CalGreen includes prescriptive indoor provisions for maximum water consumption of plumbing fixtures and fittings in new and renovated properties. CalGreen also allows for an optional performance path to compliance, which requires an overall aggregate 20% reduction in indoor water use from a calculated baseline using a set of worksheets provided with the CalGreen guidelines.

- SB 407, enacted in 2009, mandates that existing buildings in California come up to current state plumbing fixture standards. This law establishes requirements that residential and commercial property built and available for use on or before January 1, 1994 replace plumbing fixtures that are not water conserving, defined as "noncompliant plumbing fixtures" as follows:

    - any toilet manufactured to use more than 1.6 gallons of water per flush;

    - any urinal manufactured to use more than one gallon of water per flush;

- any showerhead manufactured to have a flow capacity of more than 2.5 gallons of water per minute; and

- any interior faucet that emits more than 2.2 gallons of water per minute.

- For single-family residential property, the SB 407 compliance date was January 1, 2017. For multi-family and commercial property, it was January 1, 2019.

- The law does not include enforcement mechanisms ensuring conversion by these dates. However, it does require retrofit upon resale of property. SB 837, passed in 2011, reinforced this requirement by requiring the transfer disclosure statement include disclosure of compliance with SB 407.

California also has adopted regulations governing future use of water for landscape.

- The California Water Commission approved the State's updated Model Water Efficient Landscape Ordinance (MWELO) in 2015. MWELO or a locally adopted equivalent ordinance limits how much water new and rehabilitated residential and commercial landscapes can use. For residential landscapes, the maximum allowed water allowance (MAWA) is 55% of the amount of water that healthy cool season turf grass would require given the local climate. For commercial landscapes, it is 45%. Variances are allowed for special landscaping, such as play fields and parks, or landscaping irrigated with recycled water.

- CalGreen requires that automatic irrigation controllers for new landscaping installed by a builder be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plant water needs as weather or soil conditions change.

- Starting October 1, 2020, spray sprinkler bodies sold or offered for sale in California are required to use the WaterSense test procedure (Version 1.0, September 21, 2017) and must meet state standards (California Code of Regulations, Title 20, section 1605.3(x)(1)(A)). The new standards establish limits on maximum and average flow rate and minimum outlet pressure. Statewide, the new standards are estimated to save 15 billion gallons of water in the first year the standard is in effect and 152 billion gallons per year at full stock turnover. Consumers are expected to save about $22 per spray sprinkler body over the life of the device through reduced water use.

3.3 Compliance with State Urban Water Use Target

The Water Conservation Act of 2009, also known as SB X7-7, mandated a 20% reduction in per capita water use by 2020. Every urban retail water supplier was required to establish a 2020 per capita water use target based on their historical water use. Water suppliers could also form a Regional Alliance with other retail water suppliers and meet the requirement jointly. The District formed a Regional Alliance with other Cal Water districts in the San Francisco Bay Area. As long as either the District's or the Regional Alliance's 2020 per capita water use is below target, the District will have met the act's requirements.

Figure 5 demonstrates the District's compliance with the Water Conservation Act of 2009. Both the District's and the Regional Alliance's 2020 water use were below their respective targets. Through the concerted efforts of Cal Water and its customers, District per capita water use is now 32% below its peak reached in the early-2000s (see Figure 6).

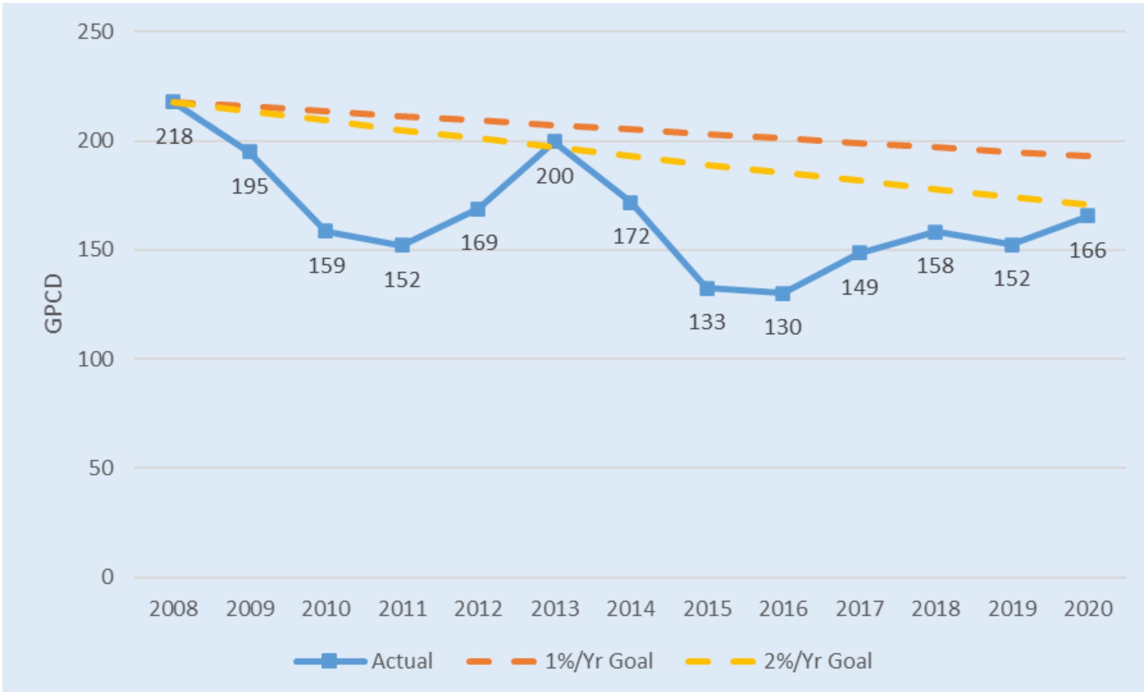
Figure 5. 2020 Target and Actual Per Capita Water Use

3.4 Compliance with CPUC Conservation Goals

In 2008, the California Public Utilities Commission (CPUC) established water conservation goals of 1-2% per year for Class A utilities, which includes California Water Service Company.[1] As shown in Figure 6, the District has consistently met or exceeded these goals since their adoption.

[1] CPUC Decision 08-02-036, dated February 29, 2008.

Figure 6. District Per Capita Water Use Relative to CPUC Conservation Goals



3.5 Making Water Conservation a California Way of Life

The state adopted legislation in 2018 establishing a new framework for setting urban water conservation standards and objectives.[2] This legislation built upon the April 2017 report entitled *Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16*, prepared by state agencies, including the CPUC. The legislation directs the state to establish water use efficiency standards for:

- Residential Indoor Water Use
- Residential Outdoor Water Use
- Dedicated Landscape Meter Water Use
- Utility Distribution System Water Losses

Once adopted, these standards will provide the basis for a new urban water use target, or in the vernacular of the legislation, an aggregate urban water use objective. In one way, the Making Water Conservation a California Way of Life legislation carries on where the Water Conservation Act of 2009 left off – it will establish a new set of water use objectives for retail urban water suppliers. However, there are important

[2] Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman).

differences. First, whereas the 2009 legislation established a long-term reduction target, under the new regulations, urban water suppliers will report water use relative to the new target annually starting in 2023 and will need to achieve the new target by January 1, 2027. Second, while the 2009 legislation applied to all urban water uses, the new legislation excludes non-residential uses other than water served by dedicated landscape meters from the target setting process. Instead, it requires DWR and the State Water Board to propose best management practices, including water audits and water management plans for non-residential customers above a certain size or volume of use, by October 1, 2021. Third, whereas the 2009 legislation set the same objective for all urban water suppliers (reduce water use by 20%), the new legislation varies the objective based on local conditions and existing levels of water use.[3]

Figure 7 shows the components of an urban water supplier's water use objective. The first four components will be based on the efficiency standards the state sets for indoor and outdoor residential water use, dedicated landscape meter water use, and utility distribution system losses. The fifth component allows for special circumstances, such as a large seasonal population or significant water use for fire protection, while the sixth component provides credit for water recycling. Added together, the six components establish the water suppliers water use objective.

For water suppliers failing to meet their water use objective, the legislation specifies progressive enforcement, as follows:

- Starting November 1, 2023, the State Water Board may issue information orders to obtain information to determine technical assistance needs for compliance (CWC 10609.26(a))

- Starting November 1, 2024, the State Water Board may issue written notices to warn suppliers of violation and request corrective actions by the next annual reporting (CWC 10609.26(b))

- Starting November 1, 2025, the State Water Board may issue conservation orders that may include referral to DWR for technical assistance and other local enforcement actions, including imposition of civil liability (CWC 10609.26(c)

Cal Water conducted a risk assessment to determine which of its districts may require additional resources to meet the new conservation regulations. The risk assessment considered current and projected level of overall water use, level of indoor residential water use, extent of residential and non-residential landscape area and water use, and

[3] For additional information, see Making Water Conservation a California Way of Life: Primer of 2018 Legislation on Water Conservation and Drought Planning Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman).

condition of distribution system and level of water loss. Using a scoring system, the assessment ranked each district in terms of its risk of non-compliance with the individual components of the water use objective as well as the aggregate objective. The results of this assessment provided the basis for the conservation program budgets put forward in Cal Water's 2018 and 2021 general rate cases.

Figure 7. Making Water Conservation a California Way of Life Water Use Objective

Aggregate estimated efficient indoor residential water use

+

Aggregate estimated efficient outdoor residential water use

+

Aggregate estimated efficient dedicated landscape meter water use

+

Aggregate estimated efficient water utility distribution system water losses

+

Aggregate water use variances approved by State Water Board

+

Recycled Water Bonus Allowance (cannot exceed 15% of Water Use Objective)

=

Urban Retail Supplier Water Use Objective

4 Water Conservation Program

Cal Water centrally administers the conservation programs for its service districts. This creates both constraints and opportunities in terms of program design and implementation. The key constraint is the need to have consistent program offerings across districts. Except under unique circumstances, it is generally not logistically feasible or cost-effective to customize programs for individual districts. Also, if Cal Water offers a program in one district, customers in other districts generally expect it to also be available in their district. This puts a premium on offering a relatively small set of programs that can benefit all Cal Water customers. The advantage of central administration, however, is that it gives Cal Water scale economies and purchasing power that helps it keep program costs down, thereby improving cost-effectiveness.

4.1 Conservation Program Drivers

While Cal Water strives to develop programs that can be deployed in any of its districts, it tailors marketing, customer targeting, and implementation focus based on the needs of each district. In the Los Altos Suburban District, the main drivers shaping the conservation program are summarized in Table 2.

Table 2. Main Conservation Program Drivers in Los Altos Suburban District

Driver	Explanation
Supply Reliability	The District depends primarily on imported surface water which may be substantially curtailed during drought periods. Conservation is an important option available to the District for reducing dependence on imported water supply.
Water Supply Cost	The District's dependence on imported surface water results in high water supply cost. Acquiring additional water through conservation in most cases is less costly than purchasing additional imported water.
Residential Water Use	The state's Making Conservation a California Way of Life water use regulations are focused on reducing indoor and outdoor residential water use.
Landscape Water Use	The state's Making Conservation a California Way of Life water use efficiency regulations may require the District to start serving some non-residential landscapes through dedicated landscape meters and annually report water use relative to new landscape water use efficiency standards.

4.2 Customer Conservation Programs

Cal Water's conservation programs are grouped into four categories:

- Plumbing Fixture Replacement
- Irrigation Equipment/Landscape Upgrades
- Residential Customer Assistance
- Non-Residential Customer Assistance

A description of current programs in each of these categories follows. Where rebate amounts are listed, these are current rebate levels. Readers should note that rebate amounts may be adjusted in the future in response to CPUC requirements or changes to program design.

4.2.1 Plumbing Fixture Replacement

High-Efficiency Toilet Replacement – This program replaces old toilets with MaP certified high-efficiency toilets via financial rebates, direct installation, or direct distribution.[4] Current rebate amounts are up to $50/toilet for residential toilet replacement and up to $100/toilet for commercial toilet replacement.

High-Efficiency Urinal Replacement – This program replaces old urinals with high-efficiency urinals meeting the state's 0.125 gallon per flush water use standard via financial rebates and direct installation. While available to all non-residential customers, the program targets sites with higher-than-average bathroom utilization, such as restaurants and office buildings. The current rebate amount is up to $150/urinal.

Clothes Washer Replacement – This program provides a financial rebate to replace an old inefficient clothes washer with a new high-efficiency washer. The program is available to all residential and multi-family customers. The current rebate amount is up to $150/washer.

Residential Conservation Kit Distribution – This program offers residential customers conservation kits featuring a range of water-saving plumbing retrofit devices. The kits are available at no charge and include two high-efficiency showerheads (1.5 gpm), two bathroom faucet aerators (1.0 gpm), one kitchen faucet aerator (1.5 gpd), toilet leak tablets, and an outside multi-function, full-stop hose nozzle.

[4] For information on MaP certified toilets, see: https://www.map-testing.com/

4.2.2 Irrigation Equipment/Landscape Upgrades

Smart Irrigation Controller Installation – This program provides a financial rebate for the installation of a smart irrigation controller that automatically adjusts watering schedule in response to changing weather conditions. The current rebate amount is $125/controller for residential customers and $25/station for commercial customers.

High-Efficiency Sprinkler Nozzle Rebate – This program provides a financial rebate for the installation of high-efficiency sprinkler nozzles. This program is available to all Cal Water customers. The current rebate amount is $5/nozzle.

Large Rotary Nozzle Rebate – This program provides a financial rebate for the installation of high-efficiency large rotary nozzles. This program is available to all Cal Water customers. The current rebate amount is up to $30/nozzle toward the nozzle purchase cost and up to $8/spray body toward installation cost, if installed by a C-27 licensed landscape contractor.

Spray Body with Integrated Pressure Regulation and Check Valve Rebate – This program provides a financial rebate for the installation of high-efficiency spray bodies with integrated pressure regulation. This program is available to all Cal Water customers. The current rebate amount is up to $10/body toward the spray body purchase cost and up to $8/spray body toward installation cost, if installed by a C-27 licensed landscape contractor.

Turf Replacement Rebate – This program provides a financial rebate for replacement of turf with approved drought-tolerant landscaping. Cal Water operated this program in 2015/16 as a drought response measure. The program will be re-started as part of Cal Water's irrigation equipment/landscape upgrade program offerings.

4.2.3 Customer Assistance

Smart Landscape Tune-Up Program – This program provides customers with an irrigation system evaluation and installation of approved efficient irrigation system equipment, such as a smart irrigation controller and high-efficiency sprinkler nozzles. The program also includes irrigation system adjustments and detection and repair of irrigation system leaks. This program is available to all Cal Water customers at no charge.

Residential Customer Portal – Through its residential customer portal, Cal Water provides tailored assistance to each residential customer via customized water-efficiency targets, water savings calculators, and customer-specific recommendations for programs and water-saving tips.

Non-Residential Customer Assistance – Cal Water provides tailored assistance to commercial customers through customized incentives, commercial water surveys, and large landscape water use surveys. The non-residential assistance program helps commercial customers efficiently use water for sanitation/cleaning, heating/cooling, process, and landscape purposes.

4.2.4 Summary of Customer Programs

The customer conservation programs offered to customers in Los Altos Suburban District are summarized in Table 3 by customer class.

Table 3. Cal Water Conservation Programs Available to Los Altos Suburban District Customers

Programs (Rebate, Direct Install, and Free Distribution Programs)	Customer Eligibility		
	Single-Family	Multi-Family	Commercial
Plumbing Fixture Replacement			
High-Efficiency Toilet Replacement	✓	✓	✓
High-Efficiency Urinal Replacement			✓
High-Efficiency Clothes Washer Rebate	✓	✓	
Conservation Kits	✓	✓	
Irrigation Equipment/Landscape Upgrades			
Smart Irrigation Controller Rebate	✓	✓	✓
High-Efficiency Sprinkler Nozzle Rebate	✓	✓	✓
Large Rotary Nozzle Rebate		✓	✓
Spray Body Rebate		✓	✓
Turf Replacement Rebate	✓	✓	✓
Customer Assistance			
Smart Landscape Tune-Up Program	✓	✓	✓
Residential Customer Portal	✓		
Non-Residential Customer Assistance		✓	✓

4.3 School Education and Public Information Programs

Public Information Program – Cal Water operates an extensive public information program to provide information to customers on ways to use water efficiently and to market its conservation programs through multiple media outlets, including the Cal Water website, direct mail and bills, digital media, social media, and email.

School Education Program - Cal Water's school education program includes the Cal Water H2O Challenge, a project-based learning competition for grades 4-6, individual student competitions for grades K-12 and general information and learning materials for students and teachers. Cal Water deploys its school education program in all its districts. Cal Water H2O Challenge is a project-based competition for classrooms, grades 4-6. The program is offered in partnership with DoGoodery, the California Association of Science Educators (CASE), and the WestEd K-12 Alliance. The program aligns with the Common Core State Standards and the Next Generation Science Standards. The Cal Water H2O Challenge offers a unique opportunity for upper elementary teachers to facilitate their students' learning of standards-based content, while developing the core understanding of environmental principles necessary to becoming science-literate citizens.

4.4 Water System Efficiency

4.4.1 System Water Loss Management

As discussed above, reducing distribution system losses is one of the main focuses of the new Making Water Conservation a California Way of Life regulations. In preparation for these new requirements, Cal Water took part in the California Water Loss Technical Assistance Program (TAP) in both 2016 and 2017. Cal Water annually conducts distribution system audits using the American Water Works Association (AWWA) Free Water Audit Software. It has also developed a Water Loss Control Plan and Water Loss Control Policy to guide future water loss management with respect to:

- Meeting CPUC and state water loss standards and regulations
- Improving audit data and validity scores
- Implementing cost-effective water loss control actions

To coordinate and oversee water loss management actions across its multiple districts, Cal Water has added a Water Loss Program Analyst position to its conservation staff.

4.4.2 Metering and Pricing

Cal Water has deployed conservation-oriented rate designs in all its districts since 2008. The CPUC reviews these rate designs every three years as part of a general rate case. Cal Water is continuously seeking ways to improve the efficiency and equity of the rates and charges paid by customers. One example is Cal Water's Customer Assistance Program (CAP), which provides bill discounts to qualifying lower income households.

All service connections in the District are metered. In addition to its use for billing, Cal Water uses meter data in the management of its conservation programs, including using it to analyze water use trends and identify customers that may benefit from Cal Water conservation programs. Cal Water is also piloting automatic meter reading

(AMR) and advanced metering infrastructure (AMI) in several of its districts. Broad adoption of AMI would allow Cal Water in the future to detect and alert households of leaks and other possible problems as well as provide customers with tailored water use information to help them use water more efficiently.

4.5 Conservation Partnerships

Cal Water collaborates with organizations at the local, state, and national level to promote and advance water use efficiency, including as a member of the following organizations and initiatives.

California Water Efficiency Partnership (CalWEP) – CalWEP's mission is to maximize urban water efficiency and conservation throughout California by supporting and integrating innovative technologies and practices; encouraging effective public policies; advancing research, training, and public education; and building collaborative approaches and partnerships. In addition to being a CalWEP member, Cal Water serves on the organization's board of directors.

Alliance for Water Efficiency - The Alliance for Water Efficiency (AWE) is a national non-profit organization dedicated to efficient and sustainable use of water. In addition to being an AWE member, Cal Water uses the AWE Water Conservation Tracking Tool to evaluate conservation programs and track water savings.

EPA WaterSense - As an EPA WaterSense partner, Cal Water has committed to educating its customers about the value of water, water efficiency, and the WaterSense brand. Products and services earning the WaterSense label have been certified to be at least 20 percent more efficient without sacrificing performance.

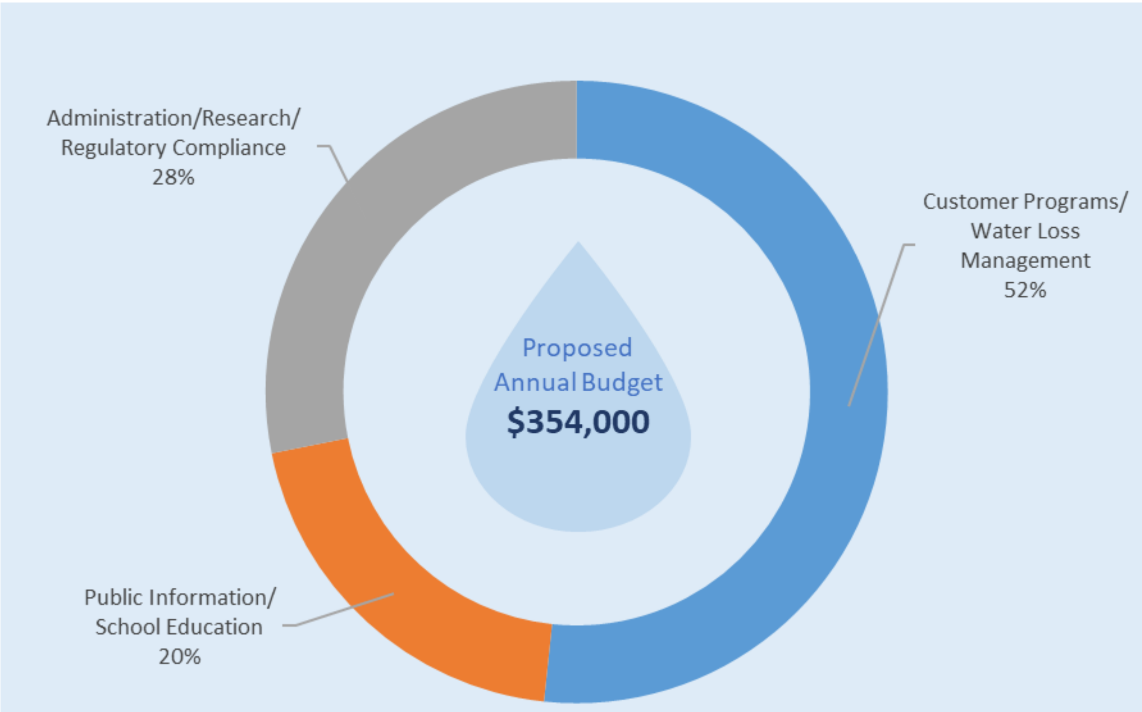
5 Conservation Budget

The District's recommended conservation budget for the period 2021-2025 is presented in Figure 8.[5] Cal Water used the three-step process shown in Figure 9 to develop the conservation budget. In the first step, a wide range of possible conservation programs are qualitatively screened in terms of their potential savings, implementation feasibility, customer receptivity, and cost. The program screening filters used in this step are listed in Table 4. In the second step, the programs passing through the screen are quantitatively analyzed using the AWE's Water Conservation Tracking Tool. In the third step, a portfolio of programs is developed based on the

[5] This is a composite of the conservation budget the CPUC approved in Cal Water's 2018 general rate case, which covers the period 2020-2022, and the budget Cal Water is proposing in its 2021 general rate case, which covers the period 2023-2025. Depending on the outcome of the general rate case, the adopted 2023-2025 budget may differ from Cal Water's recommended budget.

results of the second step. As discussed earlier, in its two most recent general rate cases Cal Water has further refined the conservation budget based on the results of a risk assessment used to determine which districts may require additional resources to meet the state's new conservation regulations.

Figure 8. Recommend Conservation Budget and Allocation: 2021-2025



Note: values may not sum to 100% due to independent rounding.

Figure 9. Conservation Program Assessment Method

Table 4. Conservation Measure Qualitative Screening Filters

Filter	Description
Water Savings Potential	The amount of water a measure can potentially save over its lifespan or over a certain period after an action that encourages behavioral change (such as receipt of a home water survey). This filter screens out measures where potential savings are too low to make it worthwhile.
Certainty of Water Savings	The certainty of the water savings estimated in Water Savings Potential. Some measures have high potential but low certainty because they are new and untested or because they rely on uncertain behavioral actions of participants. Other measures have low potential but high certainty. This filter screens out measures that have low expected savings (i.e., measures with high certainty but low potential or measures with high potential but low certainty) or flags these measures as candidates for pilot programs.
Implementation Feasibility	The ease with which a measure can be implemented, such as adequate budget and staff resources to handle outreach and ongoing administrative needs. This filter screens out measures than are considered infeasible to implement.
Customer Receptivity	The degree to which customers are receptive to a measure, such as how easy or difficult it is for a customer to apply for a certain rebate or arrange for a water survey. This filter screens out measures that are unlikely to be favored by customers.
Adaptability	The ease with which a measure can be scaled to react to a changing market (e.g., increasing or decreasing a toilet rebate to ramp up/down the participation rate), or adjusted to accommodate a different market sector (e.g., redesigning the incentives or other parameters of a single-family landscape turf replacement program to target the multi-family or commercial sectors). This filter screens out measures that cannot be readily adapted to changing circumstances of the market.
Cost	The expected cost-effectiveness of the measure relative to other measures. This filter screens out measures that are unlikely to be cost-effective or would crowd out other desirable measures because of its expense.

6 Performance Metrics

Cal Water periodically evaluates program savings potential and cost-effectiveness using the AWE Water Conservation Tracking Tool. Based on the most recent evaluation, the expected water savings and cost-effectiveness of Los Altos Suburban's conservation program are as follows:

- **Water Savings** – Up to 260 AF/year and cumulatively up to 3,900 AF over the useful life of the measures. Program water savings will help the District comply with new state water conservation regulations.

- **Unit Cost** – $600/AF (rounded to nearest $100), which is less than the District's purchased water cost.

- **Benefit-Cost Ratio** -- 2.0. The District's conservation program is expected to pay back $2.00 in avoided purchased water costs for every dollar of program expenditure.

7 Program Monitoring and Reporting

Cal Water regularly reviews its conservation programs to ensure they are performing as expected. This includes the following:

Program Tracking - Cal Water uses the AWE Water Conservation Tracking tool to track program participation, cost, and water savings. This data helps Cal Water monitor program performance, analyze water use trends, and forecast future water demand.

Research and Evaluation – Cal Water regularly evaluates program performance and undertakes pilot projects to assess the effectiveness of its programs. Examples include:

- Comprehensive statistical evaluations of bathroom retrofit programs operated between 2013 and 2018

- Statistical evaluations of water savings associated with high-efficiency irrigation nozzle replacement, smart irrigation controller installation, and turf replacement programs.

- Development of statistical models of customer program participation that help Cal Water target programs based on household and neighborhood attributes.

- AMR and AMI pilot projects.

Annual Conservation Report – Cal Water annually reports on the conservation program's progress and accomplishments, and posts public reports for each of its districts on its public website (https://www.calwater.com/conservation/water-conservation-reports/).

CPUC Reporting – Cal Water reports to the CPUC annually on the implementation, cost, and performance of its conservation programs.

State Reporting – Starting in 2023, Cal Water will annually report District water use relative to its water use objective as part of the new Making Water Conservation a California Way of Life regulations.

Appendix J: Resolution to Adopt UWMP

Attachment C

2020
Water Quality Report

LOS ALTOS SUBURBAN DISTRICT

Este informe contiene información muy importante sobre su agua potable.
Tradúzcalo o hable con alguien que lo entienda bien.

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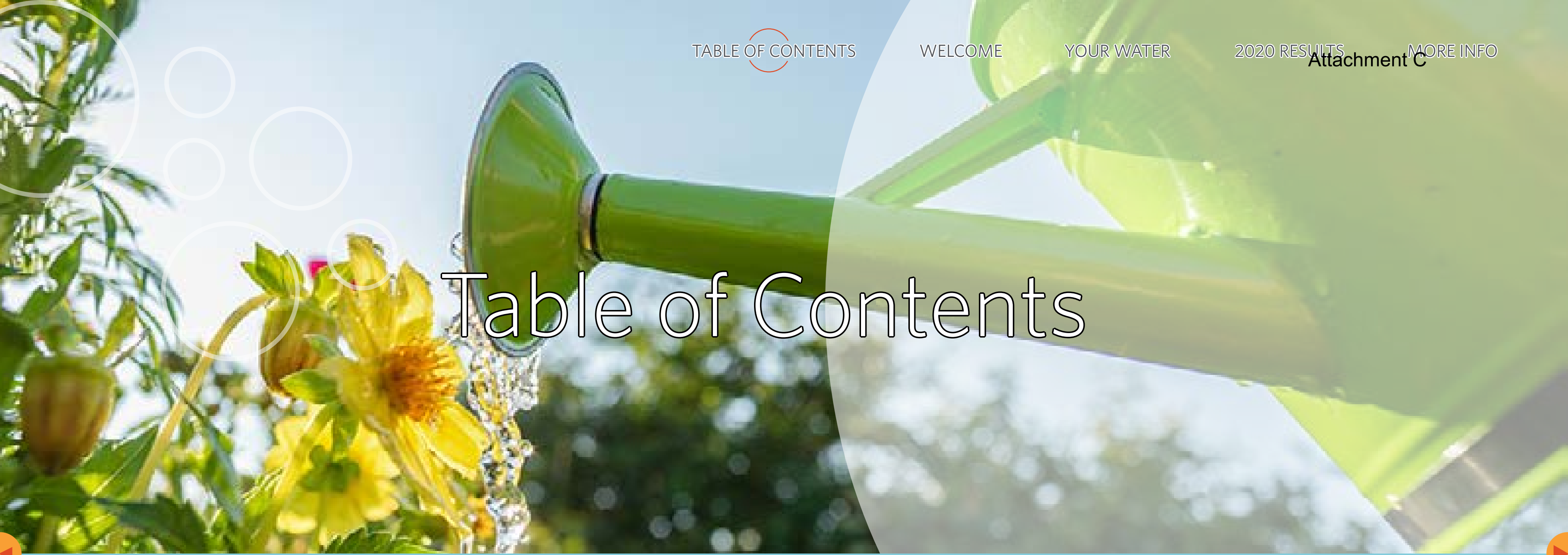

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Welcome

Since 1926, California Water Service (Cal Water) has been committed to providing safe, reliable, high-quality water to our customers and communities. When the coronavirus pandemic began in 2020, access to clean water became particularly top of mind. During these difficult times, our commitment to our customers remained as strong as ever.

In this system in 2020, we conducted 13,627 tests on 1,856 water samples for 237 constituents. **We are pleased to confirm that we met every primary and secondary federal and state water quality standard last year.**

Our promise to provide quality, service, and value means more than just treatment and testing. It means having expert professionals available to assist with routine services in a safe and efficient manner. It means having personnel available to handle emergencies 24 hours per day. It means maintaining and upgrading the infrastructure needed to transport water through a network of pumps, tanks, and pipes to your tap. It also means that, even with costs increasing across the country, we do everything we can to operate as efficiently as possible to keep your water affordable.

I encourage you to review this annual water quality report, also called your Consumer Confidence Report, as it details any constituents detected in your water supply in 2020 and shows how your water compares to federal and state standards. It also provides information on current water quality issues and steps we are taking to protect your health and safety.

If you have any questions, we are here to assist you. You can reach us by phone or email at our local Customer Center, or online at www.calwater.com. You can also get water service news on our web site, via our Facebook, Twitter, and Instagram pages, and in your monthly bill. And, please be sure your contact information with Cal Water is up to date by visiting ccu.calwater.com, to ensure we can reach you with important emergency and other information.

Sincerely,

Dawn Smithson, District Manager, Los Altos Suburban District

[Los Altos Suburban District 949 “B” Street Los Altos, CA 94024 (650) 917-0152]

Attachment C

Your Water System

Cal Water has provided high-quality water utility services in the Los Altos area since 1931. To meet the needs of our customers in Los Altos and parts of Los Altos Hills, Cupertino, Mountain View, and Sunnyvale, we use a combination of local groundwater and purchased water. Our purchased water, which is treated surface water from Valley Water (formerly called the Santa Clara Valley Water District), comes from Valley Water reservoirs and the San Joaquin-Sacramento River Delta.

Our water system includes 297 miles of main, 65 booster pumps, and 46 storage tanks. Cal Water's company-wide water quality assurance program includes vigilant monitoring throughout our systems and testing at our state-of-the-art laboratory. Additionally, we proactively maintain and upgrade our facilities to ensure a reliable, high-quality supply.

If you have any questions, suggestions, or concerns, please contact our local Customer Center, either by phone at (650) 917-0152 or through the Contact Us link at www.calwater.com.

WATER RESOURCE SUSTAINABILITY

Cal Water helps our customers conserve water by offering programs and incentives to reduce indoor and outdoor water use, develop more efficient habits, and educate the next generation about the importance of managing water resources sustainably. We also continue to invest diligently in our infrastructure to reduce the amount of water lost to pipeline leaks and are updating our assessment of the impacts of climate change on water supply and demand. As we await more information on the long-term water-use regulations from the State of California, it's important that we make water-use efficiency a way of life. Using water wisely will ensure that we have enough water in dry years and for generations to come.

Visit **www.calwater.com/conservation** for details.

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Water Quality

THE WATER QUALITY LAB

Water professionals collect samples from throughout the water system for testing at our state-of-the-art water quality laboratory, which is certified each year through the stringent Environmental Laboratory Accreditation Program (ELAP). Scientists, chemists, and microbiologists test the water for 326 constituents with equipment so sensitive it can detect levels as low as one part per trillion. In order to maintain the ELAP certification, all of our scientists must pass blind-study proficiency tests for every water quality test performed. Water quality test results are entered into our Laboratory Information Management System (LIMS), a sophisticated software program that enables us to react quickly to changes in water quality and analyze water quality trends in order to plan effectively for future needs.

CROSS-CONNECTION CONTROL

To ensure that the high-quality water we deliver is not compromised in the distribution system, Cal Water has a robust cross-connection control program in place. Cross-connection control is critical to ensuring that activities on customers' properties do not affect the public water supply. Our cross-connection control specialists ensure that all of the existing backflow prevention assemblies are tested annually, assess all connections, and enforce and manage the installation of new commercial and residential assemblies.

Backflow can occur when certain pressure conditions exist either in our distribution system or within the customer's plumbing, so our customers are our first line of defense. A minor home improvement project—without the proper protections—can create a potentially hazardous situation, so careful adherence to plumbing codes and standards will ensure the community's water supply remains safe. Please be sure to utilize the advice or services of a qualified plumbing professional.

Many water-use activities involve substances that, if allowed to enter the distribution system, would be aesthetically displeasing or could even present health concerns. Some common cross-connections are:

- Garden hoses connected to a hose bib without a simple hose-type vacuum breaker (available at a home improvement store)
- Improperly installed toilet tank fill valves that do not have the required air gap between the valve or refill tube
- Landscape irrigation systems that do not have the proper backflow prevention assembly installed on the supply line

The list of materials that could potentially contaminate the water system is vast. According to the EPA, a wide variety of substances have contaminated drinking water systems throughout the country as a result of poor cross-connection control. Examples include:

- Antifreeze from a heating system
- Lawn chemicals from a garden hose or sprinkler head
- Blue water from a toilet tank
- Carbonated water from a soda dispenser

Customers must ensure that all plumbing is in conformance with local plumbing codes. Additionally, state law requires certain types of facilities to install and maintain backflow prevention assemblies at the water meter. Cal Water's cross-connection control staff will determine whether you need to install a backflow prevention assembly based on water uses at your location.

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DWSAPP

By the end of 2002, Cal Water had submitted to the Division of Drinking Water (DDW) a Drinking Water Source Assessment and Protection Program (DWSAPP) report for each water source in the water system. The DWSAPP report identifies possible sources of contamination to aid in prioritizing cleanup and pollution prevention efforts.

The water sources in your district are considered most vulnerable to the following activities, for which no associated contaminant has been detected:

- Sewer collection systems
- Gas stations
- Dry cleaners
- Underground storage tanks (confirmed leaking tanks)
- Chemical/petroleum pipelines
- Electrical/electronic manufacturing
- Research laboratories
- Agricultural drainage
- Wells (agricultural)

Valley Water provides treated surface water to the Silicon Valley from three water treatment plants. Valley Water surface water is mainly imported from the South Bay Aqueduct, Lake Del Valle, and San Luis Reservoir, which all draw water from the Sacramento-San Joaquin Delta watershed. Valley Water's local water sources include Anderson and Calero Reservoirs.

Valley Water's source waters are vulnerable to potential contamination from a variety of land-use practices, such as:

- Agricultural and urban runoff
- Recreational activities
- Livestock grazing
- Residential and industrial development

The imported sources are also vulnerable to:

- Wastewater treatment plant discharges
- Seawater intrusion
- Wildland fires in open space areas

Additionally, local sources are vulnerable to potential contamination from:

- Commercial stables
- Historic mining practices

No contaminant associated with any of these activities has been detected in Valley Water or Los Altos treated water. The water treatment plants provide multiple barriers for physical removal and disinfection of contaminants. For additional information, visit the Valley Water web site at www.valleywater.org.

We encourage customers to join us in our efforts to prevent water pollution and protect our most precious natural resource.

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Attachment C

2020 Results

FLUORIDE

State law requires Cal Water to add fluoride to drinking water if public funding is available to pay for it, and it is a practice endorsed by the American Medical Association and the American Dental Association to prevent tooth decay. In this area, low levels of fluoride occur naturally, and Cal Water doesn't add any to the water supply. Show the table in this report to your dentist to see if he or she recommends giving your children fluoride supplements.

More information about fluoridation, oral health, and related issues can be found on the DDW web site at www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.html**. For general information on water fluoridation, visit us online at** www.calwater.com**.**

WATER HARDNESS

Hardness is a measure of the magnesium, calcium, and carbonate minerals in the water. Water is considered **soft** if its hardness is less than 75 parts per million (ppm), **moderately hard** at 75 to 150 ppm, **hard** between 150 and 300 ppm, and **very hard** at 300 ppm or higher.

Hard water is generally not a health concern, but it can have an impact on how well soap lathers and is significant for some industrial and manufacturing processes. Hard water may also lead to mineral buildup in pipes or water heaters.

Some people with hard water opt to buy a water softener for aesthetic reasons; however, some water softeners add salt to the water, which can cause problems at wastewater treatment plants. Additionally, people on low-sodium diets should be aware that some water softeners increase the sodium content of the water.

For more information on water hardness, visit **www.calwater.com/video/hardness**.

Possible Contaminants

All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk.

More information about contaminants and potential health effects can be obtained by calling the United States Environmental Protection Agency (EPA) Safe Drinking Water Hotline at (800) 426-4791.

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

CONTAMINANTS THAT MAY BE PRESENT IN SOURCE WATER INCLUDE:

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

Radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the EPA and DDW prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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

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About Lead

As the issue of lead in water continues to be top of mind for many Americans, Cal Water wants to assure you about the quality of your water. We are compliant with health and safety codes mandating use of lead-free materials in water system replacements, repairs, and new installations. We have no known lead service lines in our systems. We test and treat (if necessary) water sources to ensure that the water delivered to customer meters meets all water quality standards and is not corrosive toward plumbing materials.

The water we deliver to your home meets lead standards. However, if present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing (for example, lead solder used to join copper plumbing, and brass and other lead-containing fixtures).

Cal Water is responsible for providing high-quality drinking water to our customers' meters, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking.

If you are concerned about lead in your water, you may wish to have your water tested by a certified lab. More information about lead in drinking water can be found on the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

In your system, results from our lead monitoring program, conducted in accordance with the Lead and Copper Rule, were below the action level for the presence of lead.

Testing for Lead in Schools

The State of California required that all public schools built before 2010 test for lead in their drinking water by July 1, 2019. We are committed to supporting our school districts' efforts to protect students and ensure that the drinking water at their school sites are below lead limits. We worked with all school districts in our service area that serve kindergarten through 12th grade to develop sampling plans, test samples, and conduct follow-up monitoring, if needed, for corrective actions.

For more information, please see our Testing for Lead in Schools web page. For specific information regarding local school data, see the state web portal.

Lead and Copper Rule

The lead and copper rule requires us to test water inside a representative number of homes that have plumbing most likely to contain lead and/or lead solder to determine the presence of lead and copper or any action level exceedance (AL). An action level is the concentration of a contaminant which, when exceeded, triggers corrective actions before it becomes a health concern. If action levels are exceeded, either at a customer's home or system-wide, we work with the customer to investigate the issue and/or implement corrosion control treatment to reduce lead levels.

Lead Service Line Inventory (LSLI)

Protecting our customers' health and safety is our highest priority. As part of this commitment, we have been working to identify and replace any old customer water service lines and fittings that may contain lead. California Senate Bill (SB) 1398 required all water utilities in California to develop an inventory of all distribution service line materials, and submit a list of known service lines to the state by 2018. A list of unknown service lines that may contain lead, along with a plan for replacement, was due to the state by July 1, 2020. Known lines are replaced as soon as possible.

More information regarding LSLI and specific data for each water system can be found on the state web site.

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PFOA and PFOS

PFOS and PFOA are manmade compounds used prevalently in firefighting foams and to make carpets, clothing, fabrics for furniture, paper packaging for food, cookware, and other items resistant to water, grease, fire, or stains. They are also used in a number of industrial processes. They are part of a larger group of chemicals referred to as per- and poly-fluoroalkyl substances (PFAS).

In early 2020, DDW announced lower response levels for PFOA and PFOS (10 ppt for PFOA, and 40 ppt for PFOS) from the previous level of 70 ppt combined. The notification levels (5.1 ppt for PFOA, and 6.5 ppt for PFOS) were not changed.

Knowing that these are constituents of emerging concern, Cal Water had identified and tested water sources in 2019 and earlier that would be more likely to have these compounds present. With the updated response levels, we have conducted additional testing for these constituents in all of our water systems.

Studies indicate that long-term exposure to PFOS and PFOA over certain levels could have adverse health effects, including developmental effects to fetuses during pregnancy or infants; cancer; or liver, immunity, thyroid, and other effects. Potential health impacts related to PFAS compounds are still being studied, and research is still evolving on this issue.

Although there is no Maximum Contaminant Level (MCL) set for these substances, we have proactively monitored sources and will continue to do so. Even though it is not required by the state, we believe it is the right thing to do. When an MCL is established by DDW for these compounds, we will continue to ensure our water sources are in compliance with any set standard.

While we are doing our part to treat the water and meet the standards the public health experts have set, it's important that our population as a whole focuses on being good stewards of the environment and takes steps to prevent impacting the water supply. Additionally, Cal Water has filed a lawsuit against a group of companies that manufactured and sold firefighting foam products that released the PFOS and PFOA into the environment, to ensure the responsible parties bear the costs of treating for these chemicals, not our customers. We are also encouraging the EPA to establish a consistent, science-based standard as quickly as feasible, and strongly support state legislation prohibiting the sale and use of certain products that contain PFAS and requiring the certification of accurate testing methods for PFAS.

More information on PFOS and PFOA is available **on the DDW web site**.

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Key Definitions

MAXIMUM CONTAMINANT LEVEL (MCL)

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

IN COMPLIANCE

Does not exceed any applicable MCL, SMCL, or action level, as determined by DDW. For some compounds, compliance is determined by averaging the results for one source over a one-year period.

REGULATORY ACTION LEVEL (AL)

The concentration of a contaminant which, if exceeded, triggers treatment or other required action by the water provider.

MAXIMUM CONTAMINANT LEVEL GOAL (MCLG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the EPA.

MAXIMUM RESIDUAL DISINFECTANT LEVEL (MRDL)

The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MAXIMUM RESIDUAL DISINFECTANT LEVEL GOAL (MRDLG)

The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs are set by the EPA and do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NON-DETECT (ND)

The constituent was not detected.

NOTIFICATION LEVEL (NL) AND RESPONSE LEVEL (RL)

Health-based advisory levels for unregulated contaminants in drinking water. They are used by DDW to provide guidance to drinking water systems.

PRIMARY DRINKING WATER STANDARD (PDWS)

MCLs and MRDLs for contaminants that affect health, along with their monitoring, reporting, and water treatment requirements.

PUBLIC HEALTH GOAL (PHG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment without regard to cost or available detection and treatment technologies.

TREATMENT TECHNIQUE (TT)

A required process intended to reduce the level of a contaminant in drinking water.

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Table Introduction

CAL WATER TESTS YOUR WATER FOR MORE THAN 140 REGULATED CONTAMINANTS AND DOZENS OF UNREGULATED CONTAMINANTS. THIS TABLE LISTS ONLY THOSE CONTAMINANTS THAT WERE DETECTED.

In the table, water quality test results are divided into four major sections: “Primary Drinking Water Standards,” “Secondary Drinking Water Standards,” “State-Regulated Contaminants with Notification Levels,” and “Unregulated Compounds.” Primary standards protect public health by limiting the levels of certain constituents in drinking water. Secondary standards are set for substances that don’t impact health but could affect the water’s taste, odor, or appearance. Some unregulated substances (hardness and sodium, for example) are included for your information. The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

SUBSTANCE SOURCES

DI	Byproduct of drinking water disinfection
DS	Drinking water disinfectant added for treatment
EN	Naturally present in the environment
ER	Erosion of natural deposits
FE	Human and animal waste
FL	Water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
FR	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage
IC	Internal corrosion of household plumbing systems
IM	Discharge from industrial manufacturers
IO	Substances that form ions when in water
IW	Industrial waste
OD	Discharges of oil-drilling waste and from metal refineries
OM	Naturally occurring organic materials
PG	Discharge from petroleum, glass, and metal refineries; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
PH	Inherent characteristic of water
RU	Runoff/leaching from natural deposits
SO	Soil runoff
SW	Seawater influence
VA	Various natural and manmade sources
WD	Leaching from wood preservatives
UR	Unregulated constituents with no source listed and that do not have standardized “source of substance” language

Our testing equipment is so sensitive, it can detect mineral traces as small as 1 part per trillion. That is equivalent to 1 inch in over 15 million miles.

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2020 Water Quality

Primary Drinking Water Standards

Microbiological	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Distribution System-Wide Highest Monthly				Source
Total coliform	2020	Positive samples	5%	(0)	**Yes**	0.86%				EN
Fecal coliform and E. coli	2020	Positive samples	1[1]	(0)	**Yes**	0				FE
Radiological	**Year Tested**	**Unit**	**MCL**	**PHG (MCLG)**	**In Compliance**	**Groundwater**		**Valley Water[2]**		**Source**
						Range	**Average**	**Range**	**Average**	
Gross alpha particle activity	2012–2020	pCi/L	15	(0)	**Yes**	ND-5.3	ND	ND	ND	ER
Uranium	2012–2020	pCi/L	20	0.43 (0)	**Yes**	ND-1.4	ND	1.0	1.0	ER
Inorganic	**Year Tested**	**Unit**	**MCL**	**PHG (MCLG)**	**In Compliance**	**Groundwater**		**Valley Water**		**Source**
						Range	**Average**	**Range**	**Average**	
Barium	2018–2020	ppm	1	2 (2)	**Yes**	ND-0.19	ND	ND	ND	ER, OD
Fluoride	2015–2020	ppm	2	1 (4.0)	**Yes**	ND-0.19	0.12	ND-0.11	ND	ER, FL
Nitrate as N[3]	2020	ppm	10	10 (10)	**Yes**	1.8–7.7	4.8	ND-0.80	ND	ER, FR
Selenium	2018–2020	ppb	50	30 (50)	**Yes**	ND-5.0	ND	ND	ND	PG, ER
Lead and Copper	**Year Tested**	**Unit**	**AL**	**PHG (MCLG)**	**In Compliance**	**Distribution System-Wide**				**Source**
						90^{th} Percentile		**Samples > AL**		
Copper	2019	ppm	1.3	0.3	**Yes**	0.27		0 of 31		IC, ER, WD
Lead	2019	ppb	15	0.2	**Yes**	ND		0 of 31		IC, IM, ER

1 This means one total coliform-positive routine sample and one repeat sample, with one of these also being E. coli-positive.

2 Valley Water supply data reported is from 2020. Valley Water supply delivered to our system during 2020 may have been from SFPUC via the SFPUC-Valley Water intertie.

3 The average nitrate level in our sources was 4.8 ppm, with a maximum level of 7.7 ppm. We are closely monitoring the nitrate levels. Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 ppm may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant or you are pregnant, you should seek advice from your health care provider.

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2020 Water Quality

(Continued)

Disinfection Byproducts	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Distribution System-Wide: Range	Distribution System-Wide: Highest Annual Average	Source
Haloacetic acids	2020	ppb	60	n/a	**Yes**	ND-19	14	DI
Total trihalomethanes	2020	ppb	80	n/a	**Yes**	ND-51	42	DI
Disinfectants	**Year Tested**	**Unit**	**MRDL**	**MRDLG**	**In Compliance**	**Distribution System-Wide: Range**	**Distribution System-Wide: Average**	**Source**
Chloramine	2020	ppm	4	4	**Yes**	ND-2.7	1.6	DS
Surface Water—Turbidity	**Year Tested**	**Unit**	**MCL**	**PHG (MCLG)**	**In Compliance**	**Valley Water: Highest Level**	**Valley Water: Lowest Monthly Percent Removal**	**Source**
Turbidity[1]	2019	NTU	TT	n/a	**Yes**	0.12	100%	SO
Surface Water—TOC	**Year Tested**	**Unit**	**MCL**	**PHG (MCLG)**	**In Compliance**	**Valley Water: Range**	**Valley Water: Average**	**Source**
Total organic carbon (TOC)[2]	2019	ppm	TT	n/a	**Yes**	1.4–2.4	1.9	VA

1 For surface water systems, the treatment technique dictates that the turbidity level of the filtered water be less than or equal to 0.3 NTU in 95% of measurements taken each month and not exceed 1 NTU at any time. Turbidity is a measurement of cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

2 TOC has no health effects; however, TOC provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes and haloacetic acids. The treatment technique dictates that a removal ratio of 1 or higher must be achieved. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects such as liver, kidney, or nervous system problems, and may lead to an increased risk of cancer. Concerns regarding disinfection byproducts are based upon exposure over many years.

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2020 Water Quality

(Continued)

Secondary Drinking Water Standards

Inorganic	Year Tested	Unit	SMCL	PHG (MCLG)	In Compliance	Groundwater Range	Groundwater Average	Valley Water Range	Valley Water Average	Source
Chloride	2015–2020	ppm	500	n/a	**Yes**	33–83	55	56–66	61	RU, SW
Color	2018–2020	UNITS	15	n/a	**Yes**	ND-15	1.3	ND	ND	OM
Odor	2018–2020	T.O.N.	3	n/a	**Yes**	ND	ND	1.0	1.0	OM
Specific conductance	2018–2020	US	1600	n/a	**Yes**	560–910	744	473–534	509	SW, IO
Sulfate	2015–2020	ppm	500	n/a	**Yes**	18–72	36	60–73	65	RU, IW
Total dissolved solids	2018–2020	ppm	1000	n/a	**Yes**	340–550	434	268–326	297	RU
Turbidity (groundwater)	2018–2020	NTU	5	n/a	**Yes**	0.11–0.58	0.21	0.02–0.12	0.04	SO

State Regulated Contaminants with Notification Levels

Contaminants	Year Tested	Unit	NL	PHG (MCLG)	In Compliance	Groundwater Range	Groundwater Average	Valley Water Range	Valley Water Average	Source
Boron	2016–2018	ppm	1	n/a	**Yes**	ND-0.11	ND	0.13–0.21	0.16	UR
Chlorate	2014	ug/L	800	n/a	**Yes**	64–130	96	78–279	155	UR
Chromium (hexavalent)[1]	2014–2020	ppb	n/a	0.02	n/a	ND-2.6	1.2	n/a	n/a	UR
Vanadium	2019	ppb	50	n/a	**Yes**	4.7–8.9	6.7	n/a	n/a	UR

1 The previous MCL of 0.010 mg/L (10 ppb) for hexavalent chromium was withdrawn on September 11, 2017, and there is currently no MCL in effect.

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2020 Water Quality

(Continued)

Unregulated Contaminant Monitoring Rule (UCMR)

Contaminants	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		Valley Water		Source
						Range	Average	Range	Average	
HAA5 (DBAA, DCAA, MBAA, MCAA, and TCAA)	2019	ppb	n/a	n/a	n/a	ND-14	8.4	n/a	na	UR
HAA6Br (BCAA, BDCAA, DBAA, CDBAA, MBAA, and TBAA)	2019	ppb	n/a	n/a	n/a	ND-25	15	n/a	n/a	UR
HAA9 (BCAA, BDCAA, CDBAA, DBAA, DCAA, MBAA, MCAA, TBAA, and TCAA)	2019	ppb	n/a	n/a	n/a	ND-32	21	n/a	n/a	UR

Unregulated Compounds

Constituent	Year Tested	Unit	MCL	PHG (MCLG)	In Compliance	Groundwater		Valley Water		Source
						Range	Average	Range	Average	
Alkalinity (total)	2020	ppm	n/a	n/a	n/a	n/a	n/a	71–76	73	UR
Calcium	2018–2020	ppm	n/a	n/a	n/a	63–120	87	20–23	21	UR
Hardness (total)	2020	ppm	n/a	n/a	n/a	n/a	n/a	92–102	98	UR
Potassium	2018–2020	ppm	n/a	n/a	n/a	ND-1.3	0.05	2.7–3.2	2.9	UR
Magnesium	2018–2020	ppm	n/a	n/a	n/a	22–39	28	12–13	12	UR
Molybdenum	2020	ppb	n/a	n/a	n/a	n/a	n/a	1.9	1.9	UR
Sodium	2018–2020	ppm	n/a	n/a	n/a	24–46	33	52–63	56	UR
pH	2020	STD U	n/a	n/a	n/a	7.0–8.7	7.6	7.6–8.0	7.8	PH

Attachment C

Thank you.

Thanks for taking the time to learn more about your water quality! Even more information awaits you at **www.calwater.com.** Visit our web site to get information about your account, water-use history, water rates, and water system.

You will also find water-saving tips and news about water conservation programs and rebates available in your area.

- Conservation resources
- Lead in water
- Water treatment and disinfection
- Protecting the water supply

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