SUNNY SLOPE WATER COMPANY

JUNE 2021

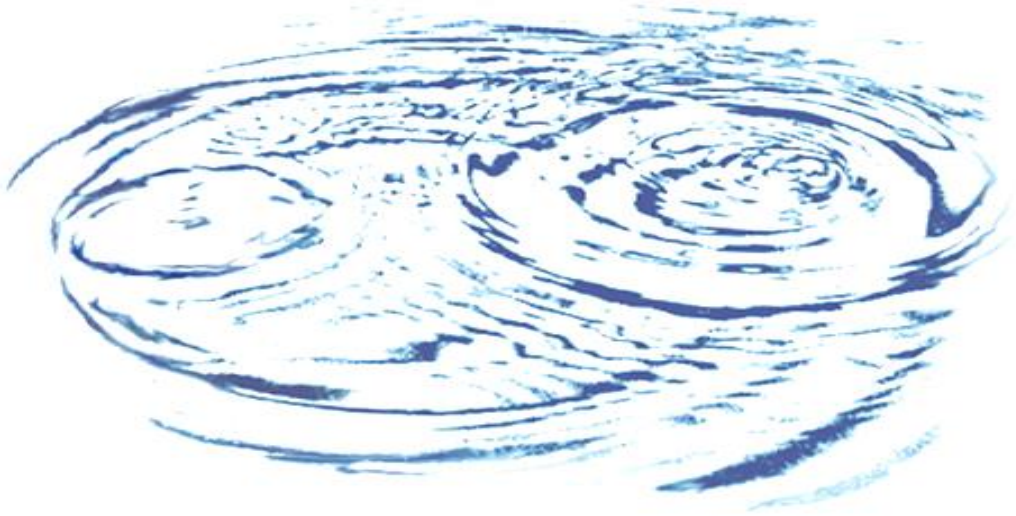
FINAL

2020 URBAN WATER MANAGEMENT PLAN

Northern California • Southern California • Arizona • Colorado • Oregon

Sunny Slope Water Company

2020
Urban Water Management Plan



JUNE 2021

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LIST OF ACRONYMS

AB	Assembly Bill
AF	Acre-feet
AFY	Acre-feet per year
Annual Assessment	Annual Water Supply and Demand Assessment
AWWA	American Water Works Association
BPOU	Baldwin Park Operable Unit
CECs	Constituents of emerging concern
Central District	Central Basin Municipal Water District
CIMIS	California Irrigation Management Information System
Corps of Engineers	U.S. Army Corps of Engineers
Court	Superior Court of the State of California for the County of Los Angeles
CWC	California Water Code
CWEA	Cooperative Water Exchange Agreement
CY	Calendar Year
DACs	Disadvantaged Communities
Delta	Sacramento-San Joaquin Delta
DOF	Department of Finance
DPW	Los Angeles County Department of Public Works
DRA	Drought Risk Assessment
DMMs	Demand Management Measures
DWR	Department of Water Resources
ERP	Emergency Response Plan
ETo	Evapotranspiration
GCMs	General Circulation Models
GIS	Geographical Information Systems
GPCD	Gallons per capita per day
GSP	Groundwater Sustainability Plan
JPL	Jet Propulsion Laboratory
JWPCP	Joint Water Pollution Control Plant
Key Well	Baldwin Park Key Well
LACSD	Los Angeles County Sanitation Districts
LARWQCB	Los Angeles Regional Water Quality Control Board
M&I	Municipal and Industrial
Main Basin	Main San Gabriel Basin
Main Basin Watermaster	Main San Gabriel Basin Watermaster
mg/L	Milligrams per Liter
MGD	Million gallons per day
MSL	Mean Sea Level
MWD	Metropolitan Water District of Southern California
NASA	National Aeronautics and Space Administration
NCP	National Contingency Plan
NDMA	N-nitrosodimethylamine
OSY	Operating Safe Yield

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PCE	Perchloroethylene
Plan	Urban Water Management Plan
RCP	Representative Concentration Pathway
RDA	Water Resource Development Assessment or Supplemental Water Reliability Storage Program
RDA II	Water Resource Development Assessment for Stormwater Augmentation Program or Supplemental Water Stormwater Augmentation Program
RDM	Robust Decision Making
River Watermaster	San Gabriel River Watermaster
ROD	Record of Decision
RRA	Risk and Resilience Assessment
SB	Senate Bill
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SGMA	Sustainable Groundwater Management Act of 2014
SGVMWD	San Gabriel Valley Municipal Water District
SJCWRP	San Jose Creek Water Reclamation Plant
SNMP	San Gabriel Valley Salt and Nutrient Management Plan
SSWC	Sunny Slope Water Company
SWP	State Water Project
SWRCB	State Water Resources Control Board
SWRCB - DDW	State Water Resources Control Board – Division of Drinking Water
TCE	Trichloroethylene
TDS	Total Dissolved Solids
Three-Year Plan	Three-Year Purchased Water Plan
TVMWD	Three Valleys Municipal Water District
USEPA	U.S. Environmental Protection Agency
Upper District	Upper San Gabriel Valley Municipal Water District
UWMP	Urban Water Management Plan
VOCs	Volatile Organic Compounds
WNWRP	Whittier Narrows Water Reclamation Plant
WQA	Water Quality Authority
WRCC	Western Regional Climate Center
WRD	Water Replenishment District of Southern California
WSAP	Water Supply Allocation Plan
WSCP	Water Shortage Contingency Plan
WUCA	Water Utility Climate Alliance
WUE	Water Use Efficiency

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CHAPTER 1

URBAN WATER MANAGEMENT PLAN INTRODUCTION AND OVERVIEW

LAY DESCRIPTION - INTRODUCTION

An urban water supplier is defined (pursuant to Section 10617 of the California Water Code[1]) as "*a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. 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.*"

The Sunny Slope Water Company (SSWC) is classified as an urban water supplier because it serves more than 3,000 customers (i.e. individual metered accounts) and it supplies more than 3,000 acre-feet of water annually to its customers for municipal purposes.

In accordance with the "Urban Water Management Planning Act", which was enacted by the California Legislature in 1983, every urban water supplier (including SSWC) is required to prepare and adopt an Urban Water Management Plan (UWMP), periodically review its UWMP, and incorporate updated and new information into an updated UWMP at least once every five years.

SSWC's most recent update was its 2015 UWMP (or 2015 Plan) which was submitted to, and approved by, the California Department of Water Resources (DWR). Urban water suppliers (including SSWC) are required to complete and submit their 2020 UWMPs to DWR by July 1st, 2021.

[1] References to CWC Sections in this 2020 UWMP were obtained from https://leginfo.legislature.ca.gov/

The current requirements for preparing the UWMP are included in California Water Code (CWC) Sections 10608 through 10657. SSWC's 2020 UWMP (or 2020 Plan) was prepared consistent with the CWC and the recommended organization provided in DWR's Final "Urban Water Management Plan Guidebook 2020" (Final 2020 UWMP Guidebook), dated March 2021.

The UWMP provides urban water suppliers (including SSWC) with a reliable management action plan for long-term resource planning to ensure adequate water supplies are available to meet existing and future water supply needs. In addition, the 2020 UMWP incorporates water supply reliability determinations resulting from potential prolonged drought, regulatory revisions, and/or changing climatic conditions.

SSWC's 2020 Plan consists of the following Chapters:

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

A lay description is presented at the beginning of each of these Chapters.

LAY DESCRIPTION – CHAPTER 1

URBAN WATER MANAGEMENT PLAN INTRODUCTION AND OVERVIEW

Chapter 1 (Urban Water Management Plan Introduction and Overview) of SSWC's 2020 Plan discusses and provides the following:

- An overall lay description of the 2020 Plan, including California Water Code and Urban Water Management Plan Act requirements, is provided. SSWC is required to prepare an Urban Water Management Plan.
- SSWC's 2020 Plan was prepared consistent with the recommended organization provided in DWR's Final "Urban Water Management Plan Guidebook 2020", dated March 2021. A description regarding the organization of the 2020 Plan, including a summary of each Chapter, is provided. SSWC's Water Shortage Contingency Plan (discussed in Chapter 8) is also included in the 2020 Plan.
- The 2020 Plan incorporates DWR's water use and supply tables (standardized tables) for the reporting and submittal of UWMP data. These tables are included within the respective sections of the 2020 Plan and in Appendix A.
- SSWC's coordination efforts with other planning agencies are discussed, including coordination efforts with Upper San Gabriel Valley Municipal Water District and the Southern California Association of Governments
- SSWC's eligibility to receive grants and loans administered by the State of California and/or DWR, as a result of preparing the 2020 Plan, is discussed.
- Information is provided which demonstrates SSWC's prior, continued, and projected reduction on imported water supplies obtained (either directly or indirectly) from the Sacramento-San Joaquin Delta (Delta). SSWC has reduced its reliance on imported water supplies for Calendar Year 2015 and Calendar Year

2020. In addition, SSWC is projected to continue reducing its reliance on imported water supplies through Calendar Year 2045.

- The checklist developed by DWR and used by SSWC to incorporate the specific UWMP requirements is discussed. The completed checklist is provided in Appendix C.

1.1 RECOMMENDED UWMP ORGANIZATION

SSWC's 2020 Urban Water Management Plan (2020 Plan) was prepared consistent with the recommended organization provided in DWR's Final "Urban Water Management Plan Guidebook 2020" (Final 2020 UWMP Guidebook), dated March 2021. SSWC's 2020 Plan consists of the following Chapters:

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

Pursuant to CWC requirements, SSWC's 2020 Plan incorporates DWR's water use and supply tables (standardized tables) for the reporting and submittal of UWMP data. DWR's standardized tables are provided within the body of the 2020 Plan text as well as in

Appendix A. SSWC also submitted the UWMP data (standardized tables) electronically through DWR's Online Submittal Tool.

SSWC's 2020 Plan also provides supporting documents (appendices) including notification letters of the Plan update, public notice of the Plan hearing, and adoption resolution from SSWC's governing body. Further discussions regarding these supporting documents are provided within the individual Chapters of SSWC's 2020 Plan.

1.2 UWMPS IN RELATION TO OTHER EFFORTS

SSWC is a sub-agency of Upper San Gabriel Valley Municipal Water District (Upper District), a wholesale agency. Upper District prepared a 2020 Plan which is incorporated in SSWC's 2020 Plan by reference. In addition, SSWC provided its 2020 Plan to Upper District which includes water use projections in five-year increments for a normal year, a single dry year, and a five consecutive year drought over the next 25 years.

1.3 UWMPS AND GRANT OR LOAN ELIGIBILITY

Pursuant to DWR's Final 2020 UWMP Guidebook:

"*In order for a Supplier to be eligible for any water grant or loan administered by DWR, the Supplier must have a current UWMP on file that has been determined by DWR to address the requirements of the Water Code. A current UWMP must also be maintained by the Supplier throughout the term of any grant or loan administered by DWR. A UWMP may also be required in order to be eligible for other state funding, depending on the conditions that are specified in the funding guidelines. Suppliers are encouraged to seek guidance on the specifics of any state funding source from the respective funding*

agencies. The following sections of the Water Code are pertinent to Suppliers considering pursuit of grants or loans."

SSWC's 2020 Plan has been prepared in order to meet eligibility requirements for grants and loans administered by the State and/or DWR.

1.4 DEMONSTRATION OF CONSISTENCY WITH THE DELTA PLAN FOR PARTICIPANTS IN COVERED ACTIONS

Pursuant to DWR, an urban water supplier that anticipates participating in or receiving water from a proposed project (or "covered action") such as a multi-year water transfer, conveyance facility, or new diversion that involves transferring water through, exporting water from, or using water in the Sacramento-San Joaquin Delta should provide information in their 2015 and 2020 UWMPs for use in demonstrating consistency with Delta Plan Policy WR P1, "*Reduce Reliance on the Delta Through Improved Regional Water Self-Reliance"*. In addition, pursuant to California Code of Regulations, Title 23, § 5003:

> *(c)(1) Water suppliers that have done all of the following are contributing to reduced reliance on the Delta and improved regional self-reliance and are therefore consistent with this policy:*
>
> > *(A) Completed a current Urban or Agricultural Water Management Plan (Plan) which has been reviewed by the California Department of Water Resources for compliance with the applicable requirements of Water Code Division 6, Parts 2.55, 2.6, and 2.8;*
> >
> > *(B) Identified, evaluated, and commenced implementation, consistent with the implementation schedule set forth in the Plan, of all programs and projects included in the Plan that are locally cost effective and technically feasible which reduce reliance on the Delta; and*
> >
> > *(C) Included in the Plan, commencing in 2015, the expected outcome for measurable reduction in Delta reliance and improvement in regional self-*

> *reliance. The expected outcome for measurable reduction in Delta reliance and improvement in regional self-reliance shall be reported in the Plan as the reduction in the amount of water used, or in the percentage of water used, from the Delta watershed. For the purposes of reporting, water efficiency is considered a new source of water supply, consistent with Water Code section 1011(a).*

SSWC has reduced its reliance on imported water supplies for CY 2015 and CY 2020. In addition, SSWC is projected to continue reducing its reliance on imported water supplies through CY 2045. A further discussion which demonstrates SSWC's measurable reduction in imported water reliance and improvement in regional self-reliance is provided in Appendix B.

1.5 TIPS FOR UWMP PREPARERS

SSWC's 2020 Plan (which includes SSWC's 2020 Water Shortage Contingency Plan (WSCP) is considered an update to SSWC's 2015 Plan. However, the 2020 Plan and the WSCP are considered stand-alone documents. As discussed in Section 1.1, SSWC's 2020 Plan was prepared consistent with the recommended organization provided in DWR's Final 2020 UWMP Guidebook.

A checklist of specific UWMP requirements is included in Appendix C. The checklist includes the page number where the required elements are addressed to assist in DWR's review of the submitted Plan.

CHAPTER 2

PLAN PREPARATION

LAY DESCRIPTION – CHAPTER 2

PLAN PREPARATION

Chapter 2 (Plan Preparation) of SSWC's 2020 Plan discusses and provides the following:

- The basis for preparing an Urban Water Management Plan is provided. SSWC is required to prepare the 2020 Plan because it is an "urban water supplier" (SSWC serves more than 3,000 customers and it supplies more than 3,000 acre-feet of water annually to its customers for municipal purposes)
- SSWC is a "Public Water System" and is regulated by the State Water Resources Control Board - Division of Drinking Water. SSWC's Public Water System number is provided in Table 2-1.
- SSWC's Plan has been prepared as an "individual" plan rather than a "regional" plan in an effort to provide information specific to SSWC to best inform its employees, management and customers.
- Information presented in SSWC's 2020 Plan is provided on a "calendar year" basis which is from January 1 through December 31.
- Water quantities presented in SSWC's 2020 Plan are provided on an "acre-foot" basis.
- SSWC's coordination and outreach efforts with wholesale water agencies, other retail water agencies, and the community are described. SSWC coordinated the preparation of its 2020 Plan with the Raymond Basin Management Board, the Main San Gabriel Basin Watermaster, and Upper District.

- SSWC's notification process to the cities and county within which SSWC provides water supplies to is discussed.

2.1 PLAN PREPARATION

As discussed in Section 1.1, SSWC's 2020 Plan was prepared consistent with the recommended organization provided in DWR's Final 2020 UWMP Guidebook. Pursuant to DWR's Final 2020 UWMP Guidebook:

"*The California Water Code (Water Code) specifies several requirements for preparing a UWMP, including who is required to prepare a UWMP; how to prepare a UWMP, depending on whether the Supplier choses to participate in a regional or individual planning effort; selection of reporting year-type; and coordination, notification, and outreach.*"

Pursuant to California Water Code requirements, SSWC's 2020 Plan incorporates DWR's water use and supply tables (standardized tables) for the reporting and submittal of UWMP data.

2.2 BASIS FOR PREPARING A PLAN

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 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.

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.

SSWC's 2020 Plan was prepared in accordance with the UWMP Act which was established in 1983. The UWMP Act requires every "urban water supplier" to prepare and adopt a Plan, to periodically review its Plan at least once every five years and make any amendments or changes which are indicated by the review. An "Urban Water Supplier" is defined as a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet (AF) of water annually.

Section 10621(a) of the CWC states, "*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".* As a result, DWR requires the 2020 Plans be submitted by July 1, 2021.

SSWC is an "urban water supplier" pursuant to Section 10617 of the CWC and directly serves potable water to more than 3,000 customers and supplies more than 3,000 acre-feet per year (AFY) at retail for municipal purposes. SSWC's 2020 Plan is an update to SSWC's 2015 Plan.

2.2.1 PUBLIC WATER SYSTEMS

CWC 10644.

(a)(2) The plan, or amendments to the plan, submitted to the department … shall include any standardized forms, tables, or displays specified by the department.

California Health and Safety Code 116275.

(h) "Public water system" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

Pursuant to CWC requirements, SSWC's 2020 Plan incorporates DWR's standardized tables for the reporting and submittal of UWMP data. The standardized tables are provided within the body of the 2020 Plan text as well as in Appendix A. SSWC also submitted the UWMP data (from the standardized tables) electronically through DWR's Online Submittal Tool.

In addition, SSWC is a Public Water System and is regulated by the State Water Resources Control Board - Division of Drinking Water (SWRCB-DDW). The SWRCB-DDW requires water agencies provide the number of connections, water usage, and other information annually. The information provided to SWRCB-DDW indicates SSWC serves potable water to more than 3,000 customers and supplies more than 3,000 AFY. Table 2-1 provides SSWC's Public Water System name and number.

2.2.2 SUPPLIERS SERVING MULTIPLE SERVICE AREAS / PUBLIC WATER SYSTEMS

SSWC serves only a single Public Water System. Table 2-1 provides SSWC's Public Water System name and number.

Table 2-1 Public Water Systems

Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
Add additional rows as needed			
CA1910157	Sunny Slope Water Company	6,262	3,625
	TOTAL	6,262	3,625
**** Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Source for "Number of Municipal Connections 2020": https://sdwis.waterboards.ca.gov/PDWW/			

2.3 REGIONAL PLANNING

SSWC has developed its 2020 Plan reporting solely on its service area to address all requirements of the California Water Code. SSWC's 2020 Plan was not developed as a Regional Plan.

2.4 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

As shown in Table 2-2, SSWC's 2020 Plan is an "Individual UWMP". SSWC has developed its 2020 Plan reporting solely on its service area to address all requirements of the California Water Code, including water use targets and baselines pursuant to SBX7-7 Water Conservation Act of 2009 reporting (discussed further in Chapter 5). SSWC notified and coordinated with appropriate regional agencies and constituents (See Section 2.6).

Table 2-2 Plan Identification Type

Submittal Table 2-2: Plan Identification			
Select Only One	**Type of Plan**		**Name of RUWMP or Regional Alliance** *if applicable* (select from drop down list)
☑	**Individual UWMP**		
	☐	Water Supplier is also a member of a RUWMP	
	☐	Water Supplier is also a member of a Regional Alliance	
☐	**Regional Urban Water Management Plan (RUWMP)**		
NOTES:			

2.4.1 REGIONAL UWMP

CWC 10620.

(d)(1) An urban water supplier may satisfy the requirements of this part by participation in area wide, regional, watershed, or basin wide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

As indicated in Table 2-2, SSWC's 2020 Plan was developed as an "Individual UWMP" and not part of a Regional Plan.

2.4.2 REGIONAL ALLIANCE

CWC 10608.20.

(a)(1) …Urban retail water suppliers may elect to determine and report progress toward achieving these targets on an individual or regional basis, as provided in subdivision (a) of Section 10608.28…

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.

As indicated in Table 2-2, SSWC's 2020 Plan was developed as an "Individual UWMP" and not part of a Regional Alliance.

2.5 FISCAL OR CALENDAR YEAR AND UNITS OF MEASURE

CWC 10608.20.

(a)(1) Urban retail water suppliers…may determine the targets on a fiscal or calendar year basis.

2.5.1 FISCAL OR CALENDAR YEAR

The data provided in SSWC's 2020 Plan is reported on a calendar year (CY) basis, unless noted otherwise, as shown in Table 2-3.

Table 2-3 Supplier Identification

Submittal Table 2-3: Supplier Identification	
Type of Supplier (select one or both)	
☐	Supplier is a wholesaler
☑	Supplier is a retailer
Fiscal or Calendar Year (select one)	
☑	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)	
01/01	
Units of measure used in UWMP * (select from drop down)	
Unit	AF
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES:	

2.5.2 REPORTING COMPLETE 2020 DATA

The data provided in SSWC's 2020 Plan is provided on a calendar year basis through December 31, 2020.

2.5.3 UNITS OF MEASURE

As shown in Table 2-3, the data provided in SSWC's 2020 Plan is reported in units of acre-feet (AF), unless noted otherwise.

2.6 COORDINATION AND OUTREACH

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).

2.6.1 WHOLESALE AND RETAIL COORDINATION

SSWC is a sub-agency of Upper District, a wholesale agency. As indicated in Table 2-4, SSWC has provided its 2020 Plan to Upper District which includes water use projections in five-year increments for a normal year, a single dry year, and a five consecutive year drought over the next 25 years.

Table 2-4 Water Supplier Information Exchange

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

2.6.2 COORDINATION WITH 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…

SSWC is a retail water supplier that serves portions of the Cities of Arcadia, San Gabriel, San Marino, and Temple City, as well as an unincorporated area of Los Angeles County near the City of Pasadena. SSWC is required to coordinate the preparation of the Plan with appropriate agencies in the area, including appropriate water suppliers that share a common source. Therefore, SSWC's 2020 Plan was prepared in coordination with other

agencies including the Raymond Basin Management Board, the Main San Gabriel Basin Watermaster (Main Basin Watermaster), and Upper District. As discussed in Section 10.2, SSWC notified these agencies, as well as the cities and county within which SSWC provides water supplies, at least sixty (60) days prior to the public hearing of the preparation of the 2020 Plan and invited them to participate in the development of the 2020 Plan. A copy of the notification letters sent to these agencies is provided in Appendix D.

2.6.3 NOTICE TO CITIES AND COUNTIES

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.

As discussed in Section 10.2, notification was provided to the cities and county within which SSWC provides water supplies that SSWC was reviewing and considering amendments (updates) to the previous 2015 Plan, and as a result prepare the 2020 Plan. Notification was provided at least 60 days prior to the public hearing (see Appendix D).

CHAPTER 3

SYSTEM DESCRIPTION

LAY DESCRIPTION – CHAPTER 3

SYSTEM DESCRIPTION

Chapter 3 (System Description) of SSWC's 2020 Plan discusses and provides the following:

- A description of SSWC's service area is provided. SSWC is a retail water supplier that serves portions of the Cities of Arcadia, San Gabriel, San Marino, and Temple City, as well as an unincorporated area of Los Angeles County near the City of Pasadena.
- SSWC's water service area encompasses an area of approximately 3 square miles. The location of SSWC's water service area is provided in Figure 1.
- A description regarding SSWC's water service area climate is provided. The monthly historical average temperatures (including minimum and maximum), monthly historical average rainfall, and monthly evapotranspiration (ETo) in the vicinity of SSWC's service area is summarized. The sources of the climate information are also discussed.
- The population within SSWC's water service area is discussed and projected. The sources of the population information are also discussed. SSWC provides water service to an area with a current population of 25,252. SSWC is projected to have a population of 29,299 by CY 2045.
- A discussion of land use information used by SSWC to develop the 2020 Plan is provided. SSWC reviewed the current and projected land uses within its service

area. SSWC also reviewed data provided by the Southern California Association of Governments (SCAG), the Department of Finance, and the United States Census Bureau and prepared for counties, cities, and unincorporated areas within Southern California.

3.1 GENERAL DESCRIPTION

CWC 10631.

(a) 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.

Formed in 1895, SSWC is a retail water supplier that serves portions of the Cities of Arcadia, San Gabriel, San Marino, and Temple City, as well as an unincorporated area of Los Angeles County near the City of Pasadena. SSWC encompasses an area of approximately 3 square miles in the northwestern region of the San Gabriel Valley. The location of SSWC's service area is provided in Figure 1.

SSWC is divided into three pressure zones and it currently has approximately 6,262 service connections within its water system. These connections consist of 93 percent for domestic users (i.e. single family and multi-family residential) and approximately 7 percent are for commercial users. SSWC's distribution system is comprised of five active wells, three storage tanks, three pump stations, and over 25,000 feet of transmission pipelines.

3.2 SERVICE AREA BOUNDARY MAPS

As discussed in Section 3.1, SSWC encompasses an area of approximately 3 square miles in the northwestern region of the San Gabriel Valley. A service area boundary map is provided on Figure 1. SSWC's service area relative to the municipal boundaries of the Cities of Arcadia, San Gabriel, San Marino, and Temple City, and the unincorporated area of Los Angeles County near the City of Pasadena, is provided in Figure 2.

SSWC's service area map was submitted online through DWR's Population Tool in a "KML" file format (i.e., Google Earth format). The KML file was originally created in a Geographical Information Systems (GIS) shape file format and converted into a KML format. To the extent information was available, metadata was included in the KML file (including map projection, contact information, start and end dates for which the map is valid, constraints, attribute table definitions, and digitizing base).

3.3 SERVICE AREA CLIMATE

CWC 10631.

(a) Describe the service area of the supplier, including … climate…

CWC 10630.

It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

The monthly historical average temperatures (including minimum and maximum), monthly historical average rainfall, and monthly evapotranspiration in the vicinity of SSWC's service area is summarized in the tabulation below. Historical climate information was obtained from the Western Regional Climate Center (WRCC), Los Angeles County Department of Public Works (DPW), and from DWR's California Irrigation Management Information System (CIMIS).

Service Area Climate Information

Month	Average Temperature (F)	Average Minimum Temperature (F)	Average Maximum Temperature (F)	Average Total Precipitation (Inches)	ETo (Inches)
January	54.8	43.0	66.7	4.3	2.17
February	56.2	44.4	68.1	4.4	2.54
March	58.3	46.3	70.2	3.3	3.85
April	61.4	49.1	73.7	1.4	4.61
May	64.5	52.5	76.5	0.4	5.21
June	69.0	56.1	82.0	0.1	6.00
July	74.4	60.2	88.6	0.0	6.58
August	75.0	60.6	89.5	0.1	6.38
September	73.2	58.9	87.5	0.4	4.95
October	67.4	53.8	81.0	0.7	3.55
November	60.7	47.4	74.0	1.6	2.48
December	55.3	43.4	67.3	3.1	1.90
Annual	64.2	51.2	77.2	19.7	50.22

Source:

Historical average monthly precipitation and temperature information was obtained from the Western Regional Climate Center (http://www.wrcc.dri.edu/) and is based on data collected from Station 046719 (Pasadena, CA) from 1893 through 2015. Historical monthly average ETo information was obtained from the California Irrigation Management Information Systems (http://wwwcimis.water.ca.gov) and is based on data collected from Station 159 (Monrovia).

The historical average rainfall in the vicinity of SSWC's service area is 19.7 inches. SSWC's service area in the San Gabriel Valley has a dry climate and summers can reach average maximum daily temperatures in the high 80s. Although changes in climatic conditions may have an impact (as discussed in Section 4.5), the projected water supply demands will be based on an average year, a single dry year, and a five consecutive year drought, based on historical data and projected demands. Precipitation within the vicinity of SSWC's service area is discussed further in Section 7.2.

A discussion of SSWC's sources of supply, how those sources may be impacted by climate change, and the proactive actions SSWC and other local/regional water managers may take to address the potential climate change on water supplies is provided in Section 4.5.

3.4 SERVICE AREA POPULATION AND DEMOGRAPHICS

3.4.1 SERVICE AREA POPULATION

CWC 10631.

(a) Describe the service area of the supplier, including current and projected population… The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

SSWC provides water service to an area with a current population of 25,252. Table 3-1 presents the current and projected population of the area encompassed by SSWC's service area from CY 2020 through CY 2045. SSWC is projected to have a population of 29,299 by CY 2045.

SSWC initially reviewed the available historical populations within its service area for population growth trends. SSWC determined historical U.S. Census populations within its service area using DWR's Population Tool (https://wuedata.water.ca.gov/). SSWC's service area boundary was uploaded to DWR's Population Tool in a "KML" file format (i.e., Google Earth format). The KML file was originally created in a GIS shapefile format and converted into a KML format. The uploaded KML file represents SSWC's service area boundary from 1990 to present (2020). DWR's Population Tool utilized U.S. Census data from 1990, 2000, and 2010. The calculated CY 2020 population (discussed in Section 5.4) was used to determine compliance with SSWC's SB X7-7 water use target for 2020 (discussed in Section 5.5).

Projected populations in SSWC's service area were based on growth rate projections obtained from data provided by the Southern California Association of Governments. The data provided by SCAG was based on their "*The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of the SCAG*", dated September 2020, and incorporates demographic trends, existing land use, general plan land use policies, and input and projections through the year 2045 from the Department of Finance (DOF) and the US Census Bureau for counties, cities and unincorporated areas within Southern California.

Table 3-1 Population – Current and Projected

Submittal Table 3-1 Retail: Population - Current and Projected						
Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	25,252	26,014	26,799	27,608	28,441	29,299
NOTES: The DWR Population Tool was used to estimate the 2020 population (See Section 5.4.1). Growth rates obtained from SCAG data were applied to the 2020 population and projected through 2045 (See Section 3.4.1).						

3.4.2 OTHER SOCIAL, ECONOMIC, AND DEMOGRAPHIC FACTORS

CWC 10631.

(a) Describe the service area of the supplier, including… other social, economic, and demographic factors affecting the supplier's water management planning.

No other demographic factors affect SSWC's water management planning. However, increased population will have an impact on water demand.

3.5 LAND USES WITHIN SERVICE AREA

CWC 10631.

(a) 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.

SSWC reviewed the current and projected land uses within its service area during the preparation of this 2020 Plan. Information regarding current and projected land uses is included in the Los Angeles County 2035 General Plan. The existing land uses within SSWC's service area include residential (single-family and multi-family) and commercial. The projected land uses within SSWC's service area are expected to remain similar to the existing land uses. In addition, although mostly built-out, the projected population within SSWC's service area is anticipated to increase (as discussed in Section 3.4). A discussion of the existing and projected water uses for the individual water use sectors within SSWC's service area, which includes the different land uses, is provided in Section 4.2. As discussed in Section 2.6, SSWC coordinated the preparation of the 2020 Plan with the Cities of Arcadia, San Gabriel, San Marino, and Temple City, the County of Los Angeles, and other agencies.

As discussed in Section 3.4, SSWC obtained data from the Southern California Association of Governments document entitled "*The 2020-2045 Regional Transportation Plan / Sustainable Communities Strategy of the SCAG*", dated September 2020. Projected populations in SSWC's service area were based on growth rate projections developed by SCAG. The data provided by SCAG incorporates demographic trends, existing land use, general plan land use policies, and input and projections through the year 2045 from the Department of Finance and the US Census Bureau for counties, cities, and unincorporated areas within Southern California.

CHAPTER 4

WATER USE CHARACTERIZATION

LAY DESCRIPTION – CHAPTER 4

WATER USE CHARACTERIZATION

Chapter 4 (Water Use Characterization) of SSWC's 2020 Plan discusses and provides the following:

- SSWC provides water service to individual "water use sectors". These water use sectors include single-family residential, multi-family, and commercial. Individual descriptions for these water use sectors are provided in Section 4.2.1.
- SSWC's total water demands (including potable and recycled water) over the past 10 years have ranged from 3,237 AFY to 4,192 AFY, with an average of 3,660 AFY. SSWC currently measures its water use through meter data and billing records.
- SSWC conducts an annual water loss audit to identify distribution system water losses. Water losses can result from pipeline leaks and inaccurate metering due to faulty meters. Water loss estimates are incorporated into SSWC's projected water demands.
- SSWC's current and projected water demands are provided in five-year increments over the next 25 years are provided (through CY 2045) as shown on Table 4-3.
- SSWC's water demand projections incorporate water savings which are the result of implementation of new plumbing codes along with consumer awareness of the need to conserve water.

- The projected water demands for lower income households are identified and are included in SSWC's total projected water demands
- SSWC's sources of water supply and how those sources may be impacted by climate change are discussed. The proactive actions SSWC and other local/regional water managers may take to address the potential climate change impacts on water supplies are also discussed.
- SSWC will be able to provide sufficient water supplies to meet the projected water demands of its customers, including during a five consecutive year drought period.

4.1 NON-POTABLE VERSUS POTABLE WATER USE

The Water Code requires a description and quantification of water uses within SSWC's service area, including both non-potable and potable water. SSWC has no current recycled water (non-potable) demands as addressed in Section 6.2.5; however, a summary is provided in Table 4-3. Furthermore, Chapter 4 addresses SSWC's potable water demands.

4.2 PAST, CURRENT, AND PROJECTED WATER USES BY SECTOR

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.

CWC 10631.

(d)(1) 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…

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

(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.

SSWC's current and projected water demands are provided in five-year increments over the next 25 years (through CY 2045) in Tables 4-1, 4-2, and 4-3. SSWC's total water demands were projected based on a review of the SB X7-7 calculations which are discussed in Chapter 5 (including the SB X7-7 water use target for 2020), current water use factors based on recent water demands, and the total population projections based on land use trends within SSWC.

SSWC provides water service to individual "water use sectors" as identified by the California Water Code. The water use sectors supplied by SSWC are discussed in Section 4.2.1. The water use for each of these sectors during CY 2020 is provided in Table 4-1. The projected water use for each individual water use sector is provided in Table 4-2 and is based on the percentage breakdown of water use from each individual water use sector in CY 2020 (the percentages were then applied to the projected total water use).

Table 4-1 Demands for Potable and Non-Potable Water - Actual

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable[1] Water - Actual			
Use Type	2020 Actual		
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool	Additional Description (as needed)	Level of Treatment When Delivered Drop down list	Volume[2]
Add additional rows as needed			
Single Family		Drinking Water	2,541
Multi-Family		Drinking Water	359
Commercial		Drinking Water	430
Losses		Drinking Water	295
		TOTAL	3,625
[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.* [2] *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

Table 4-2 Use for Potable and Non-Potable Water - Projected

Submittal Table 4-2 Retail: Use for Potable and Non-Potable[1] Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use[2] *Report To the Extent that Records are Available*				
Drop down list May select each use multiple times These are the only Use Types that will be recognized by the WUEdata online submittal tool		2025	2030	2035	2040	2045 (opt)
Add additional rows as needed						
Single Family		2,656	2,736	2,819	2,904	2,991
Multi-Family		375	386	398	410	422
Commercial		449	463	477	491	506
Losses		308	318	327	337	347
TOTAL		3,788	3,903	4,021	4,142	4,266

[1] *Recycled water demands are NOT reported in this table. Recycled water demands are reported in Table 6-4.* [2] *Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.*

NOTES:

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

Submittal Table 4-3 Retail: Total Water Use (Potable and Non-Potable)						
	2020	2025	2030	2035	2040	2045 (opt)
Potable Water, Raw, Other Non-potable *From Tables 4-1R and 4-2 R*	3,625	3,788	3,903	4,021	4,142	4,266
Recycled Water Demand[1] *From Table 6-4*	0	0	0	0	0	0
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]						
TOTAL WATER USE	3,625	3,788	3,903	4,021	4,142	4,266

[1] Recycled water demand fields will be blank until Table 6-4 is complete

*[2] Long term storage means water placed into groundwater or surface storage that is not removed from storage in the same year. Supplier **may** deduct recycled water placed in long-term storage from their reported demand. This value is manually entered into Table 4-3.*

NOTES:

4.2.1 WATER USE SECTORS LISTED IN WATER CODE

CWC 10631.

(d)(1) 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.

As shown in Table 4-1, SSWC's service area includes the following water use sectors listed in the California Water Code:

- Single-family residential
  (A single-family dwelling unit is a lot with a free-standing building containing one dwelling unit that may include a detached secondary dwelling. Single-family residential water demands are included in retail demands.)

- Multi-family
  (Multiple dwelling units are contained within one building or several buildings within one complex. Multi-family residential water demands are included in retail demands.)

- Commercial
  (Commercial users are defined as water users that provide or distribute a product or service)

- Distribution system losses
  (Distribution system losses represent the potable water losses from the pressurized water distribution system and water storage facilities, up to the point of delivery to the customers. Additional information is discussed in Section 4.2.4)

4.2.2 WATER USE SECTORS IN ADDITION TO THOSE LISTED IN WATER CODE

SSWC's service area does not include other water demand sectors which are not listed in the California Water Code (including exchanges, surface water augmentation, transfers, and wetlands or wildlife habitat).

4.2.3 PAST WATER USE

Chapter 6 provides a discussion of the sources of water supply SSWC uses to meet its water demands. Section 6.1 provides a tabulation of SSWC's historical annual water demands for each water supply source. Over the past ten years, SSWC's total water demands have ranged from 3,237 AFY to 4,192 AFY, with an average of 3,660 AFY. In addition, SSWC recently experienced a five consecutive year drought within its service area from CY 2011 to CY 2015. SSWC reviewed its historical water demands to determine the projected water demands and water supply reliability (discussed in Chapter 7). SSWC is able to provide sufficient water supplies to meet the projected water demands of its customers, including during a five consecutive year drought period.

4.2.4 DISTRIBUTION SYSTEM WATER LOSS

CWC 10631.

(d)(1) 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…

(J) 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.

Distribution system water losses represent the potable water losses from the pressurized water distribution system and water storage facilities, up to the point of delivery to the customers. Sources of distribution system water loss can include: inaccurate metering due to faulty meters; water use not metered such as firefighting, flushing of the water system; and pipeline leaks.

The California Water Code Section 10608.34 requires “On or before October 1, 2017, and on or before October 1 of each year thereafter, each urban retail water supplier shall submit a completed and validated water loss audit report for the previous calendar year or the previous fiscal year...” The water loss audits must follow American Water Works Association (AWWA) guidance and be validated by a certified water audit validator. SSWC has completed the annual water loss audit process through October 1, 2020, as required by the California Water Code (i.e. SSWC has completed water loss audits

representing calendar years 2016, 2017, 2018, and 2019). SSWC's water loss audits were prepared and validated pursuant to DWR requirements. The annual water loss audit reports submitted by retail water agencies in California, including SSWC (provided in Appendix E), are available on DWR's website (https://wuedata.water.ca.gov/awwa_plans).

SSWC's annual water loss audits identify real water losses (e.g. leaks and main failures) and apparent water losses (e.g. customer meter inaccuracies, systematic data handling errors in customer billing systems, and unauthorized consumption). SSWC's distribution system water losses are based on the sum of the real and apparent water losses and are summarized in Table 4-4 for the past five years. Over the past five years, SSWC's average distribution system water losses represent approximately 8.2 percent of its total water demands. This average water loss factor was incorporated into SSWC's total potable water demand projections (Tables 4-2 and 4-3).

Table 4-4 12 Month Water Loss Audit Report

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
01/2016	253
01/2017	309
01/2018	224
01/2019	322
01/2020	295
[1] *Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.* [2] ***Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*	
NOTES: The "Volume of Water Loss" quantities for CY 2016 through CY 2019 were obtained from the annual AWWA Water Loss Audits (and based on the combination of apparent losses and real losses). The AWWA Water Loss Audits were reported on a calendar year basis. The AWWA Water Loss Audit for calendar year 2020 will be prepared by October 2021. The "Volume of Water Loss" quantity for CY 2020 was estimated based on metered water production less metered water deliveries to customers.	

The California Water Code Section 10608.34 directs the SWRCB to "adopt rules requiring urban retail water suppliers to meet performance standards for the volume of water losses." Pursuant to this law, and as discussed above, urban retail water suppliers (including SSWC) have been submitting water loss audits to DWR annually since October 2017. Pursuant to Assembly Bill (AB) 1668 and (SB) Senate Bill 606, urban retail water suppliers are required to calculate an "urban water use objective", which includes indoor, outdoor, commercial, industrial and institutional irrigation uses and allowed system water loss, by the year 2024. In addition, by calendar year 2028, urban retail water suppliers are required to comply with individual volumetric standards (based on an economic model) for leak detection and repair actions. The goal of the proposed water loss standards is to reduce collective water losses throughout California by approximately 40 percent. SSWC will continue to develop its water loss standard and urban water use objective pursuant to SWRCB requirements.

4.2.5 CURRENT WATER USE

SSWC currently measures its water use through meter data and billing records. The water use for SSWC's individual water use sectors during CY 2020 are provided in Table 4-1. Recycled water uses are addressed separately in Section 6.5; however, a summary of projected recycled water uses is provided in Table 4-3. SSWC's total water uses during CY 2020 have been reviewed for compliance with the SB X7-7 water use target for 2020 adopted in SSWC's 2015 Plan (discussed in Section 5.5).

DWR has created an optional "Planning Tool Worksheet" for water suppliers to review and assess monthly water use trends. DWR has deemed the tool as optional and SSWC is not required by DWR to use the tool. Section 6.1 provides a tabulation of SSWC's historical annual water uses for each water supply source. During the past 10 years, SSWC experienced a five consecutive year drought within its service area from CY 2011 to CY 2015. Historical records indicate SSWC's annual water demands had been greater prior to CY 2011. SSWC has been able to provide sufficient water supplies to its

customers, including during long-term droughts and years with historically high water demands. In addition, SSWC has been able to provide water service to meet maximum day water demands for these years, including during the summer months. A further discussion regarding the reliability of SSWC's water supply sources is provided in Chapter 7.

4.2.6 PROJECTED WATER USE

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.

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).

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.

(d)(4)(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.

SSWC's projected water demands are provided in five-year increments over the next 25 years (through CY 2045) in Table 4-3. SSWC's projected water demands and water supplies during a normal year, a single dry year, and a five consecutive year drought are provided in Chapter 7. The projected water demands for each of SSWC's water use sectors are provided in Table 4-2.

SSWC's water demands were projected based on a review of the SB X7-7 calculations discussed in Chapter 5 (including the SB X7-7 water use target for 2020), existing water use factors based on recent water demands, and the total population projections based on land use trends within SSWC. The projected water demands for the water use sectors were based on the percentage breakdown of water demands from each individual water use sector in CY 2020 (the percentages were then applied to the projected total water demands). A discussion of SSWC's water supplies from Upper District, a wholesaler, are discussed in Section 6.2. As discussed in Section 2.6, SSWC has coordinated its water demand projections with Upper District for each water use sector.

SSWC's water demand projections incorporate water savings, or "passive savings", which are the result of implementation of new plumbing codes along with consumer awareness of the need to conserve water. SSWC's Water Shortage Plan, adopted in 2015 (discussed in Section 9.2), includes methods for current and ongoing reduction in water use and water waste. Prior to adoption of the Water Shortage Plan, SSWC's water use rate ranged from approximately 129 gallons per capita day to 161 gallons per capita day (from CY 2000 through CY 2009). As identified in Section 5.5, SSWC's actual water use rate during CY 2020 was 128 gallons per capita per day which is a decrease of up to 33 gallons per capita per day from the recent historical water use and includes passive

savings. SSWC's projected water demands, incorporate water use targets less than its established SB X7-7 water use target for 2020 and incorporate ongoing water passive savings and reduced water use. As indicated in Table 4-5, estimated future water savings have been considered as part of SSWC's water use projections.

Table 4-5 Inclusion in Water Use Projections

Submittal Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	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 4.2.6 and Chapter 8
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes
NOTES:	

4.2.7 CHARACTERISTIC FIVE-YEAR WATER USE

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:

(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.

SSWC's projected water demands are provided in five-year increments over the next 25 years (and through CY 2045) in Table 4-3. SSWC's projected water demands and water supplies during a normal year, a single dry year, and a five consecutive year drought over the next 25 years (and through CY 2045) are provided in Chapter 7.

SSWC's "Drought Risk Assessment" (DRA) for the next five years (from CY 2021 through CY 2025) is discussed in Section 7.3. The DRA includes SSWC's projected annual water demands and supplies for each of the next five years and was prepared based on the five driest consecutive years on record. The DRA provides an assessment of SSWC's water service reliability during a drought lasting five years. The DRA reflects anticipated water demands and supplies prior to any expected benefits associated with water supply shortage responses included in SSWC's Water Shortage Contingency Plan (provided in Chapter 8). In addition to historical drought hydrology, SSWC considered impacts to water supplies and demands based on climate change conditions (discussed in Section 4.5) and anticipated regulatory changes, including the urban water use objectives (discussed in Section 4.2.4).

4.3 WORKSHEETS AND REPORTING TABLES

SSWC's current and projected water demands, including the water demands for each of SSWC's water use sectors, are provided in five-year increments over the next 25 years (and through CY 2045) in Tables 4-1, 4-2, and 4-3.

4.3.1 OPTIONAL PLANNING TOOL USE ANALYSIS WORKSHEET

As discussed in Section 4.2.5, DWR has deemed the "Planning Tool Worksheet" as optional and SSWC is not required by DWR to use the tool. SSWC has provided sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. SSWC has also been able to provide water service to

meet maximum day water demands for these years, including during the summer months. A further discussion regarding the reliability of SSWC's water supply sources is provided in Chapter 7.

4.3.2 DWR 2020 UWMP SUBMITTAL TABLES

SSWC's current water demands for each of the water use sectors during CY 2020 are provided in Table 4-1. SSWC's projected water demands for each of the water use sectors, in five-year increments over the next 25 years (and through CY 2045), are provided in Table 4-2. SSWC's total projected water demands, including potable and recycled water, in five-year increments over the next 25 years (and through CY 2045), are summarized in Table 4-3. SSWC's distribution system water losses over the past five years, based on the sum of the real and apparent water losses, are summarized in Table 4-4. SSWC's annual AWWA water loss audits are provided in Appendix E.

4.4 WATER USE FOR LOWER INCOME HOUSEHOLDS

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.

California Health and Safety Code 50079.5.

(a) "Lower income households" means persons and families whose income does not exceed the qualifying limits for lower income families… In the event the federal standards are discontinued, the department shall, by regulation, establish income limits for lower income households for all geographic areas of the state at 80 percent of area median income, adjusted for family size and revised annually.

SSWC's water demands projections provided in Table 4-3 include projected water demands for lower income single-family and multi-family households. A lower income

household is defined as a household with an income less than 80 percent of the area median income, adjusted for family size. For the purpose of this evaluation, the entire Los Angeles County was used for the "area median income". The total number of lower income households within SSWC's service area was estimated based on billing records provided by SSWC, a review of the Los Angeles County 2035 General Plan, a review of median household income range statistics provided by the US Census Bureau (https://data.census.gov/cedsci/), and a review of GIS maps of Disadvantaged Communities[2] (DACs), including block groups, tracts, and places, provided by DWR. The estimated number of lower income households located within SSWC's service area is approximately 43 percent of the total number of households. As indicated in Table 4-2, the total projected residential water demands within SSWC in 2045 is estimated at about 3,413 AFY. Based on a 43 percent use factor of total residential water demands, the projected water demand for lower income households will be about 1,470 AFY by the CY 2045. The projected water demands for lower income households were included in SSWC's total projected water demands, as indicated in Table 4-5.

4.5 CLIMATE CHANGE CONSIDERATIONS

CWC 10630.

It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied, while accounting for impacts from climate change.

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

[2] GIS information for DACs is based on data from the US Census showing census block groups, tracts, and places identified as disadvantaged communities (less than 80 percent of the State's median household income) or severely disadvantaged communities (less than 60 percent of the State's median household income)

the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following…

(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 is defined as "the average course or condition of the weather at a place usually over a period of years as exhibited by temperature, wind velocity and precipitation[3]". A change in the climate which produces a greater amount of precipitation (i.e. more runoff and/or snowpack) and lower temperatures is generally a benefit to water supplies. However, drought conditions which may result in decreased precipitation, decreased runoff, and increased temperature may adversely affect an urban water supplier's ability to meet demands by potentially impacting supplies. Consequently, the focus of impacts of climate change is on these adverse consequences.

Section 6.2 of this Plan describes SSWC's sources of water supply, management practices associated with those sources, and the long-term reliability of those sources. Section 7.3 includes a Drought Risk Assessment which considers the potential impacts of climate change to SSWC's water supply sources. Chapter 8 provides a detailed discussion of SSWC's Water Shortage Contingency Plan, including but not limited to, the six standard water shortage levels in the event climate change results in a reduction to water supplies associated with a periodic drought condition. The following is a discussion of SSWC's sources of supply, how those sources may be impacted by climate change, and the proactive actions SSWC and other local/regional water managers may take to address the potential climate change impacts on water supplies.

[3] www.merriam-webster.com

Imported Water Supplies

SSWC relies on the Main San Gabriel Basin Watermaster and the Raymond Basin Management Board to manage the groundwater supplies of the Main Basin and Raymond Basin. Consequently, SSWC indirectly relies on the Metropolitan Water District of Southern California (MWD) for those imported water supplies. MWD has prepared a Regional 2020 Urban Water Management Plan which includes a discussion (Section 2.6 in MWD's 2020 UWMP) of the reliability of its water supplies and the impacts of climate change and is incorporated by reference in this Plan. Furthermore, SSWC is a sub-agency of the Upper San Gabriel Valley Municipal Water District which has also provided a discussion of climate change considerations and that discussion is included by reference. The following is a brief summary of MWD's efforts:

Resource Planning

- MWD has established the Robust Decision Making (RDM) approach to identify vulnerabilities to its water supplies. Climate change information was applied to MWD's simulated water supply scenarios to demonstrate the vulnerability of water supplies to climate change.

- MWD altered the inflow hydrology scenarios on the Colorado River simulation model to reflect modified inflow to MWD's Colorado River aqueduct.

Knowledge Sharing and Research Support

- MWD is an active and founding member of the Water Utility Climate Alliance (WUCA) which includes 12 nationwide partners collaborating on climate change considerations. As such, MWD shares agency actions on climate change and

adaptation. WUCA has also released numerous research papers on climate change.

Implementation of Programs and Policies

- MWD's programs include the use of solar energy, use of ride share programs, and reduction of greenhouse emissions. Collectively these actions are intended to impact the effects of climate change.

Groundwater Supplies – Main San Gabriel Basin

SSWC relies on groundwater produced from the Main San Gabriel Basin as discussed in Section 6.2.2. The Main Basin (which is included as a subbasin of the San Gabriel Valley Basin, Basin Number 4-13 pursuant to DWR Bulletin 118) has been identified by DWR as a very low-priority groundwater basin partially due to the fact it is adjudicated. In that regard, the Main Basin is actively managed by the Main Basin Watermaster and those management activities are described in detail in Section 6.2.2.

Recognizing the potential impacts of climate change on the Main Basin groundwater supplies (decreased local runoff and replenishment, along with increased groundwater production, may lead to decreased groundwater levels), SSWC has used climate tools available on the California Energy Commission's Cal-Adapt website (https://cal-adapt.org/) to identify potential future climate change cycles for the Main Basin. The Cal-Adapt website has been developed by the Geospatial Innovation Facility at the University of California, Berkeley with funding and advisory oversight by the California Energy Commission and California Strategic Growth Council.

To address the uncertainty in future greenhouse gas emissions, Cal-Adapt has developed a Representative Concentration Pathway 4.5 (RCP 4.5) scenario and a Representative Concentration Pathway 8.5 (RCP 8.5) scenario. RCP 4.5 represents a scenario in which

greenhouse gas emissions peak around 2040, then decline and stabilize. RCP 8.5 represents a scenario in which emissions continue to strongly rise through 2050 and plateau around 2100. RCP 4.5 is a "medium" emissions scenario that models a future in which there is an effort made by societies to reduce greenhouse gas emissions, whereas RCP 8.5 is a "business-as-usual" scenario. For SSWC's climate change analysis, the RCP 4.5 scenario was selected.

The Cal-Adapt climate tools also incorporate several General Circulation Models (GCMs), which represent physical processes in the atmosphere, ocean, and land surface. These GCMs projected future climates under conditions such as warm/dry, cooler/wetter, and average simulations. For SSWC's climate change analysis, the average condition GCM (CanESM2) was selected.

The climate tools available on the Cal-Adapt website were used to simulate projected annual precipitation and annual average maximum temperature in the Main Basin. An electronic boundary of the Main Basin was submitted online through the Cal-Adapt website in a "KML" file format (i.e. Google Earth format) and data using several of the available climate tools was generated.

Based on the data generated by the Cal-Adapt simulations (see Appendix F), the average annual rainfall in the Main Basin is projected to be 20.06 inches over the next 25 years (through 2045), compared to historical average of 18.53 inches (from 1950 through 2019). In addition, the average maximum temperature is projected to be 82.0 degrees Fahrenheit compared to a historical average of 78.5 degrees Fahrenheit. Although there may be more precipitation in the future, it may be more likely to fall as rainfall compared to snowfall. The simulations do not denote the duration or intensity of storms contributing to the annual precipitation. Notwithstanding, the San Gabriel River watershed includes a complex and interconnected series of dams, reservoirs and replenishment basins to capture stormwater runoff. In an average to below average year of precipitation, over 95 percent of the precipitation in the watershed is retained within the watershed and is not

lost to the ocean. Consequently, most if not all precipitation (whether it is rain or snowfall) likely will be captured for use in the Main Basin area and not adversely impacted by a potentially higher average annual temperature.

Recognizing these potential impacts to local hydrology resulting from climate change and the resultant impacts to the groundwater supplies, the Main Basin Watermaster has taken (and may reinstate as needed) the following proactive actions to anticipate and circumvent the potential impacts of climate change. These actions will enable SSWC to use rely on the Main Basin as a reliable source of supply.

Judgment Amendments

Since FY 2011-12 the Main Basin Watermaster has become more pro-active by implementing provisions of the Judgment, and developing and instituting new studies, programs and plans to address the drought conditions as they progressively worsened. As a direct result of a multiple-year drought (from 2006 to 2009), the 2012 Judgment Amendments provided Watermaster with increased management flexibility and adaptability; and provided more discretion in making Basin management decisions. A key component of the Judgment Amendments was the new Water Resource Development Assessment (RDA) to be levied on all production. The RDA was designed to help address the potential future unavailability of imported replenishment water supplies, by allowing the Watermaster to collect RDA funds and purchase replenishment water for storage in the Basin to offset a future Replacement Water obligation (discussed in Section 6.2.2).

Storm Water Capture

During FY 2011-12, the Watermaster convened an Ad Hoc Committee on storm water capture to help address the local drought conditions that resulted in the historic low Key Well (representing groundwater elevation in the Main Basin) elevation in 2009. The Ad Hoc Committee performed extensive research and coordinated closely with the Los

Angeles County, Department of Public Works to identify and prioritize several potential new and enhanced storm water capture projects.

Reduce Operating Safe Yield

The adjudicated water rights in the Main Basin are approximately 200,000 AF. Through adoption of an annual Operating Safe Yield the Main Basin Watermaster has the ability to reduce the amount of water rights available to Producers before they must pay an assessment for expensive imported water. The Operating Safe Yield has previously been set at 150,000 AF which has been about 75 percent of the adjudicated total. This action provides producers with an economic incentive to reduce demands.

Cyclic Storage

Cyclic Storage allows a producer who anticipates a Replacement Water obligation to also pre-purchase imported water and store it in the Main Basin to meet its future Replacement Water obligation. The use of Cyclic Storage helps increase groundwater levels, however, wet Replacement Water deliveries are deferred. Consequently, Cyclic Storage water will be applied to Replacement Water obligations for the short-term (one to three years), significantly reducing actual deliveries of Replacement Water. Therefore, with significant amounts of water stored in Cyclic Storage, setting “lower” Operating Safe Yields will have almost no short-term impacts on Basin water levels/supplies.

Conservation

Watermaster passed Resolution No. 03-14-260 declaring “drought conditions” and encouraged all Basin water producers to adopt reduced pumping and water conservation activities at the retail level. Due to conservation efforts in the Main Basin, production decreased from 242,900 AF in FY 2012-13 to 182,800 AF in FY 2015-16, a total of 60,100 AF. Groundwater production was 192,600 AF in FY 2019-20. With less water being

pumped from the Main Basin, this has helped maintain groundwater levels in the Main Basin.

Recycled Water for Replenishment

The Main Basin Watermaster has declared its support for a new recycled water supply project for Main Basin replenishment. When completed, the project could supply up to 100 percent of the overall imported replenishment water requirements.

Basinwide Low Water Vulnerability Assessment

During FY 2013-14, the Main Basin Watermaster initiated an evaluation of the potential impacts to groundwater production wells and local potable water supplies. The Watermaster also updated the basinwide information on water purveyor inter-connections in the event water supply from groundwater wells are reduced.

In-Lieu Program

During FY 2014-15, the Main Basin Watermaster re-instated the In-Lieu Program, where Watermaster funded a Producer's cost difference to take direct delivery of MWD imported water "in-lieu" of pumping from its groundwater wells. The In-Lieu Program provided imported water to the Basin, and preserved groundwater supply in the Basin.

Stormwater Augmentation Program

During FY 2015-16, the Main Basin Watermaster evaluated other ways to help manage the Main Basin water supplies. While Southern California remained in extreme drought, northern California received above-average precipitation. As a result, replenishment water was made available. The Watermaster determined that during the previous five consecutive year drought from FY 2011-12 through 2015-16, nearly 400,000 acre-feet

had been pumped from the Basin and not replaced by local rainfall and local runoff replenishment.

The Water Resource Development Assessment for Stormwater Augmentation Program (RDA II) was developed by the Main Basin Watermaster to help manage Main Basin water supplies under the perceived "worst case" hydrologic conditions, which was assumed to be two additional five consecutive year droughts, using the same hydrologic conditions as the recent FY 2011-12 through 2015-16 severe drought. Based upon ten (10) additional consecutive years of drought, the new RDA II Program is intended to purchase imported replenishment water (when available), for stormwater augmentation, to maintain the Baldwin Park Key Well (Key Well) elevation above 180 feet by the end of the tenth year. This Key Well elevation essentially ensures continued Main Basin water supply to the Main Basin Producers under a worst case, 15-year sustained drought. The RDA II Program has an assessment of $140 per AF on all FY 2019-20 production and is planned to increase to $175 per AF on all FY 2020-21 production. Main Basin Watermaster will use the RDA II funds to purchase untreated imported water to replenish the Basin for the "general benefit" of all Producers within the Main Basin. The RDA II untreated imported water will supplement local stormwater replenishment, enhance overall Main Basin conditions, and have "no right of recovery" using a water right, by any Main Basin producer.

Funding for the RDA II Program is based on the current year's production. For example, assessments on FY 2019-20 production were levied in August 2020 and received by Watermaster by September 20, 2020. Main Basin Watermaster has adopted a plan to purchase a minimum of 31,000 acre-feet in December 2020; 33,551 acre-feet in December 2021; 27,800 acre-feet in December 2022; and 30,000 acre-feet in December 2023, under an MWD Letter Agreement which includes Upper District and Three Valleys Municipal District. This pre-delivered MWD water is purchased out of MWD's Cyclic Storage account, and will be paid for by the Main Basin Watermaster, primarily using

funds from the Resource Development Assessments from Upper District and Three Valleys Municipal District producers.

Groundwater Supplies – Raymond Basin

SGCWD relies on groundwater produced from the Raymond Basin as discussed in Section 6.2.2. The Raymond Basin (Basin Number 4-23 pursuant to DWR Bulletin 118) has been identified by DWR as a very low-priority groundwater basin partially due to the fact it is adjudicated. In that regard, the Raymond Basin is actively managed by the Raymond Basin Watermaster and those management activities are described in detail in Section 6.2.2.

Recognizing the potential impacts of climate change on the Raymond Basin groundwater supplies (decreased local runoff and replenishment, along with increased groundwater production, may lead to decreased groundwater levels), SSWC has used climate tools available on the California Energy Commission's Cal-Adapt website (https://cal-adapt.org/) to identify potential future climate change cycles for the Raymond Basin. The Cal-Adapt website has been developed by the Geospatial Innovation Facility at the University of California, Berkeley with funding and advisory oversight by the California Energy Commission and California Strategic Growth Council.

To address the uncertainty in future greenhouse gas emissions, Cal-Adapt has developed a Representative Concentration Pathway 4.5 scenario and a Representative Concentration Pathway 8.5 scenario. RCP 4.5 represents a scenario in which greenhouse gas emissions peak around 2040, then decline and stabilize. RCP 8.5 represents a scenario in which emissions continue to strongly rise through 2050 and plateau around 2100. RCP 4.5 is a "medium" emissions scenario that models in future in which there is an effort made by societies to reduce greenhouse gas emissions, whereas RCP 8.5 is a "business-as-usual" scenario. For SSWC's climate change analysis, the RCP 4.5 scenario was selected.

The Cal-Adapt climate tools also incorporate several GCMs, which represent physical processes in the atmosphere, ocean, and land surface. These GCMs projected future climates under conditions such as warm/dry, cooler/wetter, and average simulations. For SSWC's climate change analysis, the average condition GCM (CanESM2) was selected.

The climate tools available on the Cal-Adapt website were to simulate projected annual precipitation and annual average maximum temperature in the Raymond Basin. An electronic boundary of the Raymond Basin was submitted online through the Cal-Adapt website in a "KML" file format (i.e. Google Earth format) and data using several of the available climate tools was generated.

Based on the data generated by the Cal-Adapt simulations (see Appendix F), the average annual rainfall in the Raymond Basin is projected to be 23.90 inches over the next 25 years (through 2045), compared to historical average of 22.42 inches (from 1950 through 2019). In addition, the average maximum temperature is projected to be 80.8 degrees Fahrenheit compared to a historical average of 77.2 degrees Fahrenheit. Although there may be more precipitation in the future, it may be more likely to fall as rainfall compared to snowfall. The simulation does not denote the duration or intensity of the storms contributing to the annual precipitation. Notwithstanding, the San Gabriel River watershed (including the Rio Hondo, which is a distributary of the San Gabriel River) includes a complex and interconnected series of dams, reservoirs and replenishment basins to capture stormwater runoff. In an average to below average year of precipitation, over 95 percent of the precipitation in the watershed is retained within the watershed and is not lost to the ocean. Consequently, most if not all precipitation (whether it is rain or snowfall) likely will be captured and not adversely impacted by a potentially higher average annual temperature.

Recognizing these potential impacts to local hydrology resulting from climate change and the resultant impacts to the groundwater supplies, the Raymond Basin Watermaster has taken (and may reinstate as needed) the following proactive actions to anticipate and

circumvent the potential impacts of climate change. These actions will enable SSWC to continue use rely on the Raymond Basin as a reliable source of supply.

Temporary Reduction of Allowed Production

Historical prolonged droughts have caused groundwater levels to decrease resulting in the Raymond Basin Watermaster to temporarily reduce the amount of groundwater which may be produced. The decreased production is designed to promote recovery of groundwater levels. At such time the groundwater levels have recovered the program may be suspended, but can be reinstated as needed in the event groundwater levels decrease in the future.

Recognizing allowed pumping is limited, SSWC along with other Raymond Basin producers have taken steps to reduce water demands to address the potential gap between supply and demand in the event demands cannot be entirely reduced. SSWC has production facilities in the Main Basin and has the ability to shift production, if needed.

CHAPTER 5

SB X7-7 BASELINES, TARGETS, AND 2020 COMPLIANCE

LAY DESCRIPTION – CHAPTER 5

SB X7-7 BASELINES, TARGETS, AND 2020 COMPLIANCE

Chapter 5 (SB X7-7 Baselines, Targets, and 2020 Compliance) of SSWC's 2020 Plan discusses and provides the following:

- The Water Conservation Act of 2009 (or SB X7-7) required the State of California achieve a 20 percent reduction in urban water use by the year 2020.
- SB X7-7 required urban water suppliers, including SSWC, to develop a "2020 Water Use Target" to assist the State of California to achieve the 20 percent reduction. The 2020 Water Use Target represents the amount of water each person should use per day (i.e. gallons per capita per day or GPCD) by the year 2020.
- SSWC previously determined its 2020 Water Use Target during the preparation of its 2015 Plan by completing standardized tables (or the SB X7-7 Verification Form) to demonstrate compliance with the Water Conservation Act of 2009. SSWC's SB X7-7 Verification Form has not been modified and is included as part of this 2020 Plan as Appendix G. SSWC's 2020 Water Use Target is 138 GPCD.
- SSWC's 2020 Plan incorporates the 2020 Water Use Target and determines compliance based on actual water use.
- The population within SSWC's service area during CY 2020 is estimated at 25,252. SSWC's population was estimated using the California Department of Water Resources' online "Population Tool" which incorporates United States Census

data in a Geographic Information Systems (or GIS) format to estimate the population within SSWC's service area.

- SSWC's "gross water" use represents the total volume of water entering its distribution system from its water supply sources. SSWC's annual gross water during CY 2020 was 3,625 AF.
- SSWC's per-capita water use is based on the gross water use divided by the population. SSWC's per-capita water use during CY 2020 was 128 GPCD. SSWC's confirmed 2020 Water Use Target is 138 GPCD. SSWC's per-capita water use during CY 2020 meets the 2020 Water Use Target.
- SSWC has also demonstrated compliance with the 2020 Water Use Target by completing the SB X7-7 2020 Compliance Form (provided in Appendix H).

5.1 GUIDANCE FOR WHOLESALE SUPPLIERS

CWC 10608.12.

(l) "Urban wholesale water supplier," means a water supplier, either publicly or privately owned, that provides more than 3,000 acre-feet of water annually at wholesale for potable municipal purposes.

SSWC is not a wholesale agency and is not required by DWR to complete Section 5.1.

5.2 SB X7-7 FORMS AND SUMMARY TABLES

SSWC previously calculated its "Baseline" water periods and a "2020 Water Use Target" in its 2015 Plan. There were two different Baseline periods identified (including a "10-year Baseline" period and a "5-year Baseline" period). The average water use within these two Baseline periods, expressed in gallons per capita per day (GPCD), represents the Baseline water use for each period.

A 10-year Baseline period was identified by SSWC and information regarding the starting year, ending year, and average water use rate during this period is provided in Table 5-1. SSWC determined its 2020 Water Use Target by incorporating 95 percent of the regional use target for the South Coast Hydrologic Region.

According to Section 10608.22 of the California Water Code, if an urban retail water supplier's 5-year Baseline period water use is greater than 100 GPCD, the calculated 2020 Water Use Target may need to be reduced. A 5-year Baseline period was identified by SSWC and information regarding the starting year, ending year, and average water use rate during this period is provided in Table 5-1. The average water use rate during the identified 5-year Baseline period was used to determine whether the 2020 Water Use Target required any adjustments.

SSWC's calculated 2020 Water Use Target was compared with the 95 percent of the average water use within the 5-year Baseline to determine whether any adjustments were required. The Baseline water uses were used to confirm SSWC's 2020 Water Use Target (which represents the per capita water use target for 2020 pursuant to SB X7-7).

5.2.1 SB X7-7 VERIFICATION FORM (BASELINES AND TARGETS)

SSWC's service area has not changed (i.e., expansion or contraction) since the 2015 Plan was prepared. SSWC's 2020 Plan incorporates the Baseline water uses and 2020 Water Use Target calculated in the 2015 Plan. SSWC previously prepared standardized tables (SB X7-7 Verification Form) to demonstrate compliance with the Water Conservation Act of 2009 in its 2015 Plan, including compliance with SSWC's 2015 Interim Water Use Target. SSWC's SB X7-7 Verification Form has not been modified and is included as part of this 2020 Plan as Appendix G.

5.2.2 SB X7-7 2020 COMPLIANCE FORM

SSWC's compliance with its 2020 Water Use Target is summarized in the following sections. SSWC has also demonstrated compliance with the 2020 Water Use Target by completing the SB X7-7 2020 Compliance Form (provided in Appendix H).

5.2.3 SUBMITTAL TABLES 5-1 AND 5-2

Summary information from the SB X7-7 Verification Form and from the SB X7-7 2020 Compliance Form is provided in Tables 5-1 and 5-2 below.

Table 5-1 Baselines and Targets Summary from SB X7-7 Verification Form

Submittal Table 5-1 Baselines and Targets Summary From SB X7-7 Verification Form *Retail Supplier or Regional Alliance Only*				
Baseline Period	Start Year *	End Year *	Average Baseline GPCD*	Confirmed 2020 Target*
10-15 year	*2000*	*2009*	*146*	*138*
5 Year	*2004*	*2008*	*145*	
**All cells in this table should be populated manually from the supplier's SBX7-7 Verification Form and reported in Gallons per Capita per Day (GPCD)*				
NOTES:				

Table 5-2 2020 Compliance from SB X7-7 2020 Compliance Form

Submittal Table 5-2: 2020 Compliance From SB X7-7 2020 Compliance Form *Retail Supplier or Regional Alliance Only*				
2020 GPCD				
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* *(Adjusted if applicable)*	2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
128	*0*	*128*	*138*	*Y*
**All cells in this table should be populated manually from the supplier's SBX7-7 2020 Compliance Form and reported in Gallons per Capita per Day (GPCD)*				
NOTES:				

5.2.4 REGIONAL UWMP/REGIONAL ALLIANCE

As discussed in Section 2.4, SSWC's 2020 Plan was not developed as part of a Regional Alliance. Information from SSWC's 2020 Plan is not required to be reported in a Regional Alliance report.

5.3 BASELINE AND TARGET CALCULATIONS FOR 2020 UWMPS

5.3.1 SUPPLIER SUBMITTED 2015 UWMP, NO CHANGE TO SERVICE AREA

The general requirements associated with determining the Baseline periods, Baseline water uses, and 2020 Water Use Target were previously provided by DWR. Based on the requirements, SSWC calculated the Baseline water uses and 2020 Water Use Target in its 2015 Plan. SSWC's service area has not changed (i.e. expansion or contraction) since the 2015 Plan was prepared. SSWC's 2020 Plan incorporates the Baseline water

uses and 2020 Water Use Target calculated in the 2015 Plan. SSWC's SB X7-7 Verification Form is included in Appendix G.

As discussed in Section 5.2.1, SSWC prepared standardized tables (SB X7-7 Verification Form) to demonstrate compliance with the Water Conservation Act of 2009. SSWC's SB X7-7 Verification Form is provided in Appendix G and includes Baseline water uses and the 2020 Water Use Target. A summary of the Baseline water uses and 2020 Water Use Target is provided below.

The California Water Code allows an urban water supplier to calculate up to a 15-year Baseline period if at least 10 percent of its 2008 retail water demands were met through recycled water deliveries within its service area, otherwise calculation of a 10-year Baseline period is required. SSWC did not receive any recycled water deliveries during CY 2008. Consequently, a 10-year Baseline period was identified by SSWC and information regarding the starting year, ending year, and average water use rate during this period is provided in Table 5-1. Water systems could potentially identify their 2020 Water Use Target by calculating 80 percent of the 10-year Baseline water use.

According to Section 10608.22 of the California Water Code, if an urban retail water supplier's 5-year Baseline period water use is greater than 100 GPCD, the calculated 2020 Water Use Target may need to be reduced. A 5-year Baseline period was identified by SSWC and information regarding the starting year, ending year, and average water use rate during this period is provided in Table 5-1. The average water use rate during the identified 5-year Baseline period was greater than 100 GPCD. As a result, the 5-year Baseline period was used to determine whether the 2020 Water Use Target required any adjustments.

SSWC's calculated 2020 Water Use Target was compared with the 95 percent of the average water use within the 5-year Baseline to determine whether any adjustments were

required. SSWC's confirmed 2020 Water Use Target is 138 GPCD and is summarized in Table 5-1.

5.4 METHODS FOR CALCULATING POPULATION AND GROSS WATER USE

5.4.1 SERVICE AREA POPULATION

CWC 10608.20.

(e) An urban retail water supplier shall include in its urban water management plan due in 2010 pursuant to Part 2.6 (commencing with Section 10610) the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

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

CWC 10644.

(a)(2) The plan… shall include any standardized forms, tables, or displays specified by the department.

A discussion regarding SSWC's compliance with the 2020 Water Use Target is provided in Section 5.5. Compliance with the 2020 Water Use Target is based on the total estimated population within SSWC's water service during CY 2020. Because U.S. Census 2020 population data was not available during the preparation of the 2020 Plan, SSWC reviewed the methodologies recommended by DWR to estimate the CY 2020 population. The population methodology used by SSWC in the 2020 Plan is provided below.

SSWC initially reviewed the available historical population within its service area for population growth trends. SSWC determined historical U.S. Census population within its service area using DWR's Population Tool (https://wuedata.water.ca.gov/). SSWC's service area boundary was uploaded to DWR's Population Tool in a "KML" file format (i.e. Google

Earth format). The KML file was originally created in a GIS shapefile format and converted into a KML format. The uploaded KML file represents SSWC's service area boundary from 1990 to present (2020). DWR's Population Tool utilized U.S. Census data from 1990, 2000, and 2010, along with SSWC's service area boundary, to estimate the population served by SSWC in the years 1990, 2000, and 2010.

DWR's Population Tool was also used to estimate the 2020 population within SSWC's service area. The total number of service connections within SSWC's service area (including residential, commercial, and industrial connections) in the years 2010 and 2020 were entered into the Population Tool. Based on the historical U.S. Census populations (from 1990, 2000, and 2010) and available data regarding total service connections for those corresponding years, DWR's Population Tool estimated the population within SSWC's service area for CY 2020 at 25,252. The CY 2020 population is consistent with the historical population growth trends. SSWC's CY 2020 population is presented in Table 3 of the SB X7-7 2020 Compliance Form.

5.4.2 GROSS WATER USE

CWC 10608.12.

(h) "Gross water use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

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

California Code of Regulations Title 23 Division 2 Chapter 5.1 Article 1, Section 596.

(a) An urban retail water supplier that has a substantial percentage of industrial water use in its service area is eligible to exclude the process water use of existing industrial water customers from the calculation of its gross water use to avoid a disproportionate burden on another customer sector.

Gross water use represents the total volume of water entering a distribution system (but excludes recycled water deliveries, water placed into long term storage, water conveyed to another supplier, water delivered for agricultural use, and process water if there is a substantial percentage used for industrial purposes) over a 12-month period. SSWC's annual gross water use amounts are based on the total amount of water entering SSWC's distribution system from its water supply sources (including groundwater production wells). The annual gross water use by SSWC during CY 2020 was 3,625 AF.

The annual gross water use amounts within SSWC for each year of the Baseline periods (discussed in Section 5.2) are provided in SB X7-7 Verification Form, Table 4 (Appendix G). A further discussion of the Baseline periods is provided in Section 5.2.

SSWC currently does not use indirect recycled water within its service area. SSWC is not required by DWR to complete SB X7-7 Verification Form, Table 4-B.

Industrial process water is not subtracted from SSWC's gross water use provided in SB X7-7 Verification Form, Table 4. SSWC is not required by DWR to complete SB X7-7 Verification Form, Table 4-C.1, Table 4-C.2, Table 4-C.3, Table 4-C.4, and Table 4-D.

5.5 2020 COMPLIANCE DAILY PER CAPITA WATER USE (GPCD)

CWC 10608.12.

(f) "Compliance daily per capita water use" means the gross water use during the final year of the reporting period, reported in gallons per capita per day.

CWC 10608.20.

(e) An urban retail water supplier shall include in its urban water management plan due in 2010… compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

As discussed in Section 5.4.2, the annual gross water use by SSWC during CY 2020 was 3,625 AF. As discussed in Section 5.4, the estimated population within SSWC's service area for CY 2020 is 25,252. As a result, SSWC's per-capita water use during CY 2020 was 128 GPCD. As discussed in Section 5.3, SSWC's confirmed 2020 Water Use Target is 138 GPCD. SSWC's per-capita water use during CY 2020 meets the 2020 Water Use Target and is in compliance. SSWC has also demonstrated compliance with the 2020 Water Use Target by completing the SB X7-7 2020 Compliance Form (provided in Appendix H).

5.5.1 2020 ADJUSTMENTS FOR FACTORS OUTSIDE OF SUPPLIER'S CONTROL

CWC 10608.24.

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

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

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

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

(2) If the urban retail water supplier elects to adjust its estimate of compliance daily per capita water use due to one or more of the factors described in paragraph (1), it shall provide the basis for, and data supporting, the adjustment in the report required by Section 10608.40.

Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, Methodology 4.

This section discusses adjustments to compliance-year GPCD because of changes in distribution area caused by mergers, annexation, and other scenarios that occur between the baseline and compliance years.

SSWC has determined its compliance with the 2020 Water Use Target without adjusting its annual gross water use during CY 2020.

5.5.2 SPECIAL SITUATIONS

SSWC's 2020 Plan incorporates the Baseline water uses and 2020 Water Use Target calculated in the 2015 Plan. There were no special situations that required SSWC to recalculate the Baseline water uses and 2020 Water Use Target.

5.5.3 IF SUPPLIER DOES NOT MEET 2020 TARGET

SSWC's per-capita water use during CY 2020 meets the 2020 Water Use Target and is in compliance.

5.6 REGIONAL ALLIANCE

As discussed in Section 2.4, SSWC's 2020 Plan was not developed as part of a Regional Alliance. Information from SSWC's 2020 Plan is not required to be reported in a Regional Alliance report.

CHAPTER 6

WATER SUPPLY CHARACTERIZATION

LAY DESCRIPTION – CHAPTER 6

WATER SUPPLY CHARACTERIZATION

Chapter 6 (Water Supply Characterization) of SSWC's 2020 Plan discusses and provides the following:

- SSWC's water supply sources include groundwater pumped from the Main San Gabriel Basin and Raymond Basin.
- SSWC's main source of water supply is groundwater pumped from the Main Basin.
- A tabulation of SSWC's historical water supplies is provided in Section 6.1.
- A discussion regarding SSWC's groundwater supplies from the Main Basin and Raymond Basin is provided. Information regarding basin location, adjudication, management, water levels, water quality, water rights, and historical production is provided.
- SSWC's proposed future projects to maximize its water supply resources are discussed.
- SSWC's "energy intensity" is discussed and represents the quantity of energy consumed, measured in kilowatt hours, divided by the volume of water, measured in acre-feet over a one-year period. The total energy intensity associated with SSWC's water management processes was estimated during CY 2020.

In this Chapter, SSWC will identify and describe each of its sources of water supply. In addition, SSWC will describe the following:

- Management of each water supply source;
- Current provisions of a basin adjudication or Groundwater Sustainability Plan (GSP), as applicable, pertaining to management of groundwater supplies;
- Measures SSWC is taking to develop potential new sources of water supply (as applicable); and
- Opportunities for exchanges and transfers on a long- or short-term basis.

The characterization of SSWC's water supply sources will account for the anticipated availability during a normal year, a single dry year, a five consecutive year drought, along with projections through CY 2045.

6.1 WATER SUPPLY ANALYSIS OVERVIEW

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:

(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.

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

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

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).

SSWC's water supply sources include groundwater pumped from the Main San Gabriel Basin and Raymond Basin. A tabulation of SSWC's historical water supplies is provided below.

Calendar Year	System Water Supply Sources (AF)		Total
	Groundwater		
	Main San Gabriel Basin	Raymond Basin	
2011	3,340	512	3,852
2012	3,698	380	4,078
2013	2,875	1,317	4,192
2014	2,446	1,557	4,002
2015	2,015	1,222	3,237
2016	2,124	1,135	3,258
2017	2,260	1,250	3,510
2018	2,413	1,103	3,516
2019	2,340	988	3,329
2020	2,541	1,084	3,625

Source: Data provided by Sunny Slope Water Company

6.1.1 SPECIFIC ANALYSIS APPLICABLE TO ALL WATER SUPPLY SOURCES

The section below provides a discussion of the following information to the extent practical:

- SSWC's existing and planned sources of water supply are identified;
- Each source of supply is quantified in five-year increments through CY 2045;
- The anticipated supply availability under normal, single dry, and five consecutive dry years, and any other water year conditions included in the Drought Risk Assessment (see Chapter 7) are described;
- The management of each water supply in correlation with other identified supplies is described.
- Information pertinent to the reliability analysis, including climate change effects, is considered.

SSWC historically has relied on groundwater pumped from the Main San Gabriel Basin and Raymond Basin. The following descriptions summarize SSWC's sources of supply (detailed descriptions are provided in Section 6.2).

Existing and Planned Sources of Supply

Purchased Treated Imported Water

SSWC does not purchase treated imported water supplies to meet its water demands.

Groundwater

SSWC has historically pumped groundwater from the Main Basin and Raymond Basin as described in Section 6.2.2. In addition, Section 6.2.2 provides a detailed discussion of the existing and planned supply of the groundwater, including a description of the management and reliability of those groundwater supplies. Table 6-8 summarizes the actual groundwater supplies for CY 2020. In addition, Table 6-9 summarizes the projected water supply, in five-year increments, through CY 2045 under varying water supply conditions.

Surface Water

SSWC does not use surface water supplies to meet its water demands.

Storm Water

SSWC has historically received groundwater from the Main Basin and Raymond Basin. Management and use of the stormwater runoff from the San Gabriel River watershed is crucial to groundwater management. However, SSWC currently does not have its own program to beneficially use stormwater runoff as a direct source of supply.

Wastewater and Recycled Water

SSWC does not use recycled water sources to meet its water demands.

6.1.2 OTHER CHARACTERIZATION CONSIDERATIONS

A description of SSWC's water system along with a map of its service area is included in Chapter 3. In addition, the agencies which manage the water supplies used by SSWC

are identified in Section 6.2.1 (imported water), 6.2.2 (groundwater), 6.2.3 (surface water), 6.2.4 (stormwater), and 6.2.5 (recycled water).

6.1.3 OPTIONAL PLANNING TOOL

As discussed in Section 4.2.5, DWR has created an optional "Planning Tool Worksheet" for water suppliers to review and assess monthly water use trends. DWR has deemed the tool as optional and SSWC is not required by DWR to use the tool. Section 6.1 provides a tabulation of SSWC's historical annual water uses for each water supply source. During the past 10 years, SSWC experienced a five consecutive year drought within its service area from CY 2011 to CY 2015. Historical records indicate SSWC's annual water demands had been greater prior to CY 2011. SSWC has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. In addition, SSWC has been able to provide water service to meet maximum day water demands for these years, including during the summer months. A further discussion regarding the reliability of SSWC's water supply sources is provided in Chapter 7.

6.2 NARRATIVE SECTIONS FOR SUPPLIER'S UWMP WATER SUPPLY CHARACTERIZATION

6.2.1 PURCHASED OR IMPORTED WATER

SSWC does not purchase treated imported water supplies to meet its water demands.

6.2.2 GROUNDWATER

CWC 10631.

(b)(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.

(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.

MAIN SAN GABRIEL BASIN

Main Basin - Sustainable Groundwater Management Act

The Main San Gabriel Basin is a sub-basin of the San Gabriel Valley Basin pursuant to DWR Bulletin 118, Basin Number 4-013. Pursuant to the Sustainable Groundwater Management Act of 2014 (SGMA), the Main Basin was named as an adjudicated groundwater basin and is exempt from the requirements of developing a GSP and

subsequently was designated a very-low-priority basin in DWR's 2019 SGMA Basin Prioritization report. In compliance with SGMA, the Main Basin Watermaster submits its Annual Report to DWR.

Main Basin - Adjudication

Main Basin – Long Beach Judgment

On May 12, 1959, the Board of Water Commissioners of the City of Long Beach, the Central Basin Municipal Water District (Central District), and the City of Compton, as plaintiffs, filed an action against San Gabriel Valley Water Company and 24 other producers of groundwater from the San Gabriel Valley as defendants. This action sought a determination of the rights of the defendants in and to the waters of the San Gabriel River system and to restrain the defendants from an alleged interference with the rights of plaintiffs and persons represented by the Central District in such waters. After six years of study and negotiation a Stipulation for Judgment was filed on February 10, 1965, and the Judgment (Long Beach Judgment) was entered on September 24, 1965. Under the terms of the Long Beach Judgment, the water supply of the San Gabriel River system was divided at Whittier Narrows between San Gabriel Valley upstream and the coastal plain of Los Angeles County downstream. A copy of the Long Beach Judgment can be found in Appendix I. During water year 2018-19, the Water Replenishment District of Southern California (WRD) intervened in the Long Beach Judgment for the purpose of assuming all of the requirements of the Plaintiffs and the City of Long Beach, Central District, and the City of Compton were dismissed from their collective responsibilities by the Court.

Under the terms of the Long Beach Judgment, the area downstream from Whittier Narrows (Lower Area), the plaintiffs and those they represent, are to receive a quantity of usable water annually from the San Gabriel River system comprised of usable surface flow, subsurface flow at Whittier Narrows and water exported to the Lower Area. This

annual entitlement is guaranteed by the area upstream of Whittier Narrows (Upper Area), the defendants, and provision is made for the supply of Make-up Water by the Upper Area for years in which the guaranteed entitlement is not received by the Lower Area.

Make-up Water is imported water purchased by the Main Basin Watermaster and delivered to agencies in Central District to satisfy obligations under the Long Beach Judgment. The entitlement of the Lower Area varies annually, dependent upon the 10-year average annual rainfall in the San Gabriel Valley for the 10 years ending with the year for which entitlement is calculated.

The detailed operations described in the Long Beach Judgment are complex and requires continuous compilation of data so that annual determinations can be made to assure compliance with the Long Beach Judgment. In order to do this, a three-member Watermaster was appointed by the Court, one representing the Upper Area parties nominated by and through Upper District, one representing the Lower Area parties nominated by and through WRD, and one jointly nominated by Upper District and WRD. This three-member board is known as the San Gabriel River Watermaster (River Watermaster).

The River Watermaster meets periodically during the year to adopt a budget, to review activities affecting water supply in the San Gabriel River system area, to compile and review data, to make determinations of usable water received by the Lower Area, and to prepare its annual report to the Court. The River Watermaster has rendered annual reports for the water years 1963-64 through 2019-20 and operations of the river system under that Court Judgment and through the administration by the River Watermaster have been satisfactory since its inception.

One major result of the Long Beach Judgment was to leave the Main Basin free to manage its water resources so long as it meets its downstream obligation to the Lower Area under the terms of the Long Beach Judgment. Upper District intervened in the Long

Beach case as a defendant to enforce the provisions of a Reimbursement Contract, which was incorporated into the Long Beach Judgment to assure that any Make-up Water obligations under the terms of the Long Beach Judgment would be satisfied.

Main Basin – Main Basin Judgment

The Upper Area then turned to the task of developing a water resources management plan to optimize the conservation of the natural water supplies of the area. Studies were made of various methods of management of the Main Basin as an adjudicated area and a report thereon was prepared for the Upper San Gabriel Valley Water Association, an association of water producers in the Main Basin. After due consideration by the Association, Upper District was requested to file as plaintiff, and did file, an action on January 2, 1968, seeking an adjudication of the water rights of the Main Basin and its Relevant Watershed. After several years of study (including verification of annual water production) and negotiations, a stipulation for entry of Judgment was approved by a majority of the parties, by both the number of parties and the quantity of rights to be adjudicated. Trial was held in late 1972 and the Judgment (Main Basin Judgment) was entered on January 4, 1973. The Main Basin Judgment was most recently amended on June 21, 2012. A copy of the Main Basin Judgment can be found in Appendix J.

Under the terms of the Main Basin Judgment, all rights to the diversion of surface water and production of groundwater within the Main Basin and its Relevant Watershed were adjudicated. The Main Basin Judgment provides for the administration of the provisions of the Main Basin Judgment by a nine-member Main Basin Watermaster. Six of those members are nominated by water producers (producer members) and three members (public members) are nominated by the Upper District and the San Gabriel Valley Municipal Water District (SGVMWD), which overlie most of the Basin. The nine-member board employs a staff, an attorney and a consulting engineer. The Main Basin Watermaster holds public meetings on a regular monthly basis throughout the year.

The Main Basin Judgment does not restrict the quantity of water, which parties may extract from the Main Basin. Rather, it provides a means for replacing all annual extractions in excess of a Party's annual right to extract water with Supplemental Water. The Main Basin Watermaster annually establishes an Operating Safe Yield for the Main Basin which is then used to allocate to each Party its portion of the Operating Safe Yield which can be produced free of a Replacement Water Assessment. If a producer extracts water in excess of its right under the annual Operating Safe Yield, it must pay an assessment for Replacement Water, which is sufficient to purchase one acre-foot of Supplemental Water to be spread in the Main Basin for each acre-foot of excess production. All water production is metered and is reported quarterly to the Main Basin Watermaster.

In addition to Replacement Water Assessments, the Main Basin Watermaster levies an Administration Assessment to fund the administration of the Main Basin management program under the Court Judgment and a Makeup Obligation Assessment in order to fulfill the requirements for any makeup Obligation under the Long Beach Judgment and to supply fifty percent of the administration costs of the River Watermaster service. The Main Basin Watermaster levies an In-lieu Assessment and may levy special Administration Assessments.

Water rights under the Main Basin Judgment are transferable by lease or purchase so long as such transfers meet the requirements of the Judgment. There is also provision for Cyclic Storage Agreements by which Parties and non-parties may store imported supplemental water in the Main Basin under such agreements with the Main Basin Watermaster pursuant to uniform rules and conditions and Court approval.

The Main Basin Judgment provides that the Main Basin Watermaster will, insofar as practicable, spread imported water in the Main Basin to maintain the groundwater elevation at the Key Well above 200 feet. Under the terms of the Long Beach Judgment, any excess surface flows that pass through the Main Basin at Whittier Narrows to the

Lower Area (which is then conserved in the Lower Area through percolation to groundwater storage) is credited to the Upper Area as Usable Surface Flow.

Main Basin - Description

The Main San Gabriel Basin is located within the San Gabriel Valley, which is located in southeastern Los Angeles County and is bounded on the north by the San Gabriel Mountains; on the west by the San Rafael and Merced Hills, on the south by the Puente Hills and the San Jose Hills, and on the east by a low divide between the San Gabriel River system and the Upper Santa Ana River system, as shown on Figure 3.

The San Gabriel River and its distributary, the Rio Hondo, drain an area of about 490 square miles upstream of Whittier Narrows. Whittier Narrows is a low gap between the Merced and Puente Hills, just northwest of the City of Whittier, through which the San Gabriel River and the Rio Hondo flow to the coastal plain of Los Angeles County. Whittier Narrows is a natural topographic divide and a subsurface restriction to the movement of groundwater between the Main Basin and the Coastal Plain. The approximately 490 square miles of drainage area upstream of Whittier Narrows consists of about 167 square miles of valley lands and about 323 square miles of mountains and foothills.

The Main Basin includes essentially the entire valley floor of the San Gabriel Valley with the exception of the Raymond Basin and Puente Basin. The boundaries of the Main Basin are the Raymond Basin on the northwest, the base of the San Gabriel Mountains on the north, the groundwater divide between San Dimas and La Verne and the lower boundary of the Puente Basin on the east, and the common boundaries between Upper District and Central District through Whittier Narrows on the southwest. The common water supply of the Main Basin does not include the Raymond Basin, the area northerly of Raymond Hill Fault, which was adjudicated in the Pasadena v. Alhambra case (Superior Court of the County of Los Angeles, 1944). The Puente Basin, although

tributary to the Main Basin, is not included in the Main Basin administered by the Main Basin Watermaster.

The Main Basin (administered by the Main Basin Watermaster) is a large groundwater basin replenished by stream runoff from the adjacent mountains and hills, by rainfall directly on the surface of the valley floor, subsurface inflow from Raymond Basin and Puente Basin, and by return flow from water applied for overlying uses. Additionally, the Main Basin is replenished with imported water. The Main Basin serves as a natural storage reservoir, transmission system and filtering medium for wells constructed therein.

There are three municipal wholesale water districts overlying and/or partially overlying the Main Basin. The three districts are Upper District, SGVMWD, and Three Valleys Municipal Water District (TVMWD).

Urbanization of the San Gabriel Valley began in the early part of the twentieth century, but until the 1940s, agricultural land use occupied more area than residential and commercial land use. After World War II, agricultural areas reduced rapidly and tend to be located in the easterly portion of the Main Basin and along power transmission rights of way adjacent to the San Gabriel River. Agricultural plots are discontinuous and relatively small. There are several major industrial areas adjacent to the San Gabriel River and within other portions of the valley. The greatest area of land use in the valley is for residential and commercial purposes. DWR Bulletin 118 does not identify the Main Basin as being in overdraft.

Main Basin - Geology

The Main Basin consists of a roughly bowl-shaped depression of bedrock, filled over millions of years with alluvial deposits. This bowl-shaped depression is relatively deep; the elevation at the base of the groundwater reservoir declines from about 800 feet above mean sea level (MSL) in the vicinity of San Dimas, at the northeast corner of the Main

Basin, to about 2,200 feet below MSL in the vicinity of South El Monte (DWR, 1966, Plate II).

Most of the alluvium deposited within this depression is debris from the San Gabriel Mountains, washed and blown down from the side of the mountains over time. This process has also resulted in the materials of the Main Basin varying in size from relatively coarse gravel nearer the mountains to fine and medium-grained sand containing silt and clay as the distance from the mountains increases. The principal water-bearing formations of the Main Basin are unconsolidated and semi-consolidated sediments, which vary in size from coarse gravel to fine-grained sands. The interstices between these alluvial particles throughout the Main Basin fill with water and transmit water readily to wells. The thickness of the water-bearing materials in the Main Basin ranges from 200 to 300 feet in the northeastern portion of the Main Basin near the mountains (DPW, 1934, page 141) to nearly 4,000 feet in the South El Monte area (DWR, 1966, page 31).

The soils overlying the Main Basin average about six feet in depth. Soil depths are generally greater at the perimeter of the valley and decrease toward the center along the San Gabriel River. These soils are residual, formed in place through chemical, mechanical and plant weathering processes. The infiltration rates of these soils are greater along the natural channels and their adjacent flood plains. Lower infiltration rates are found in the perimeter areas of the valley. Since the valley is mostly urbanized, a significant portion of the area has been paved and many miles of stream channel have been lined for flood control purposes, thus decreasing infiltration of water through streambeds. Detailed basin geology is discussed in the report entitled “Planned Utilization of Ground Water Basins, San Gabriel Valley, Appendix A: Geo-hydrology” (DWR, 1966).

Main Basin - Hydrology

The total fresh water storage capacity of the Main Basin is estimated to be about 9.5 million acre-feet. Of that, about 1,100,000 acre-feet have been used historically in Main Basin operations. The change in groundwater elevation at the Baldwin Park Key Well[4] is representative of changes in groundwater in the Main Basin. One foot of elevation change at the Key Well is roughly the equivalent of about 8,000 acre-feet of water storage. The historical high groundwater elevation was recorded at over 329.1 feet in April 1916, at which time Main Basin storage was estimated to be about 8,700,000 acre-feet. The historical low was recorded in November 2018 at 169.4 feet, at which time Main Basin storage was estimated to be about 7,400,000 acre-feet. The Key Well hydrograph illustrates the cyclic nature of basin recharge and depletion. The hydrograph also illustrates the dramatic recharge capability of the Main Basin during wet periods.

Generally, water movement in the Main Basin is from the San Gabriel Mountains on the north to Whittier Narrows to the southwest. Groundwater movement in the northern and northeastern regions of the Main Basin is affected by faulting. For example, the Raymond Fault located in the northwesterly portion of the Main Basin separates the Raymond Basin from the Main Basin.

The Main Basin is an unconfined aquifer. Although clay deposits appear mixed with the soils in several locations in the Main Basin and there are various clay lenses throughout the Main Basin, they do not coalesce to form a single impermeable barrier for the movement of subsurface water. The Main Basin therefore operates as a single, unconfined aquifer. As previously mentioned, a thorough discussion of basin hydrogeology is contained in the report “Planned Utilization of Ground Water Basins, San Gabriel Valley, Appendix A: Geo-hydrology” (DWR, 1966).

[4] The Baldwin Key Well is a water-level monitoring well located in the City of Baldwin Park used to determine when imported water may or may not be spread in the Basin.

Within the Main Basin there are a number of identified sub-basins. These include the Upper San Gabriel Canyon Basin, Lower San Gabriel Canyon Basin, Glendora Basin, Foothill Basin, Way Hill Basin and San Dimas Basin. In addition, the Puente Basin is tributary to the Main Basin from the southeast, between the San Jose and Puente Hills, but is not included in the Main Basin adjudication.

Main Basin – Groundwater Replenishment

The major sources of recharge to the Main Basin are direct penetration of rainfall on the valley floor, percolation of runoff from the mountains, percolation of imported water and return flow from applied water. Rainfall occurs predominantly in the winter months and is more intense at higher elevations and closer to the San Gabriel Mountains.

The magnitude of annual recharge from direct penetration of local rainfall and return flow from applied water is not easily quantifiable. Percolation of runoff from the mountains and valley floor along with percolation of imported water has only been estimated. The DPW maintains records on the amount of local and imported water conserved in water spreading facilities and stream channels.

The San Gabriel River bisects the Main Basin. The San Gabriel River originates at the confluence of its west and east forks in the San Gabriel Mountains. It flows through the San Gabriel Canyon and enters the Main Basin at the mouth of the canyon north of the City of Azusa. The San Gabriel River flows southwesterly across the valley to Whittier Narrows, a distance of about 15 miles. It exits San Gabriel Valley at Whittier Narrows, and transverses the Coastal Plain in a southerly direction to reach the Pacific Ocean at Alamitos Bay near the City of Long Beach.

The San Gabriel River is joined and fed by tributary creeks and washes. In the Main Basin these include: Big Dalton Wash, which originates in the San Gabriel Mountains;

Walnut Creek, which originates at the northeast end of the San Jose Hills; and San Jose Creek, which originates in the San Gabriel Mountains, but which travels around the southerly side of the San Jose Hills through the Puente Narrows before joining the San Gabriel River just above Whittier Narrows.

The channel of the San Gabriel River bifurcates in the upper middle portion of the Main Basin, forming a channel to the west of and parallel to the San Gabriel River, known as the Rio Hondo. Tributaries draining the westerly portion of the Main Basin, including Sawpit Wash, Santa Anita Wash, Eaton Canyon Wash, Rubio Wash and Alhambra Wash, all of which originate in the San Gabriel Mountains or the foothills, feed the Rio Hondo. The Santa Anita Wash, Eaton Canyon Wash, Rubio Wash and Alhambra Wash all cross the Raymond Basin area before entering the Main Basin. The channel of the Rio Hondo passes through Whittier Narrows westerly of the San Gabriel River, and then flows southwesterly to join the Los Angeles River on the Coastal Plain.

To protect residents of the San Gabriel Valley from flooding that can result during periods of intensive rainfall, the Los Angeles County Department of Public Works and the U.S. Army Corps of Engineers (Corps of Engineers) have constructed an extensive system of dams, debris basins, reservoirs and flood control channels. The dams and reservoirs also operate as water conservation facilities. The dams and reservoirs that control the flow of the San Gabriel River and the Rio Hondo include: Cogswell Reservoir on the west fork of the San Gabriel River, San Gabriel Reservoir at the confluence of the west and east forks of the San Gabriel River, Morris Reservoir near the mouth of the San Gabriel Canyon, Santa Fe Reservoir in the northerly portion of the Main Basin and Whittier Narrows Reservoir at the southwestern end of the San Gabriel Valley.

Many of the stream channels tributary to the San Gabriel River have been improved with concrete banks (walls) and concrete-lined bottoms. These stream channel improvements have significantly reduced the area of previous stream channels and reduce Main Basin recharge. A number of off-stream groundwater replenishment facilities have been

established along these stream channels to offset such reductions in recharge. Some of these facilities are accessible to imported water supplies, while some facilities receive only local runoff.

The paths of the surface streams are mirrored in the soils and in the direction of groundwater movement in the Main Basin. The tributary creeks and washes, carrying smaller amounts of water, generally flow toward the center of the San Gabriel Valley, while the direction of flow of the major streams, the San Gabriel River and the Rio Hondo, is from the mountains in the north to Whittier Narrows in the southwest. In similar fashion, the primary direction of groundwater movement in the Main Basin is from the north to the southwest, with contributing movement generally from the east and west toward the center of the Main Basin. The greatest infiltration and transmissivity rates of soils in the Main Basin are from north to south, with the maximum rates found in the center of the valley along the stream channels. Generally, the Main Basin directs groundwater to the southwest through Whittier Narrows.

The Main San Gabriel Basin has a freshwater storage capacity of about 8.7 million acre-feet when the Key Well groundwater elevation is at 329.1 feet, of which about 125 feet of elevation change, or about 1,000,000 acre-feet, has been used for historical Basin operations. Local runoff is stored in a series of reservoirs operated by DPW and diverted into spreading grounds to replenish the groundwater supply. Groundwater recharge occurs every year and is exhibited as increasing water levels. High rainfall years can be identified as increases in the groundwater level of 30 feet or more in one year.

In addition to groundwater replenishment with local storm runoff, the Watermaster maintains records of each producer's water rights and annual production. Although there is no limit on the quantity of water that may be produced, production in excess of a water right is subject to a Replacement Water assessment. Watermaster uses funds collected from producers' overproduction to purchase imported water from municipal water districts. Upper District and TVMWD obtain their water from MWD. SGVMWD has its own contract

for SWP water. Watermaster coordinates purchase and delivery of imported water to replenish the ground water basin, thus offsetting the producers' overproduction and making the Basin whole.

Groundwater Management Plan

The Main Basin has been adjudicated and management of the local water resources within the Main Basin is based on that adjudication. Management of the water resources in the Main Basin is based upon Watermaster services under two Court Judgments: River Watermaster[5] and Main Basin Watermaster[6]. SSWC is a party to both Judgments and as such participates in these cases. SSWC also participates in the Main Basin management described in the Main Basin Watermaster document entitled "Five-Year Water Quality and Supply Plan."

The following sections provide a description of the two Judgments and the Five-Year Water Quality and Supply Plan that make up the groundwater management plan for the Main Basin. In addition, this section describes Upper District's and San Gabriel Basin Water Quality Authority's (WQA) policies to promote groundwater basin clean-up.

Operations of the Groundwater Basin

Through the Long Beach Judgment and the Main Basin Judgment, operations of the Main Basin are optimized to conserve local water to meet the needs of the parties of the Main Basin Judgment.

[5] Board of Water Commissioners of the City of Long Beach, et al., v. San Gabriel Valley Water Company, et al., Los Angeles County Case No. 722647, Judgment entered September 24, 1965.
[6] Upper San Gabriel Valley Municipal Water District v. City of Alhambra, et al., Los Angeles County Case No. 924128, Judgment entered January 4, 1973.

Typically, water producers within Upper District rely upon groundwater from Main Basin for their water supply. The City of Alhambra has agreed to receive treated, imported water as part of the Cooperative Water Exchange Agreement (CWEA) to reduce the groundwater extractions from the western portion of the Main Basin and the associated drawdown concerns.

Imported water for groundwater replenishment is delivered through the flood control channels and diverted and spread at spreading grounds through Main Basin Watermaster's agreement with DPW. Groundwater replenishment utilizes imported water and is considered Replacement Water under the terms of the Main Basin Judgment. In addition, it can be stored in the Main Basin through Cyclic Storage agreements, authorized by terms of the Main Basin Judgment, but such stored water may be used only to supply Supplemental Water to the Main Basin Watermaster.

The Main Basin Watermaster has entered into a Cyclic Storage Agreement with each of the three municipal water districts. One is with MWD and Upper District, which permits MWD to deliver and store imported water in the Main Basin in an amount not to exceed 200,000 acre-feet for future Replacement Water use. The second Cyclic Storage Agreement is with TVMWD and permits TVMWD to deliver and store up to 50,000 acre-feet for future Replacement Water use. The third is with SGVMWD and permits SGVMWD to deliver and store up to 50,000 acre-feet for future Replacement Water use.

Imported Makeup Water has been delivered to lined stream channels and conveyed to the Lower Area. Makeup Water is required to be delivered to the Lower Area by the Upper Area when the Lower Area entitlement under the Long Beach Judgment exceeds the usable water received by the Lower Area. Imported water is used to fulfill the Makeup Water Obligation when the amount of Makeup Water cannot be fulfilled by reimbursing the Lower Area interests for their purchase of recycled water. The amount of recycled water for which reimbursement may be made as a delivery of Makeup Water is limited by

the terms of the Long Beach Judgment to the annual deficiency in Lower Area Entitlement water or to 14,735 acre-feet, whichever is the lesser quantity.

Salt and Nutrient Management Plan

On February 9, 2009, the State Water Board adopted Resolution 2009-0011 that created the "Recycled Water Policy". The Recycled Water Policy recognized that "…collapse of the Bay Delta ecosystem, climate change, and continuing population growth have combined with a severe drought on the Colorado River, and failing levees in the Delta, to create a new reality that challenges California's ability to provide the clean water need for a healthy environment, a healthy population and a healthy economy, both now and in the future." The Recycled Water Policy encourages appropriate water recycling, water conservation and use of stormwater to increase water supplies within California.

The primary goal of the San Gabriel Valley Salt and Nutrient Management Plan (SNMP) is to assist the Main Basin Watermaster and participating/potential stakeholders to comply with the Recycled Water Policy regarding the use of the recycled water from municipal wastewater treatment facilities as a safe source of water supply, while maintaining the water quality objectives for salt and nutrients in the Basin Plan established by the Los Angeles Regional Water Quality Control Board. The primary objective of the SNMP is to comply with the specific requirements described in the Recycled Water Policy. They include:

1) Characterization of the Main Basin,
2) Identification of sources of salt, nutrients, and constituents of emerging concern (CECs) (when deemed necessary by the Recycled Water Policy) and their fate and transport,
3) Estimation of salt, nutrients, and CECs (if necessary) loadings and assimilative capacities,
4) Identification of water recycling and stormwater recharge/use goals and objectives,
5) Verification of compliance with Resolution No. 68-16 through antidegradation analyses, and
6) Development of a monitoring plan to verify compliance with the Basin water quality objectives.

The SNMP reviewed the geology, hydrology and hydrogeology of the San Gabriel Basin, along with the institutional and management structure for the San Gabriel Basin. Total Dissolved Solids (TDS), Nitrate, Sulfate, and Chloride were identified as the primary constituents of concern. Sources of loading (precipitation, subsurface inflow, infiltration of applied water, storm runoff and untreated imported water replenishment) and unloading (groundwater pumping and subsurface outflow) were included in a spreadsheet computer model, along with average water quality data for TDS, Nitrate, Sulfate, and Chloride, on an annual basis.

The SNMP proposed to use the Main Basin Watermaster's existing Title 22 water quality monitoring program for groundwater and San Gabriel River water, with increased frequencies of monitoring for Total Dissolved Solids and nitrate, to satisfy the monitoring plan requirement of the SNMP. The following are recommendations for on-going salt and nutrient management in the San Gabriel Basin:

- Regularly update the SNMP spreadsheet data so that impacts of potential future projects on salt and nutrient loading may be evaluated.
- Continue to collect water quality data throughout the San Gabriel Basin.
- Continue to meet with stakeholders on a regular basis to coordinate San Gabriel Basin management activities with an emphasis on stormwater runoff replenishment and continued use of SWP water for groundwater replenishment

In-Lieu Program

During calendar year 2014, the ability to deliver Supplemental Water (State Water Project (SWP) water and Colorado River water) to replenish the Basin was severely limited. Consequently, during fiscal year 2014-15, Watermaster developed and implemented a program to have Producers purchase additional treated imported water for direct delivery in-lieu of pumping groundwater (In-Lieu Program), in an effort to reduce the amount of groundwater pumped from the Basin. The Watermaster uses the In-Lieu Assessment on all production to fund the additional direct cost incurred by a producer participating in the In-Lieu Program. Watermaster has implemented this program during fiscal year 2014-15 and 2015-16.

Supplemental Water Reliability Storage Program (RDA)

The 2012 Main Basin Judgment Amendments provided the Main Basin Watermaster with increased management flexibility and adaptability; and provided more discretion in making Basin management decisions. A key component of the Judgment Amendments was the new Water Resource Development Assessment to be levied on all production. The Supplemental Water Reliability Storage Program provides a process for the Main Basin Watermaster to generate funds to purchase and store Supplemental Water in the Basin to be used (applied) when there are limitations on the availability of Supplemental Water from the Responsible Agencies. As a result of the severe long-term drought

conditions resulting in significant reductions on the quantity of local water replenishment to the Basin, the Main Basin Watermaster expanded RDA into the Supplemental Water Stormwater Augmentation Program described below.

Supplemental Water Stormwater Augmentation Program

The Water Resource Development Assessment for Stormwater Augmentation Program (RDA II) was developed by the Main Basin Watermaster to help manage Basin water supplies under the perceived "worst case" hydrologic conditions, which was assumed to be two additional consecutive 5-year droughts, using the same hydrologic conditions as the recent FY 2011-12 through 2015-16 severe drought. Based upon ten (10) additional consecutive years of drought, the new RDA II Program is intended to purchase imported replenishment water (when available), for stormwater augmentation, to maintain the Key Well elevation above 180 feet by the end of the tenth year. This Key Well elevation essentially ensures continued Basin water supply to the Basin Producers under a worst case, 15-year sustained drought. The RDA II Program has an assessment of $140/AF on all FY 2019-20 production and is planned to increase to $175/AF on all FY 2020-21 production. The Main Basin Watermaster will use the RDA II funds to purchase untreated imported water to replenish the Main Basin for the "general benefit" of all Producers within the Main Basin. Unlike the original RDA (Supplemental Water Replenishment Storage Program), which is a Watermaster pre-purchase of Replacement Water, the RDA II untreated imported water will supplement local stormwater replenishment, enhance overall Basin conditions, and have "no right of recovery" using a water right, by any Main Basin producer.

MWD Letter Agreement

In 2017, Main Basin Watermaster and Upper District negotiated the pre-delivery of 80,000 acre-feet of imported replenishment water from MWD (Letter Agreement). All 80,000 acre-feet was to be stored in MWD's cyclic storage account. This pre-delivered MWD

water would be paid for over a 5-year payment schedule (starting in December of fiscal year 2017-18), by the Watermaster, using annual Replacement Water assessments, RDA funds within Upper District and TVMWD (Responsible Agency) area and revenue from transfers into producer cyclic storage, and applying those funds to purchase the pre-delivered water on an annual basis.

In 2019, an extension to the MWD Letter Agreement was developed. Under the extension, MWD planned a new delivery of about 110,000 acre-feet to its Cyclic Storage account during calendar year 2019. The 110,000 acre-feet would be paid for over a similar 5-year payment schedule starting in December 2019. These cyclic storage deliveries and payments will be made by Main Basin Watermaster to MWD, through Upper District and TVMWD.

Three Year Purchased Water Plan

On June 21, 2012, the Superior Court of the State of California for the County of Los Angeles (Court) approved certain proposed Judgment amendments. Some of these Judgment amendments help Watermaster address Supplemental Water supply concerns. One of the amendments, Exhibit H(3)(d), requires that "…on or before November 1 of each year, Watermaster shall prepare and distribute to the Responsible Agencies a three-year projection of its Supplemental Water purchases from each agency. Watermaster shall, to the extent feasible, coordinate the tentative schedule for delivery and payment of those purchases with each agency."

Judgment Amendment, Section 45(b)(7), allows Watermaster to "…levy an Assessment on all Pumping, as determined through Rules and Regulations … to support the purchase, financing, and/or development of new or additional Supplemental Water sources, in cooperation with one or more Responsible Agencies as appropriate." Section 45(b)(7) established the "Water Resource Development Assessment" for the purchase or development of additional Supplemental Water supplies. Based on these Judgment

amendments, Main Basin Watermaster also amended its Rules and Regulations to include a policy/criteria to develop the "Three-Year Purchased Water Plan" (Three-Year Plan). Under Section 26(d)(5) of the Rules and Regulations, the first priority for spreading of Supplemental Water is "…Supplemental Water ordered by Watermaster from Responsible Agencies for direct delivery to the Basin as Replacement Water…". Recognizing many Producers currently pre-purchase Supplemental Water for delivery into their Cyclic Storage accounts, those pre-purchases are considered to have the same priority as Replacement Water.

Exhibit M of Watermaster's amended Rules and Regulations[7] provides the policy/criteria for the "Three-year Purchased Water Plan," and requires Main Basin Watermaster to estimate Supplemental Water purchases from the Responsible Agencies for each of the three subsequent years. The policy/criteria indicate estimated Supplemental Water purchases may be based on the following:

1) *The first year shall be, at a minimum, the total Replacement Water requirement for the three Responsible Agencies (Upper District, San Gabriel District, and Three Valleys.*
2) *The second and third years may be estimated as follows:*
   a) *Operating Safe Yield (OSY) established by Watermaster for the current fiscal year and next succeeding years;*
   b) *Alternative projections of the OSY;*
   c) *Evaluation of potential wet, average, and dry hydrologic conditions;*
   d) *Future groundwater production provided by or estimated for each producer; and*
   e) *Depending on Basin conditions, Watermaster may consider additional factors as necessary.*

As a result of the negotiated pre-delivery of significant MWD imported replenishment water by Watermaster, and subsequently transferred by MWD to Upper District and

[7] https://www.watermaster.org/about-us (Rules and Regulations)

TVMWD, the above policy/criteria has been superseded by this delivery of imported water to supplement local rainfall and runoff replenishment.

Five-Year Water Quality and Supply Plan

The Main Basin Watermaster was created in 1973 to resolve water issues that had arisen among water users in the San Gabriel Valley. Main Basin Watermaster's mission was to generally manage the water supply of the Main Basin. During the late 1970s and early 1980s, significant groundwater contamination was discovered in the Main Basin. The contamination was caused in part by past practices of local industries that had carelessly disposed of industrial solvents referred to as Volatile Organic Compounds (VOCs) as well as by agricultural operations that infiltrated nitrates into the groundwater. Cleanup efforts were undertaken at the local, state, and federal level.

Local water agencies adopted a joint resolution in 1989 regarding water quality issues that stated Main Basin Watermaster should coordinate local activities aimed at preserving and restoring the quality of groundwater in the Main Basin. The joint resolution also called for a cleanup plan. In 1991, the Court granted Main Basin Watermaster the authority to control pumping for water quality purposes. Accordingly, Main Basin Watermaster added Section 28 to its Rules and Regulations regarding water quality management. The new responsibilities included development of a Five-Year Water Quality and Supply Plan[8], updating it annually, submitting it to the California Regional Water Quality Control Board, Los Angeles Region, and making it available for public review by November 1 of each year.

Main Basin Watermaster prepares and annually updates the Five-Year Water Quality and Supply Plan in accordance with the requirements of the Section 28 Rules and Regulations. The objective is to coordinate groundwater-related activities so that both

[8] https://www.watermaster.org/reports

water supply and water quality in the Main Basin are protected and improved. Many important issues are detailed in the Five-Year Plan, including how Main Basin Watermaster plans to:

1. Monitor groundwater supply and quality;
2. Develop projections of future groundwater supply and quality;
3. Ensure adequate supplemental water is available for groundwater replenishment;
4. Review and cooperate on cleanup projects, and provide technical assistance to other agencies;
5. Assure that pumping does not lead to further degradation of water quality in the Basin;
6. Address Perchlorate, N-nitrosodimethylamine (NDMA), and other emerging contaminants in the Basin;
7. Develop a cleanup and water supply program consistent with the U.S. Environmental Protection Agency (USEPA) plans for its San Gabriel Basin Superfund sites; and
8. Coordinate and manage the design, permitting, construction, and performance evaluation of the Baldwin Park Operable Unit (BPOU) cleanup and water supply plan.

The Main Basin Watermaster, in coordination with Upper District, has worked with state and federal regulators, along with local water companies to clean up water supplies. Section 28 of the Main Basin Watermaster's Rules and Regulations require all producers (including SSWC) to submit an application to 1) construct a new well, 2) modify an existing well, 3) destroy a well, or 4) construct a treatment facility. The Main Basin Watermaster prepares a report on the implications of the proposed activity. As a party to the Main Basin Judgment, SSWC reviews a copy of these reports and is provided the opportunity to submit comments on the proposed activity before the Main Basin Watermaster Board takes final action.

Water Quality Authority 406 Plan

The WQA was established by the State Legislature on February 11, 1993 to develop, finance and implement groundwater treatment programs in the Main Basin. Section 406 of the WQA Act requires the WQA "to develop and adopt a basinwide groundwater quality management and remediation plan" that is required to be consistent with the EPA's National Contingency Plan ("NCP") and Records of Decision ("ROD") and all requirement of the Los Angeles Regional Water Quality Control Board ("LARWQCB"). According to the WQA Act, the Section 406 Plan, which is incorporated in this Plan by reference, must include:

1) Characterization of Basin contamination;
2) A comprehensive clean up;
3) Strategies for financing the design, construction, operation and maintenance of groundwater cleanup facilities;
4) Provision for a public information program; and
5) Coordination of activities with federal, state, and local entities.

WQA reviews and adopts the Section 406 Plan on an annual basis and as necessary, makes revisions according to changing regulatory, political and/or funding environments. In support of the Section 406 Plan, WQA also adopts an annual FY budget (July 1 through June 30) which includes all projects (actual or planned) WQA is facilitating through its participation during that time period. The budget identifies the various funding sources, and combinations thereof, to ensure full funding for each project (capital and/or O&M) can be achieved.

Main Basin – Historical and Projected Basin Production

SSWC currently produces groundwater from the Main Basin. SSWC's share of the Operating Safe Yield is 1.12770 percent. Over the past five years, SSWC has produced

2,124 AFY to 2,541 AFY, with an average of 2,335 AFY from the Main Basin. SSWC's projected production from the Main Basin, over the next 25 years in five-year increments, is provided in Table 6-9.

As discussed above, the Main Basin is managed by the Main Basin Watermaster. The most recent amendments to the Main Basin Judgment were made in June 2012. Historical fluctuation of the Key Well elevation illustrates that since the Main Basin was adjudicated in 1973, it generally operated between an elevation 250 feet and 200 feet above MSL. Furthermore, at an elevation of 169 feet above MSL at the Key Well, which represents the historical low, the Main Basin has about 7,400,000 acre-feet of available storage. During the period of management under the Judgment, significant drought events have occurred from 1969 to 1977, 1983 to 1991, 1998 to 2004, 2006 to 2009, and 2011 to 2015. In each drought cycle the Main Basin has been managed to maintain water levels.

RAYMOND BASIN

Raymond Basin - Sustainable Groundwater Management Act

The Raymond Basin is identified as Basin Number 4-013 pursuant to DWR Bulletin 118. The Sustainable Groundwater Management Act of 2014, identifies the Raymond Basin as an adjudicated groundwater basin, is exempt from the requirements of developing a GSP and subsequently was designated a very-low-priority basin in DWR's 2019 SGMA Basin Prioritization report. In compliance with SGMA, the Raymond Basin Watermaster submits its Annual Report to DWR.

Raymond Basin - Adjudication

In 1937, the City of Pasadena filed suit to adjudicate water rights of the Raymond Basin. A copy of the Raymond Basin adjudication is located in Appendix K. DWR was retained

to prepare a Report of Referee which described the geology and hydrogeology of the Raymond Basin and identified the Safe Yield of the Raymond Basin as 21,900 acre-feet. In 1950, the City of Pasadena requested the Safe Yield of the Raymond Basin to be re-determined. Subsequently, the Court issued a Modification of Judgment on April 29, 1955 increasing the Safe Yield of the Raymond Basin to 30,622 acre-feet. This is referred to as the "Decreed Right of 1955" and water rights for all parties are provided. On January 17, 1974, the second modification of the Raymond Basin Judgment was signed allowing Parties credit for spreading of canyon diversions in spreading grounds in the vicinity of the Arroyo Seco, Eaton Wash and Santa Anita Creek Canyon. On March 26, 1984, the third modification of the Raymond Basin Judgment was signed establishing the Raymond Basin Management Board as the Watermaster for the Raymond Basin.

The Raymond Basin Judgment adjudicated groundwater rights based on a long-term average yield of the Raymond Basin. The Raymond Basin Judgment allows a party to exceed its Decreed Right by no more than 10 percent, which will be deducted from the following year's total allowable extraction. Conversely, a party is not allowed to carryover more than 10 percent of its Decreed Right to a subsequent year.

Raymond Basin – Description

The Raymond Basin is located in Los Angeles County about 10 miles north-easterly of downtown Los Angeles. Raymond Basin is a wedge in the northwesterly portion of the San Gabriel Valley and is bounded on the north by the San Gabriel Mountains, on the west by the San Rafael Hills and is separated from the Main San Gabriel Basin on the southeast by the Raymond Fault. The Raymond Basin is divided into an eastern unit, which is the Santa Anita sub-area, and the Western unit which is the Pasadena sub-area and the Monk Hill Basin. The location of the Raymond Basin and the subareas, as shown on Figure 4, the surface area of Raymond Basin is about 40.9 square miles. The principal streams in the Raymond Basin are the Arroyo Seco, Eaton Wash and Santa Anita Wash.

The Arroyo Seco drains to the Los Angeles River, while Eaton Wash and Santa Anita Wash drain to the Rio Hondo, a distributary of the San Gabriel River.

The geology of the Raymond Basin is described in detail in the "Report of Referee" prepared in 1943 by the State of California Division of Water Resources. The Raymond Basin is roughly triangular in shape. Its northern boundary, about twelve miles in length, is formed by a portion of the southerly front of the San Gabriel Mountains. The western boundary of the Raymond Basin is about eight miles long and is also composed of the same Basement Complex rocks which form the mountains and are continuous at depth, together with a small area of marine Tertiary sediment at the southern end. The Raymond Fault, the southern boundary of the triangle, crosses the Valley floor for a distance of about nine miles, connecting a granitic spur from the mountains at the eastern end of the Raymond Basin with Tertiary sediments outcropping in its southwestern corner.

The Raymond Fault separates Raymond Basin from the Main San Gabriel Basin. The fault zone is not completely impervious, and groundwater can flow across this boundary into the Main Basin, particularly in the northeasterly portion of the boundary. The source of natural groundwater supply to the Raymond Basin is direct rainfall, percolation from surface runoff from the northern and western sides, and presumably underground percolation of water from the mountain mass to the alluvium.

DWR describes the hydrogeology of the Raymond Basin in its Bulletin 118 report, Basin Number 4-023. According to the report, the water-bearing materials of the Raymond Basin are dominated by unconsolidated Quaternary alluvial gravel, sand, and silt deposited by streams flowing out of the San Gabriel Mountains. Younger alluvium typically follows active streambeds and reaches a maximum thickness of about 150 feet. Older alluvium generally thickens southward from the mountain front, reaching a maximum of about 1,140 feet near Pasadena, then thins to about 200 feet near the Raymond Fault. However, confined groundwater conditions have existed locally in the

Raymond Basin, particularly along the Raymond Fault near Raymond Hill where layers of finer grained sediments become more abundant.

The Raymond Fault trends east-northeast and acts as a groundwater barrier along the southern boundary of the Raymond Basin. This fault acts as a complete barrier along its western end and becomes a less effective barrier at its eastward end. East of Santa Anita Wash, this fault ceases to be an effective barrier and the flow of groundwater southward into the Main Basin becomes essentially unrestricted. A north-trending divide paralleling the Eaton Wash separates both surface and subsurface water flow in the eastern portion of the Raymond Basin. The water level is higher on the eastern side of this divide, ranging from 300 feet higher in the north to about 50 feet higher in the south. Monk Hill, an emergent mound of consolidated bedrock within the Raymond Basin, causes groundwater to flow around it, but does not appreciably change the regional flow pattern. Groundwater elevation contour maps for the Raymond Basin are presented in the Raymond Basin Annual Reports[9].

Natural recharge to the Raymond Basin is mainly from direct percolation of precipitation and percolation of ephemeral stream flow from the San Gabriel Mountains in the north. The principal streams bringing surface inflow are the Arroyo Seco, Eaton Creek and Santa Anita Creek. Some stream runoff is diverted into spreading grounds and some is impounded behind small dams allowing the water to infiltrate and contribute to groundwater recharge of the Raymond Basin. An unknown amount of underflow enters the Raymond Basin from the San Gabriel Mountains through fracture systems.

No recent estimates of available groundwater storage have been made for in the Raymond Basin. DWR (1971) study estimated the available stored water to be 1,000,000 acre-feet in 1970, leaving about 450,000 acre-feet of storage space available.

[9] https://www.raymondbasin.org/reports

Groundwater quality within the Raymond Basin is generally good quality with regards to most constituents except for high fluoride concentrations in the foothills and high nitrate concentrations in the Monk Hill and Pasadena Subareas. VOCs including Trichloroethylene (TCE) and Perchloroethylene (PCE) have been detected in the Raymond Basin (particularly near the Arroyo Seco). In 1997, Perchlorate was first detected in several monitoring wells at the National Aeronautics and Space Administration's (NASA) Jet Propulsion Laboratory (JPL) Superfund Site. Additionally, the Raymond Basin Watermaster monitors for Hexavalent Chromium and other constituents to manage water quality effectively in the Raymond Basin.

Raymond Basin - Historical Production

The Decreed Right of 1955 provided SSWC with water rights to 1,558.0 AFY from the Pasadena Subarea. Due to previous multiple dry year conditions, the Raymond Basin Management Board has phased in a 30 percent reduction requirement over five years for all Decreed Rights to the Pasadena Subarea, beginning fiscal year 2009-10. As a result, SSWC's current adjusted right to the Pasadena Subarea is 1,090.6 AFY (0.7 x 1,558.0 AFY). Over the past five years, SSWC has produced 988 AFY to 1,250 AFY, with an average of 1,112 AFY from the Raymond Basin. SSWC's projected production from the Raymond Basin, over the next 25 years in five-year increments, is provided in Table 6-9.

Table 6-1 Groundwater Volume Pumped

Submittal Table 6-1 Retail: Groundwater Volume Pumped						
☐	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 ***Drop Down List*** *May use each category multiple times*	Location or Basin Name	2016*	2017*	2018*	2019*	2020*
Add additional rows as needed						
Alluvial Basin	Main Basin	2,124	2,260	2,413	2,340	2,541
Alluvial Basin	Raymond Basin	1,135	1,250	1,103	988	1,084
	TOTAL	3,259	3,510	3,516	3,328	3,625
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

6.2.3 SURFACE WATER

SSWC does not use surface water supplies to meet its water demands.

6.2.4 STORMWATER

SSWC does not directly use stormwater to meet its water demands.

6.2.5 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, and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, 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.

SSWC does not have access to recycled water supplies due to the lack of infrastructure to convey recycled water to SSWC. Subject to availability of recycled water, SSWC would have to construct transmission and distribution facilities to deliver recycled water to customers within its service area. Additional information regarding the potential use of recycled water is provided below.

6.2.5.1 RECYCLED WATER COORDINATION

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…

SSWC does not have access to recycled water due to the lack of infrastructure to convey recycled water supplies to SSWC. Los Angeles County Sanitation Districts' (LACSD) San Jose Creek Water Reclamation Plant (SJCWRP) and Whittier Narrows Water Reclamation Plant (WNWRP), from which SSWC would purchase recycled water supplies, are located outside SSWC's service area.

Subject to the availability of recycled water, SSWC would need to construct transmission and distribution facilities to deliver recycled water to customers within its service area.

6.2.5.2 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.

Wastewater generated within SSWC's service area is treated by LACSD. Wastewater is collected within the sewer collection systems of Cities located within SSWC's service area. The local sewers tie into LACSD's regional trunk sewers. The regional trunk sewer lines deliver wastewater to one or more water reclamation plants owned by LACSD for treatment. The water reclamation plants serving SSWC's service area include the WNWRP and the Joint Water Pollution Control Plant (JWPCP). The JWPCP and

WNWRP are located outside SSWC's service area and are wholly owned and operated by LACSD. The percentage breakdown between the three LACSD plants in treating the wastewater from SSWC's customers is unknown. LACSD estimates approximately 69 gallons per person per day of wastewater is generated within LACSD's service area. Based on a CY 2020 population of 25,252 within SSWC's service area, the estimated amount of wastewater collected within SSWC's service area is approximately 1.7 million gallons per day (about 1,900 AFY), as shown in Table 6-2. As indicated previously and in Table 6-3, the JWPCP and WNWRP are located outside of SSWC's service area and are wholly owned and operated by LACSD.

LACSD's JWPCP, which began operation in 1928, currently has a treatment capacity of about 300 million gallons per day (MGD). The treatment level is primary and secondary treatment with disinfection. Solids collected in primary and secondary treatment with disinfection. The JWPCP plant serves a population of approximately 3.5 million people. Solids collected in primary and secondary treatment are processed in anaerobic digestion tanks where bacteria break down organic material and produce methane gas. Treated wastewater is ultimately disinfected prior to being discharged to the Pacific Ocean. Though highly treated, effluent from the JWPCP does not meet recycled water standards and is therefore not re-used for such purposes. However, all water discharged to the ocean is monitored to ensure compliance with applicable local, state, and federal standards for discharge water.

The WNWRP began operations in 1962 and has a treatment capacity of about 15 MGD. The WNWRP provides coagulated, filtered, and disinfected tertiary effluent. All wastewater treated at the WNWRP meets recycled water standards. The method of disposal when treated recycled water is not used (non-recycled) is discharge to the San Gabriel River/Rio Hondo and eventually flows to the ocean.

LACSD's JWPCP, which began operation in 1928, currently has a treatment capacity of about 300 MGD. The treatment level is primary and secondary treatment with disinfection.

The JWPCP plant serves a population of approximately 3.5 million people. Solids collected in primary and secondary treatment are processed in anaerobic digestion tanks where bacteria break down organic material and produce methane gas. Treated wastewater is ultimately disinfected prior to being discharged to the Pacific Ocean. All water discharged to the ocean is monitored to ensure compliance with applicable local, state, and federal standards for discharge water.

Table 6-2 Wastewater Collected Within Area in 2020

Submittal Table 6-2 Retail: Wastewater Collected Within Service Area in 2020						
☐	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? *Drop Down List*	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? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
Los Angeles County Sanitation Districts	Estimated	130	Los Angeles County Sanitation Districts	Joint Water Pollution Control Plant	No	No
Los Angeles County Sanitation Districts	Estimated	1,770	Los Angeles County Sanitation Districts	Whittier Narrows Water Treatment Plant	No	No
Total Wastewater Collected from Service Area in 2020:		1,900				
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3* **.**						
NOTES:						

Table 6-3 Wastewater Treatment and Discharge within Service Area in 2020

Submittal Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2020												
☑	**No wastewater is treated or disposed of within the UWMP service area.** The supplier will not complete the table below.											
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)* [2]	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area? *Drop down list*	Treatment Level *Drop down list*	2020 volumes [1]				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area	Instream Flow Permit Requirement
						Total	0	0	0	0	0
[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3. [2] If the **Wastewater Discharge ID Number** is not available to the UWMP preparer, access the SWRCB CIWQS regulated facility website at https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/CiwqsReportServlet?inCommand=reset&reportName=RegulatedFacility												
NOTES:												

6.2.5.3 RECYCLED WATER SYSTEM DESCRIPTION

CWC 10633.

(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.

SSWC does not have access to recycled water due to the lack of infrastructure to convey recycled water supplies to SSWC. The SJCWRP and WNWRP, from which SSWC would purchase recycled water supplies, are located outside SSWC's service area.

Subject to the availability of recycled water, SSWC would need to construct transmission and distribution facilities to deliver recycled water to customers within its service area.

6.2.5.4 POTENTIAL, CURRENT, AND PROJECTED RECYCLED WATER USES

CWC 10633.

(b) 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. 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.

(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.

Currently, the wastewater collected and treated at SJCWRP and WNWRP already is used by other recycled water customers that are outside of SSWC's service area boundaries. Therefore, Table 6-4 and Table 6-5 are intentionally blank.

Table 6-4 Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

Submittal Table 6-4 Retail: Recycled Water Direct Beneficial Uses Within Service Area											
☑	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.										
Name of Supplier Producing (Treating) the Recycled Water:											
Name of Supplier Operating the Recycled Water Distribution System:											
Supplemental Water Added in 2020 (volume) *Include units*											
Source of 2020 Supplemental Water											
Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units* [1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020 [1]	2025 [1]	2030 [1]	2035 [1]	2040 [1]	2045 [1] (opt)	
Agricultural irrigation											
Landscape irrigation (exc golf courses)											
Golf course irrigation											
Commercial use											
Industrial use											
Geothermal and other energy production											
Seawater intrusion barrier											
Recreational impoundment											
Wetlands or wildlife habitat											
Groundwater recharge (IPR)											
Reservoir water augmentation (IPR)											
Direct potable reuse											
Other (Description Required)											
				Total:	0	0	0	0	0	0	
				2020 Internal Reuse							

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

NOTES:

Table 6-5 2015 Recycled Water Use Projection Compared to 2020 Actual

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

6.2.5.5 ACTIONS TO ENCOURAGE AND OPTIMIZE FUTURE RECYCLED WATER USE

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, and shall include all of the following:

(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.

Recycled water produced by SJCWRP and WNWRP is fully contracted to their recycled water customers for beneficial, non-potable reuse, or it is discharged to the San Gabriel River. Consequently, recycled water is not currently used within SSWC, and no future projects have been identified with recycled water use estimates. There are currently no actions in place at the time by which SSWC is able to encourage the use of recycled water to their customers. Therefore, Table 6-6 is left intentionally blank.

Table 6-6 Methods to Expand Future Recycled Water Use

Submittal Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
☑	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
Section 6.2.5	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use *
Add additional rows as needed			
		Total	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES:			

6.2.6 DESALINATED WATER OPPORTUNITIES

CWC 10631.

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

Main Basin

Groundwater produced from the Main Basin is low in TDS and does not require desalination. The SWRCB-DDW recommended TDS level is 500 milligrams per liter (mg/L) and water can be provided for long-term domestic use with TDS concentrations of up to 1,000 mg/L. Recent water quality data indicates the TDS values for SSWC's groundwater wells are less than 500 mg/L. Due to the high quality (low TDS concentration) of the groundwater, SSWC does not need to investigate the use of desalination to develop or reestablish a new long-term supply. However, there may be opportunities for use of desalinated ocean water as a potential water supply source in the future, if needed, through coordination with other agencies that have ocean desalination programs.

Raymond Basin

SSWC pumps groundwater from the Raymond Basin which is low in TDS and does not require desalination. The SWRCB-DDW recommended level is 500 mg/L and water can be provided for long-term domestic use with TDS concentrations of up to 1,000 mg/L. Recent water quality data indicates the TDS values for SSWC's groundwater wells are less than 500 mg/L. Due to the low TDS concentration of the groundwater from the Raymond Basin, SSWC does not need to investigate the use of desalination as a long-term supply. However, there may be opportunities for use of desalinated ocean water as

a potential water supply source in the future, through coordination with other agencies that have ocean desalination programs.

6.2.7 WATER EXCHANGES AND TRANSFERS

CWC 10631.

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

6.2.7.1 EXCHANGES

Pursuant to DWR's 2020 Final Guidebook, "*Water exchanges are typically water delivered by one water user to another water user, with the receiving water user providing water in return at a specified time or when the conditions of the parties' agreement are met. Water exchanges can be strictly a return of water on a basis agreed upon by the participants or it can include payment and the return of water.*"

SSWC does not have any current or planned water exchange opportunities.

6.2.7.2 TRANSFERS

Pursuant to DWR's 2020 Final Guidebook, "*The Water Code defines a water transfer as a temporary or long-term change in the point of diversion, place of use, or purpose of use due to a transfer, sale, lease, or exchange of water or water rights.*"

As discussed in Section 6.2.2, water rights under the Main Basin Judgment are transferable by lease or purchase so long as such transfers meet the requirements of the Judgment. There is also provision for Cyclic Storage Agreements by which Parties and non-parties may store imported supplemental water in the Main Basin under such

agreements with the Main Basin Watermaster pursuant to uniform rules and conditions and Court approval. SSWC is able to utilize the transfer opportunities available for Main Basin water when necessary.

6.2.7.3 EMERGENCY INTERTIES

SSWC has emergency interties (or interconnections) with other water agencies that serve as short-term emergency water supplies. Emergency interconnections are distribution system interconnections between water agencies for use during critical situations where one system or the other is temporarily unable to provide sufficient potable water to meet its water demands and/or fire protection needs. An emergency interconnection will allow a water system to continue serving water during critical situations such as local water supply shortages as a result of earthquakes, fires, prolonged power outages, and droughts.

SSWC has two-way emergency interconnections with the City of Arcadia, East Pasadena Water Company, and California American Water Company.

6.2.8 FUTURE WATER PROJECTS

CWC 10631.

(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.

SSWC obtains groundwater from the Main Basin and Raymond Basin. These water supply sources will allow SSWC to provide sufficient water service now, and in the future. Although SSWC has no plans for future water supply projects, SSWC will construct new groundwater production wells to replace existing wells when necessary.

Table 6-7 Expected Future Water Supply Projects or Programs

Submittal Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
☐	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.					
Section 6.2.8	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 *Drop Down List*	Expected Increase in Water Supply to Supplier* *This may be a range*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
Construct Groumdwater Wells	No		Construction additional groundwater wells in the Main Basin and Raymond Basin	Ongoing	All Year Types	2,000 AFY
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

6.2.9 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), providing supporting and related information, including all of the following…

(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.

(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).

6.2.9.1 DESCRIPTION OF SUPPLIES

As discussed in Section 6.2, SSWC's water supply sources consist of groundwater from the Main Basin and Raymond Basin (see Section 6.2.2). The actual quantities of the water supply sources available to SSWC during CY 2020 are summarized in Table 6-8. The reliable quantities of projected water supply sources available to SSWC in five-year increments through CY 2045 during normal or average years are summarized in Table 6-9. The reliability of these sources of supply are addressed in Section 7.2.3, including during normal years, single dry years, and five consecutive year droughts.

The order of use of SSWC's projected reliable water supplies from CY 2020 through CY 2045 in five-year increments is based on historical practices, water supply availability, and the cost of water. It is anticipated SSWC will initially use groundwater produced from the Main Basin and Raymond Basin. It is important to note that the Main Basin and Raymond Basin are adjudicated (as discussed in Section 6.2.2); however, while there is no limit to the amount of groundwater which can be produced annually from the Main Basin, the Raymond Basin water rights are fixed and do not vary year to year. Consequently, in the event local treated surface water and/or treated imported water may be limited, SSWC has the flexibility to increase groundwater production from the Main Basin.

6.2.9.2 QUANTIFICATION OF SUPPLIES

The actual quantities of the water supply sources available to SSWC during CY 2020 are summarized in Table 6-8. The reliable quantities of projected water supply sources available to SSWC in five-year increments through CY 2045 during average years are summarized in Table 6-9. The reliability of these sources of supply are addressed in Section 7.2.3, including during normal years, single dry years, and five consecutive year droughts.

SSWC's projected quantities of groundwater supplies from Main Basin and Raymond Basin are based on meeting SSWC's total water demands. As noted above, in the event local treated surface water and/or treated imported water may be limited, SSWC has the flexibility to increase groundwater production from the Main Basin. Consequently, it is anticipated SSWC will have sufficient water supplies available to meet projected demands.

Table 6-8 Water Supplies - Actual

Submittal Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2020		
Drop down list May use each category multiple times.These are the only water supply categories that will be recognized by the WUEdata online submittal tool		Actual Volume*	Water Quality Drop Down List	Total Right or Safe Yield* (optional)
Add additional rows as needed				
Groundwater (not desalinated)	Main Basin	2,541	Drinking Water	
Groundwater (not desalinated)	Raymond Basin	1,084	Drinking Water	
	Total	3,625		0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES:				

Table 6-9 Water Supplies - Projected

Submittal Table 6-9 Retail: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply * Report To the Extent Practicable									
Drop down list May use each category multiple times. These are the only water supply categories that will be recognized by the WUEdata online submittal tool		**2025**		**2030**		**2035**		**2040**		**2045** (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Add additional rows as needed											
Groundwater (not desalinated)	Main Basin	2,733		2,848		2,966		3,087		3,211	
Groundwater (not desalinated)	Raymond Basin	1,055		1,055		1,055		1,055		1,055	
	Total	3,788	0	3,903	0	4,021	0	4,142	0	4,266	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*											
NOTES											

6.2.10 SPECIAL CONDITIONS

SSWC considered the issues described below when developing its planned sources of water supply.

6.2.10.1 CLIMATE CHANGE EFFECTS

Climate change has the possibility of impacting the availability of planned water supplies, particularly during a drought period. Section 4.5 of this Plan provides a discussion regarding climate change effects on SSWC's various sources of supply.

6.2.10.2 REGULATORY CONDITIONS AND PROJECT DEVELOPMENT

SSWC has considered the implications of changing regulatory conditions and project development on the availability of planned water supplies. Section 1.4 provides a discussion on the reduced reliance on Delta water supplies and proposed Carson recycled water project.

6.2.10.3 OTHER LOCALLY APPLICABLE CRITERIA

There are no locally applicable criteria which applies to SSWC.

6.3 SUBMITTAL TABLES COMPLETION USING THE OPTIONAL PLANNING TOOL

As discussed in Section 4.2.5, DWR has created an optional "Planning Tool Worksheet" for water suppliers to review and assess monthly water use trends. DWR has deemed the tool as optional and SSWC is not required by DWR to use the tool. Section 6.1 provides a tabulation of SSWC's historical annual water uses for each water supply source. During the past 10 years, SSWC experienced a five consecutive year drought

within its service area from CY 2011 to CY 2015. Historical records indicate SSWC's annual water demands had been greater prior to CY 2011. SSWC has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. In addition, SSWC has been able to provide water service to meet maximum day water demands for these years, including during the summer months. A further discussion regarding the reliability of SSWC's water supply sources is provided in Chapter 7.

6.4 ENERGY USE

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.

"Energy intensity" is defined as the quantity of energy consumed, measured in kilowatt hours (kWh), divided by the volume of water, measured in AF for a water management process over a one-year period. The information used to calculate the estimated energy intensity associated with SSWC's water system is provided below. The energy intensity

information is based on readily obtainable energy and water use data for the following water management processes: 1) extraction or diversion of water supplies; 2) placement into storage; 3) conveyance to distribution; 4) treatment; and 5) water system distribution.

SSWC has tabulated its energy intensity using readily obtainable energy consumption data obtained from monthly electricity bills from Southern California Edison (SCE) for the whole water system and the corresponding water use data obtained from available water meter readings. SSWC has reported the energy intensity associated with the water management processes which occur within its operational control. Because SSWC does not track individual energy usage for each water management process identified above, SSWC has estimated the energy intensity using the a "total utility approach" (i.e. sum of all water management processes). The total energy consumed was approximately 3,058,897 kWh during CY 2020. Although the total energy consumption reported includes electricity usage for general administration (e.g. at SSWC's headquarters) which is not associated with any water management processes, the general administration energy usage is considered negligible compared to overall water system use and has not been netted out.

The total volume of water entering the potable water system was approximately 3,625 AF during CY 2020 and is consistent with the total volume of water provided in Table 4-1.

The total energy intensity associated with SSWC's water management processes is estimated at 844 kWh/AF. The energy intensity data and calculations based on the "total utility approach" are provided in Table O-1B below.

SSWC's water management processes do not include "consequential hydropower generation" where the energy generation is a direct consequence of water delivery (i.e. all water passing through the energy generation devices is delivered to users). SSWC's water management processes do not include "non-consequential hydropower generation" where the energy generation is not a direct consequence of water delivery (i.e. energy

could be generated even if no water was being delivered to water users). In addition, SSWC's water management processes do not include any substantial "self-generated energy sources" including solar, wind, geothermal, biomass, co-generation, and diesel generator sources.

Table O-1B. Recommended Energy Reporting — Total Utility Approach

Urban Water Supplier: *Sunny Slope Water Company*

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

Table O-1B: Recommended Energy Reporting - Total Utility Approach				
Enter Start Date for Reporting Period	1/1/2020	Urban Water Supplier Operational Control		
End Date	12/31/2020			
☐ 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)		*3,625*	*0*	*3625*
Energy Consumed (kWh)		*3058897*	*0*	*3058897*
Energy Intensity (kWh/volume)		*843.8*	*0.0*	*843.8*

Quantity of Self-Generated Renewable Energy
0 kWh

Data Quality *(Estimate, Metered Data, Combination of Estimates and Metered Data)*
Combination of Estimates and Metered Data

Data Quality Narrative:

The total energy consumed was identified based on Southern California Edison (SCE) billing records. Although the total energy consumed includes electricity usage for general administration (which is not an identified water management process), general administration energy use is considered to be negligible compared to overall water system use and has not been netted out.

Narrative:

The total energy consumption includes energy associated with operating groundwater production wells and booster pumps to deliver water in the distribution system. Energy consumption is associated with operating groundwater water treatment. Energy consumption is also associated with plant lighting and air conditioning, and operating the Supervisory Control and Data Acquisition (SCADA) system and chlorination injection pumps.

CHAPTER 7

WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

LAY DESCRIPTION – CHAPTER 7

WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

Chapter 7 (Water Service Reliability and Drought Risk Assessment) of SSWC's 2020 Plan discusses and provides the following:

- CY 2019 represents an "average" or "normal" water year for SSWC in which the total amount of rainfall was similar to the historical average rainfall.
- A "single dry" year for SSWC was represented in CY 2017, in which the total amount of rainfall was below the historical average rainfall.
- A "five consecutive year drought" period for SSWC is represented from CY 2011 to CY 2015, where the total amount of rainfall during each of these years was less than the historical average rainfall.
- SSWC's current and projected water supplies available during normal years in five-year increments over the next 25 years are provided (through CY 2045) as shown on Table 7-2.
- SSWC's current and projected water supplies available during single dry years in five-year increments over the next 25 years are provided (through CY 2045) as shown on Table 7-3.
- SSWC's current and projected water supplies available during each year of a five consecutive year drought in five-year increments over the next 25 years are provided (through CY 2045) as shown on Table 7-4.

- The reliability of SSWC's water supply sources, including a review of water supply constraints, is provided. A single dry year or a five consecutive year drought period will not compromise SSWC's ability to provide a reliable supply of water to its customers.
- A Drought Risk Assessment is provided which includes an assessment of SSWC's water supply reliability over a five consecutive year drought period. SSWC's DRA assumes a five consecutive year drought from CY 2021 through CY 2025 and includes a review of water supplies, water uses, and water supply reliability for each water supply source during this period. SSWC's water system has experienced a prior five consecutive year drought with no limitation to its collective water supplies. However, the cost of those water supplies may have increased based on the mix of water supplies which are used. Consequently, SSWC has the ability to enact varying water shortage levels (see Chapter 8) to help educate its customers and provide an economic incentive for the retail customers to reduce their water consumption.

7.1 INTRODUCTION

This section of SSWC's UWMP describes SSWC's ability to meet retail customer water demands by analyzing a variety of factors which affect SSWC's water supply. This section assesses SSWC's water service reliability during average years, single dry years, and during a five consecutive year drought period to meet the water needs of its customers. This section also includes the discussion of a DRA which provides a mechanism for SSWC to evaluate the risk to its water supply under a drought lasting for the next five consecutive years.

7.2 WATER SERVICE RELIABILITY ASSESSMENT

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.

Information regarding the reliability of SSWC's water supplies is based on the historical precipitation data in the San Gabriel Valley. Historical annual precipitation in the San Gabriel Valley is discussed in Section 3.3 and is based on historical data collected from Station 046719 (Pasadena, California). Furthermore, Section 4.5 of this Plan notes that potential future climate change impacts may result in an increase in the average annual precipitation within SSWC's service area, thus indicating use of historical data is a reasonable and conservative approach. As indicated in Section 3.3, the historical average rainfall in the vicinity of SSWC's service area is 19.7 inches. CY 2019 represents an average or normal water year for SSWC in which the total amount of rainfall was similar to the historical average rainfall. A single dry year for SSWC was represented in CY 2017, in which the total amount of rainfall was below the historical average rainfall. A five consecutive year drought period for SSWC is represented from CY 2011 to CY 2015, where the total amount of rainfall during each of these years was less than the historical average rainfall. Table 7-1 summarizes these "base years" for average, single dry, and five consecutive year drought and provides the total amount of water supplies available to SSWC during those base years. The following discussion assesses the water service reliability of SSWC's water supply sources.

Water Service Reliability - Groundwater

Main Basin

The Main Basin groundwater supplies are managed by the Main Basin Watermaster, as discussed in Section 6.2.2. During a normal year (CY 2019), SSWC met about 70 percent of its total demands with supplies from the Main Basin. During a single dry year (CY 2017), SSWC met about 64 percent of its total demands with supplies from the Main Basin. During a five consecutive year drought multiple dry year period (CY 2011 to CY 2015), SSWC met between 61 and 91 percent of its total demands with supplies from the Main Basin.

Raymond Basin

The Raymond Basin groundwater supplies are managed by the Raymond Basin Watermaster, as discussed in Section 6.2.2. During a normal year (CY 2019), SSWC met about 30 percent of its total demands with supplies from the Raymond Basin. During a single dry year (CY 2017), SSWC met about 36 percent of its total demands with supplies from the Raymond Basin. During a five consecutive year drought multiple dry year period (CY 2011 to CY 2015), SSWC met between 9 and 39 percent of its total demands with supplies from the Raymond Basin.

Water Service Reliability Summary

Table 7-1 shows the water supplies during the base years (for average year, single dry year and a five consecutive year drought). As a result of SSWC's water supply portfolio, water supplies may be re-apportioned during a five consecutive year drought to meet SSWC's water demands.

7.2.1 SERVICE RELIABILITY - CONSTRAINTS ON WATER SOURCES

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.

SSWC's sources of supplies consist of groundwater pumped from the Main San Gabriel Basin and Raymond Basin, as described in Section 6.2. Although all of these supplies are managed, the following constraints may occur which SSWC has considered in this reliability analysis.

Main Basin

SSWC produces groundwater from the Main Basin. The groundwater historically had been impacted by contamination. However, SSWC has developed and implemented appropriate treatment (blending and/or treatment facilities) which have been approved by SWRCB-DDW. These groundwater supplies are considered reliable both from a water quality and quantity standpoint.

7.2.2 SERVICE RELIABILITY - YEAR TYPE CHARACTERIZATION

7.2.2.1 TYPES OF YEARS

SSWC's base years for an average year, a single dry year, and a five consecutive year drought are discussed in Section 7.2 and are summarized in Table 7-1. As indicated in Chapter 6, SSWC's water supplies sources have been sufficient in meeting SSWC's historical water demands during an average year, a single dry year, and a five consecutive year drought. An average year was based on a historical year during the past 10 years

with a total precipitation similar to the historical average precipitation in the vicinity of SSWC's service area. Because a single dry year or a five consecutive year drought period will not compromise SSWC's ability to provide a reliable supply of water to its customers, a single dry year in this Plan was selected based one of the driest years during the past 10 years. The five consecutive year drought period was based on a period of five consecutive dry years during the past 10 years.

As indicated in Section 3.3, the historical average rainfall in the vicinity of SSWC's service area is 19.7 inches. CY 2019 represents an average or normal water year for SSWC in which the total amount of rainfall was similar to the historical average rainfall. A single dry year for SSWC was represented in CY 2017, in which the total amount of rainfall was less than the historical average rainfall. A five consecutive year drought period for SSWC is represented from CY 2011 to CY 2015, where the total amount of rainfall during each of these years was less than the historical average rainfall. Table 7-1 summarizes these "base years" for an average year, a single dry year and a five consecutive year drought period and provides the total amount of water supplies available to SSWC during those base years.

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

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type	**Base Year** If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 2019-2020, use 2020	**Available Supplies if Year Type Repeats**	
		☐	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		☑	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available *	**% of Average Supply**
Average Year	2019	3,329	100%
Single-Dry Year	2017	3,510	105.4%
Consecutive Dry Years 1st Year	2011	3,852	115.7%
Consecutive Dry Years 2nd Year	2012	4,078	122.5%
Consecutive Dry Years 3rd Year	2013	4,192	126.0%
Consecutive Dry Years 4th Year	2014	4,002	120.2%
Consecutive Dry Years 5th Year	2015	3,237	97.3%

Supplier may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If a Supplier uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.

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

NOTES:

7.2.2.2 SOURCES FOR WATER DATA

The monthly historical average temperatures (including minimum and maximum), monthly historical average rainfall, and monthly evapotranspiration in the vicinity of SSWC's service area are discussed in Section 3.3 Historical climate information was obtained from the WRCC, DPW, and from DWR's CIMIS.

7.2.3 WATER SERVICE RELIABILITY

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.

SSWC primarily obtains its water supplies from groundwater wells located in the Main Basin and Raymond Basin. As discussed in Section 7.3 and shown in Table 7-2, Table 7-3, and Table 7-4, each of SSWC's water supply sources share the same base years. As previously discussed in Section 7.2.1, a single dry year or a five consecutive year drought period will not compromise SSWC's ability to provide a reliable supply of water to its customers.

As previously discussed in Section 4.2.6, SSWC's projected normal year water demands over the next 25 years, in five-year increments, were based on SSWC's 2020 Water Use Target of 138 GPCD for potable water demands. The ratio of total water supplies available to SSWC during a historical average year in CY 2019 (or 3,329 AF) and during a historical single dry year in CY 2017 (or 3,510 AF) was used to estimate SSWC's

projected water demands during single dry years. The ratio of water supplies available to SSWC during a historical average year in CY 2020 (or 3,329 AF) and a historical a five consecutive year drought period from CY 2011 to CY 2015 (or 3,852 AF, 4,078 AF, 4,192 AF, 4,002 AF, and 3,237 AF, respectively) was used to estimate SSWC's projected water demands during a five consecutive year drought period. SSWC's projected dry year water supplies over the next 25 years were based on the minimum supplies needed by SSWC to meet projected single-dry year demands. Table 7-2, Table 7-3, and Table 7-4 summarize SSWC's projected water demands and supplies over the next 25 years in five-year increments, including during normal years, single dry years, and a five consecutive year drought periods. These tables indicate SSWC can meet water demands during normal years, single dry years, and a five consecutive year drought periods over the next 25 years.

7.2.3.1 WATER SERVICE RELIABILITY – NORMAL YEAR

Table 7-2 summarizes SSWC's projected water demands and supplies over the next 25 years in five-year increments during normal years. Table 7-2 indicates SSWC can meet water demands during normal years over the next 25 years.

Table 7-2 Normal Year Supply and Demand Comparison

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	3,788	3,903	4,021	4,142	4,266
Demand totals *(autofill from Table 4-3)*	3,788	3,903	4,021	4,142	4,266
Difference	0	0	0	0	0
NOTES:					

7.2.3.2 WATER SERVICE RELIABILITY – SINGLE DRY YEAR

Table 7-3 summarizes SSWC's projected water demands and supplies over the next 25 years in five-year increments during single dry years. Table 7-3 indicates SSWC can meet water demands during single dry years over the next 25 years.

Table 7-3 Single Dry Year Supply and Demand Comparison

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 (Opt)
Supply totals*	3,994	4,115	4,239	4,367	4,472
Demand totals*	3,994	4,115	4,239	4,367	4,472
Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*					
NOTES:					

7.2.3.3 WATER SERVICE RELIABILITY – FIVE CONSECUTIVE DRY YEARS

Table 7-4 summarizes SSWC's projected water demands and supplies over the next 25 years in five-year increments during five consecutive year drought periods. Table 7-4 indicates SSWC can meet water demands during five consecutive year drought periods over the next 25 years.

Table 7-4 Multiple Dry Years Supply and Demand Comparison

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	4,384	4,517	4,653	4,793	4,909
	Demand totals	4,384	4,517	4,653	4,793	4,909
	Difference	0	0	0	0	0
Second year	Supply totals	4,641	4,781	4,925	5,074	5,196
	Demand totals	4,641	4,781	4,925	5,074	5,196
	Difference	0	0	0	0	0
Third year	Supply totals	4,771	4,915	5,064	5,216	5,342
	Demand totals	4,771	4,915	5,064	5,216	5,342
	Difference	0	0	0	0	0
Fourth year	Supply totals	4,555	4,692	4,834	4,980	5,099
	Demand totals	4,555	4,692	4,834	4,980	5,099
	Difference	0	0	0	0	0
Fifth year	Supply totals	3,684	3,795	3,910	4,028	4,125
	Demand totals	3,684	3,795	3,910	4,028	4,125
	Difference	0	0	0	0	0
Sixth year *(optional)*	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

7.2.4 DESCRIPTION OF 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.

Main Basin

As noted in Section 6.2.2, the Main Basin is managed by the Main Basin Watermaster. During the period of management under the Judgment, significant drought events have occurred. In each drought cycle the Main Basin has been managed to maintain water levels. Therefore, based on historical and on-going management practices, SSWC will be able to rely on the Main Basin for adequate supply over the next 25 years under single dry years and a five consecutive year drought periods.

Section 6.2.2 provides a description of the management of groundwater resources in the Main Basin, as well as information on basin management. Chapter 6 also demonstrates the management structure of the Main Basin provides a reliable source of groundwater supply for SSWC during a normal year, a single-dry year and a five consecutive year drought. Historical data indicates the Main Basin has been well managed for the full period of the adjudication, resulting in a stable and reliable water supply. Basin management changes are discussed in Section 6.2.2 and include the planned use of treated recycled water for groundwater replenishment in the Main Basin to reduce the need to import water from other regions. Therefore, the groundwater supplies in the Main Basin are deemed reliable.

Raymond Basin

As noted in Section 6.2.2, the Raymond Basin is managed by the Raymond Basin Management Board. During the period of management under the Judgment, significant drought events have occurred. In each drought cycle the Raymond Basin has been managed to maintain water levels. Therefore, based on historical and on-going management practices, SSWC will be able to rely on the Raymond Basin for adequate supply over the next 25 years under single dry years and a five consecutive year drought periods.

Section 6.2.2 provides a description of the management of groundwater resources in the Raymond Basin, as well as information on basin management. Chapter 6 also demonstrates the management structure of the Raymond Basin provides a reliable source of groundwater supply for Raymond Basin during a normal year, a single-dry year and a five consecutive year drought. Historical data indicates the Raymond Basin has been well managed for the full period of the adjudication, resulting in a stable and reliable water supply. Therefore, the groundwater supplies in the Raymond Basin are deemed reliable.

7.3 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.

SSWC's sources of supplies consist of groundwater from the Main Basin (which is managed by the Main Basin Watermaster) and the Raymond Basin (which is managed by the Raymond Basin Management Board). The following discussion provides a DRA which assesses SSWC's water supply reliability over a five consecutive year drought period. SSWC's DRA incorporates a five consecutive year drought from CY 2021 through CY 2025 and includes a review of water supplies, water uses, and water supply reliability.

7.3.1 DRA DATA, METHODS, AND BASIS FOR WATER SHORTAGE CONDITIONS

SSWC's DRA was prepared using historical production data from SSWC's water supply sources. The following assumptions were considered during the preparation of SSWC's DRA for each year of the five consecutive year drought.

- The five consecutive year drought period associated with the 2020 UWMP is based on five consecutive dry years from CY 2021 through CY 2025.
- The projected water supplies available during each year of this five consecutive year drought are assumed to be identical to the water supplies produced during each year between CY 2011 and CY 2015 (which represents the most recent and historical five consecutive year drought).

- The projected demands during this five consecutive year drought are based on water demands from CY 2019 (a normal year) which were adjusted based on projected population over the next five years along with the ratio of the normal year demands to actual demands over each year of the most recent and historical five consecutive year drought period (from CY 2011 and CY 2015).
- The projected demands were compared to the projected supplies to identify potential water supply deficits which may require implementation of the Water Shortage Contingency Plan (discussed further in Chapter 8).

The following hypothetical methodologies were considered during the preparation of SSWC's DRA during for each year of the five consecutive year drought:

- Drought Year 1: The region had experienced an average to above average year of precipitation in the prior year. Water use in the prior year had been below average due to a reduce need for outdoor water use, the groundwater basin had been replenished from above average local stormwater runoff, and imported water supplies were not restricted.
- Drought Year 2: The region experienced a second year of below average precipitation and runoff. Retail customers increase water use for outdoor irrigation to compensate for lack of precipitation. Groundwater supplies have not been impacted.
- Drought Year 3: The region experienced a third year of below average precipitation and runoff. Retail customers increase water use for outdoor irrigation to compensate for lack of precipitation. Groundwater supplies have not been impacted. However, there is an increased demand on groundwater.
- Drought Year 4: The region experienced a fourth year of below average precipitation and runoff. Groundwater supplies have not been impacted. However, there is an increased demand on groundwater.

- Drought Year 5: Fifth year of below average precipitation and runoff. Groundwater supplies have not been impacted. However, there is an increased demand on groundwater.

7.3.2 DRA INDIVIDUAL WATER SOURCE RELIABILITY

SSWC's DRA incorporates a five consecutive year drought based on five consecutive dry years commencing in CY 2021. The quantity of water supplies available for each year during this five consecutive year drought period included in SSWC's DRA is assumed to be the same as the quantity of water supplies produced by SSWC (i.e. demands) during the most recent and historical five consecutive year drought which occurred from CY 2011 through CY 2015. Production data for those years have been tabulated in Section 6.1. The following describes the anticipated reliability of each water source for each year of the five consecutive year drought based on recent experience.

Groundwater - Main Basin

SSWC produces water supplies from the Main Basin which is actively managed by the Main Basin Watermaster, as described in Section 6.2.2. Each year the Main Basin Watermaster reviews water supply conditions including local rainfall, groundwater levels, local stormwater runoff available for replenishment, imported water availability and the amount of imported water stored in the groundwater basin for future demands. The Watermaster identifies the annual amount of groundwater which may be pumped (such as an Operating Safe Yield) before more expensive imported water would need to be purchased from MWD through Upper District to replenish the Basin for all production in excess of the water rights. Regardless of the annual safe yield adopted there is never a restriction on the amount of water which may be pumped from the Main Basin, only the cost of producing the groundwater is impacted. The Main Basin Watermaster is not restricted as to when or how much untreated imported water be delivered to the Main Basin, only that it ultimately be delivered. In addition, SSWC has established an untreated

imported water (cyclic) storage account in the Main Basin which SSWC may draw upon to offset its potential future production in excess of its water rights. In doing so, SSWC reduces its need to purchase untreated imported water in the future in the midst of a drought when imported water supplies may be limited. The quantity groundwater used (and reliably available) during the most recent and historical five consecutive year drought period have been tabulated in Section 6.1. During this period, SSWC was able to increase its production of its groundwater supplies from an adjudicated and managed groundwater basin. SSWC also had the ability to systematically implement aspects of its Water Shortage Contingency Plan (see Chapter 8). As a result of these collective actions (and experience during prior five consecutive year droughts), SSWC does not anticipate a water supply shortage from the Main Basin.

Groundwater - Raymond Basin

SSWC produces water supplies from the Raymond Basin which is actively managed by the Raymond Basin Management Board, as described in Section 6.2.2. The Raymond Basin is adjudicated; however, SSWC's water rights are fixed each year. Consequently, SSWC cannot produce in excess of its own water rights or rights it may have leased from others. SSWC also has access to water supplies from the Main Basin. In addition, SSWC has stored water in the Raymond Basin which it may produce in future years. The quantity groundwater used (and reliably available) during the most recent and historical five consecutive year drought period have been tabulated in Section 6.1. SSWC manages its water supply portfolio to optimize the water supplies available each year and to avoid a water supply shortage. SSWC also had the ability to systematically implement aspects of its Water Shortage Contingency Plan (see Chapter 8). As a result of these collective actions (and experience during prior five consecutive year droughts), SSWC does not anticipate a water supply shortage.

Summary

SSWC water system has experienced a prior five consecutive year drought with no limitation to its collective water supplies. However, the cost of those water supplies may have increased based on the mix of supplies which are used. Consequently, SSWC has the ability to enact varying water shortage levels (see Chapter 8) to help educate its customers and provide an economic incentive for the retail customers to reduce their water consumption.

7.3.3 DRA TOTAL WATER SUPPLY AND USE COMPARISON

Gross water use for the projected five consecutive year drought is shown on Table 7-5. Section 7.3.2 describes the water source reliability for each source of supply SSWC will rely on during a five consecutive year drought. The annual quantities are the summed and are also provided on Table 7-5. The most important aspect of SSWC's water supplies is the groundwater which can be produced from a managed groundwater basin without restriction on the amount SSWC is allowed to produce. However, for the purposes of SSWC's DRA, as a worst-case scenario, SSWC has considered no water supply augmentation (as indicated in Table 7-5) from its groundwater supplies. When necessary, SSWC can implement various water shortage levels of its Water Shortage Contingency Plan (as discussed in Chapter 8) in order to reduce its water demands. The total water supplies available to SSWC show in Table 7-5 are based on the quantity of supplies produced by SSWC (i.e. demands) during the most recent historical five consecutive year drought period (from CY 2011 through CY 2015). As shown in Table 7-5, assuming no additional water supply benefits will be available from groundwater supplies, SSWC will implement various stages of its Water Shortage Contingency Plan to balance water demands with available supplies during years 1, 2, 3, 4, and 5 of the projected five consecutive year drought.

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

Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)	
2021	**Total**
Total Water Use	4,233
Total Supplies	3,852
Surplus/Shortfall w/o WSCP Action	(381)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	381
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	9%
2022	**Total**
Total Water Use	4,521
Total Supplies	4,078
Surplus/Shortfall w/o WSCP Action	(443)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	443
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	10%
2023	**Total**
Total Water Use	4,689
Total Supplies	4,192
Surplus/Shortfall w/o WSCP Action	(497)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	497
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	11%
2024	**Total**
Total Water Use	4,515
Total Supplies	4,002
Surplus/Shortfall w/o WSCP Action	(513)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	513
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	11%
2025	**Total**
Total Water Use	3,684
Total Supplies	3,237
Surplus/Shortfall w/o WSCP Action	(447)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	447
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	12%

7.3.4 OPTIONAL PLANNING TOOL WORKBOOK

DWR has deemed the “Planning Tool Worksheet” as optional and SSWC is not required by DWR to use the tool. SSWC has provided sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. SSWC has also been able to provide water service to meet maximum day water demands for these years, including during the summer months. SSWC obtains the majority of its water supplies from managed groundwater basins which are not subject to seasonal fluctuation. Consequently, an evaluation regarding water supplies on a monthly basis was not considered.

CHAPTER 8

WATER SHORTAGE CONTINGENCY PLAN

LAY DESCRIPTION – CHAPTER 8

WATER SHORTAGE CONTINGENCY PLAN

Chapter 8 (Water Shortage Contingency Plan) of SSWC's 2020 Plan discusses and provides the following:

- SSWC's Water Shortage Contingency Plan is a detailed approach which presents how SSWC intends to act, or respond, in the case of an actual water shortage contingency.
- Preparation of SSWC's "Annual Water Supply and Demand Assessment" (or Annual Assessment) is discussed. Commencing July 1, 2022, SSWC is required to submit the Annual Assessment. The Annual Assessment will include a review of SSWC's "unconstrained" water demands for the current year and for a potential upcoming single dry year. Unconstrained water demands represent SSWC's water demands prior to any "response actions" SSWC may invoke pursuant to SSWC's Water Shortage Contingency Plan.
- SSWC will manage water supplies to minimize the adverse impacts of water shortages. SSWC's plan for water usage during periods of shortage is designed to incorporate six standard water shortage levels corresponding to progressive ranges from up to a 10, 20, 30, 40, and 50 percent shortage, and greater than a 50 percent shortage.

- For each declared water supply shortage level, customers will be required to reduce their consumption by the percentage specified in the corresponding water supply shortage level.
- For each declared water supply shortage level, SSWC has established response actions to reduce demand on water supplies and to reduce any shortage gaps in water supplies. These demand reduction actions include irrigation and other outdoor use restrictions, rate structure changes, and other water use prohibitions.
- The operational changes SSWC will consider in addressing water shortages on a short-term basis are discussed and include improved monitoring, analysis, and tracking of customer water usage to enforce demand reduction measures.
- SSWC's Emergency Response Plan is summarized. The Emergency Response Plan provides the management, procedures, and designated actions SSWC and its employees will implement during emergency situations (including catastrophic water shortages) resulting from natural disasters, system failures, and other unforeseen circumstances.
- The preparation of SSWC's seismic risk assessment and mitigation plan is discussed. The locations of earthquake faults in the vicinity of SSWC's water service area are provided.
- The effectiveness of the shortage response actions for each of SSWC's standard water shortage levels is presented. SSWC has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands.
- The communication protocols implemented by SSWC when it declares any water shortage level are presented.
- The compliance and enforcement procedures associated with SSWC's standard water shortage levels are presented.

- The legal authorities associated with SSWC's standard water shortage levels are presented.
- The financial consequences associated with SSWC's standard water shortage levels are presented.
- SSWC will evaluate the need for revising the Water Shortage Contingency Plan in order to resolve any water shortage gaps, as necessary. The steps necessary for SSWC to adopt and amend its Water Shortage Contingency Plan are presented.

The following Water Shortage Contingency Plan includes references to Chapters and Sections from Sunny Slope Water Company's 2020 Urban Water Management Plan:

8.1 WATER SUPPLY RELIABILITY ANALYSIS

CWC 10632.

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

SSWC's sources of supply were discussed in Section 6.2 of the 2020 UWMP and consist of groundwater from the Main Basin and Raymond Basin. Both the Main Basin and Raymond Basin are adjudicated, and groundwater supplies are managed. The reliability of the various sources of supply are discussed in Chapter 7 of the 2020 UWMP. Based on the adjudication provisions in the Main Basin, SSWC is able to produce groundwater without limitation, provided an applicable assessment is paid to the Main Basin Watermaster to purchase untreated imported water for groundwater replenishment.

8.2 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.

Commencing July 1, 2022, SSWC is required to submit an "Annual Water Supply and Demand Assessment" (Annual Assessment) in accordance with DWR's guidance and requirements. The Annual Assessment will include a review of SSWC's unconstrained water demands (i.e. water demands prior to any projected response actions SSWC may

trigger under this Water Shortage Contingency Plan) for the current year and the upcoming (potential single dry) year. SSWC will also include information regarding anticipated shortages, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with SSWC's Water Shortage Contingency Plan.

For each Annual Assessment, SSWC's plans to prepare a preliminary assessment which evaluates the adequacy of its water supplies for the current and upcoming years by April of each year. The preliminary assessment will include a review of water supplies for at least a single dry year.

The components of Annual Assessment consist of the following:

- A written decision-making process
- Key data inputs and assessment methodology

8.2.1 DECISION MAKING PROCESS

SSWC produces groundwater from the Main Basin as its primary source of water supply and that basin is managed on a fiscal year basis. Consequently, during the third quarter of each fiscal year SSWC will review its water demands from the initial six months along with the current groundwater basin conditions and local hydrology. This information will be used to help develop the Annual Assessment. A draft of the Annual Assessment will be circulated internally within SSWC for peer review and comment. Based on comments received, a redraft will be prepared and provided to SSWC managers during the Spring of each year. The draft subsequently will be provided to the General Manager for final review. Subsequently, a final draft of the Annual Assessment will be provided to SSWC's Board of Directors for review and included in the agenda as part of a Board meeting such that it can be approved and any recommended specific shortage response actions may

be enacted. The final Annual Assessment will be provided to DWR no later than July 1 of each year.

The Annual Assessments will be instrumental in providing guidance to SSWC for decisions regarding potential declarations of a water supply shortage and implementation of water reduction stages, instituting mandatory water restrictions, promoting water use efficiency and conservation programs, water rates and drought rate surcharges, and the necessity of pursuing alternative water supplies. This process will help ensure adequate water supplies resources are available to SSWC.

8.2.2 DATA AND METHODOLOGIES

The key data inputs and methodologies which will be evaluated by SSWC during the preparation of the preliminary assessment will include the following:

1) Evaluation Criteria: The locally applicable evaluation criteria used to prepare the Annual Assessment will be identified. The evaluation criteria will include, but is not limited to, an analysis of current local hydrology (including rainfall and groundwater levels), current water demands, a review of water system improvement plans which may impact infrastructure availability, and water quality regulations which may impact groundwater availability.

2) Water Supply: A description of each available water supply source will be provided. The descriptions will include a quantification of each available water supply source and will be based on review of current production capacities, historical production, Urban Water Management Plans, and prior water supply studies (including Water Supply Assessments and/or Master Plans).

3) Unconstrained Water Demand: The potential unconstrained water demands during the current year and the upcoming (potential single dry) year, prior to any special shortage response actions, will be reviewed. The review will include factors such as weather, existing and projected land uses and populations, actual customer consumption and water use factors, monthly Urban Water Supplier Monthly Reports, existing water shortage levels (see Section 8.3), and existing water conservation ordinances (see Section 9.2.1).

4) Planned Water Use for Current Year Considering Dry Subsequent Year: The water supplies available to meet the demands during the current year and the upcoming (potential single dry) year will be considered and identified by each type of supply. The evaluation will include factors such as estimated water demands, weather, groundwater basin operating safe yields, water quality results, existing available pumping capacities, imported water allocations, contractual obligations, regulatory issues, use of emergency interconnections, and the costs associated with producing each water supply source.

5) Infrastructure Considerations: The capabilities of the water distribution system infrastructure to meet the water demands during the current year and the upcoming (potential single dry) year will be considered. Available production capacities (e.g. groundwater well capacities) and distribution system water losses (see Section 4.2.4) will be reviewed. In addition, capital improvement and replacement projects, as well as potential projects which may increase water system and production capacities (see Section 6.2.8), will be considered.

6) Other Factors: Additional local considerations, if any, which can affect the availability of water supplies will be described.

8.3 SIX STANDARD 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.

SSWC has a legal responsibility to provide water utility services. SSWC will manage water supplies prudently to minimize the adverse impacts of water shortages. In its 2015 Plan, SSWC's WSCP was designed to provide a minimum of 50 percent of normal supply during a severe or extended water shortage. For its 2020 Plan, SSWC's WSCP is designed to provide water supplies in the event there is less than 50 percent of normal supply during a severe or extended water shortage. Water shortage trigger mechanisms have been established to ensure that this policy is implemented. This includes structured stages of action referred to as water shortage planning levels.

Table 8-1 provides a description of the six standard stages of action which may be triggered by a shortage in one or more of SSWC's water supply sources, depending on the severity of the shortage and its anticipated duration.

Table 8-1 Water Shortage Contingency Planning Levels

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	**Percent Shortage Range**	**Shortage Response Actions** (*Narrative description*)
1	Up to 10%	Watering or irrigating of lawn, landscape or other vegetated area is limited to 3 days per week. All leaks, breaks or other malfunctions in the water user's plumbing or distribution system shall be repaired within 72 hours of notification by the department unless other arrangements are made with the department. Using water to wash down sidewalks, driveways, parking areas, tennis courts, patios or other paved areas, except to alleviate immediate safety or sanitation hazards.
2	Up to 20%	In addition to Shortage Level 1, watering or irrigating of lawn, landscape or other vegetated area with water is limited to 2 days per week. All leaks, breaks or other malfunctions in the water user's plumbing or distribution system shall be repaired within 48 hours of notification by the department unless other arrangements are made with the department. Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life.
3	Up to 30%	In addition to Shortage Level 2, watering or irrigating of lawn, landscape or other vegetated area is limited to 1 day per week, according to a schedule established and posted by the department. All leaks, breaks or other malfunctions in the water user's plumbing or distribution system shall be repaired within 36 hours of notification by SSWC, unless other arrangements are made with the department. Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life.
4	Up to 40%	In addition to Shortage Level 3; Additional restrictions may be implemented as determined by SSWC, after notice to customers.
5	Up to 50%	In addition to Shortage Level 4, watering or irrigating of lawn, landscape or other vegetated area is prohibited. All leaks, breaks or other malfunctions in the water user's plumbing or distribution system shall be repaired within 24 hours of notification by SSWC, unless other arrangements are made with the department.
6	>50%	In addition to Shortage Level 5, no new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statements of willingness to serve or provide potable water service will be issued, except under the following circumstances: 1) A valid, unexpired building permit has been issued for the project; or 2) The project is necessary to protect the health, safety, and welfare of the public.
NOTES:		

8.4 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.

The 2020 Plan requires urban water suppliers to have six standardized water shortage response actions in accordance with the DWR. SSWC's previous WSCP, originally included in its 2015 Plan as the Water Shortage Plan (see Appendix L), described permanent water conservation requirements followed by four water shortage levels that would be mandatory once put into effect. Stage 1 accounted for up to 15 percent reduction, Stage 2 accounted for 15 percent to 25 percent reduction, Stage 3 accounted for 25 percent to 35 percent reduction, and Stage 4 accounted for 35 percent to 50 percent reduction.

For its 2020 Plan, SSWC will continue to incorporate the permanent water conservation requirements at all times. SSWC's existing Stage 1 and Stage 2 will be used to address a DWR water supply shortage Stage 1 and 2 of up to 10 percent and 20 percent, respectively. SSWC's existing Stage 3 will be used to address a DWR Stage 3 and Stage 4, which will address a water supply shortage of up to 30 percent and 40 percent, respectively. SSWC's existing Stage 4 will be used to address a DWR Stage 5 and Stage 6. SSWC's planned Stage 5 will be used to address a water supply shortage of up to 50

percent. The planned Stage 6 will address a water supply shortage of more than 50 percent.

A crosswalk of the existing (prior) and planned stages of action are shown on the figure below.

Corresponding Relationships Between Supplier's 2015 Shortage levels and the 2020 WSCP Mandated Shortage Levels

Established Level	Supply Condition/ Shortage
1	≤15%
2	15 to 25%
3	25 to 35%
4	35 to 50%

2020 Standard Level	Shortage Level
1	≤10%
2	10 to 20%
3	20 to 30%
4	30 to 40%
5	40 to 50%
6	> 50%

8.4.1 DEMAND REDUCTION

Permanent Water Conservation Requirements

The following water conservation requirements are effective at all times and are permanent. Violations of these requirements constitute waste and an unreasonable use of water.

1. Limits on Watering Hours: Watering or irrigating of lawn, landscape or other vegetated area is prohibited between the hours of 9:00 a.m. and 6:00p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a water shut-off nozzle or device, or for very short periods of time for the express purpose of adjusting or repairing an irrigation system.

2. No Watering during Periods of Rain: Watering or irrigating of lawn, landscape or other vegetated area during periods of rain is prohibited.
3. No Water Flow or Runoff: Watering or irrigating any lawn, landscape or other vegetated areas in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.
4. No Washing Down Hard or Paved Surfaces: Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except as follows:
    a. Where necessary to alleviate safety or sanitary hazards and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a water shut-off nozzle or device; or
    b. When using a low-volume high-pressure cleaning machine equipped to recycle any water used, or low-volume high-pressure water broom.
5. Obligation to Fix Leaks, Breaks or Malfunctions: Loss or escape of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such escape of water should have reasonably been discovered and corrected and in no event more than 5 days of receiving notice from SSWC.
6. Recirculating Water Required for Water Fountains and Decorative Water Features: Operating a water fountain or other decorative water feature that does not use re-circulated water is prohibited.
7. Limits on Washing Vehicles: Using water to wash a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not, is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.
8. Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, cafe, cafeteria, bar or other public place where food and drinks are sold, served or offered for sale, are prohibited

from providing drinking water to any person unless expressly requested by the patrons.

9. Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Food preparation establishments, such as restaurants, cafes, and cafeterias, are prohibited from using non-water conserving dish wash spray valves.
10. Commercial Lodging Establishments Shall Provide Guests Option to Decline Daily Linen Services: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linens laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.
11. No Installation of Single Pass Cooling Systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.
12. No Installation of Non-recirculating equipment in Commercial Car Wash and Laundry Systems: Installation of non-recirculating water systems is prohibited in new commercial conveyor car washes and new commercial laundry systems.

Stage 1 Water Supply Shortage Level

A Level 1 water supply shortage exists when the Board determines, in its sole discretion, that due to drought or other water supply conditions a water supply shortage or threatened shortage exists and demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the Board of a level 1 water supply shortage, SSWC shall implement the mandatory level 1 conservation measures identified in this section.

Water Conservation Measures: The following water conservation requirements apply during a declared level 1 water supply shortage:

1. Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area is limited to 3 days per week. This subsection also does not apply to watering or irrigating by use of a hand-held bucket or similar container, or by

use of a hand-held hose equipped with a water shut-off nozzle or device; for very short periods of time for the express purpose of adjusting or repairing an irrigation system; or for maintenance of vegetation, including fruit trees and shrubs, intended for consumption.

2. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks or other malfunctions in the water user's plumbing or distribution system shall be repaired within 72 hours of notification by the department unless other arrangements are made with the department.
3. Using water to wash down sidewalks, driveways, parking areas, tennis courts, patios or other paved areas, except to alleviate immediate safety or sanitation hazards.

Stage 2 Water Supply Shortage Level

A level 2 water supply shortage exists when the Board determines, in its sole discretion, that due to drought or other water supply conditions a water supply shortage or threatened shortage exists and demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the Board of a level 2 water supply shortage, the SSWC shall implement the mandatory level 2 conservation measures identified in this section.

Water Conservation Measures: The following water conservation requirements apply during a declared level 2 water supply shortage:

1. Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with water is limited to 2 days per week. This subsection also does not apply to watering or irrigating by use of a hand-held bucket or similar container or by use of a hand-held hose equipped with a water shut-off nozzle or device; for very short periods of time for the express purpose of adjusting or repairing an irrigation system; or for maintenance of vegetation, including fruit trees and shrubs, intended for consumption.

2. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks or other malfunctions in the water user's plumbing or distribution system shall be repaired within 48 hours of notification by the department unless other arrangements are made with the department.
3. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life.
4. Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility with an on-site water recycling system.
5. Hospitality sector restrictions requiring that water only be served on request in restaurants and bars and requiring the operators of hotels and motels to offer patrons the option of not having their towels and linens washed each day of their stay.
6. Prohibiting irrigation of turf or ornamental landscapes during and 48-hours following measurable precipitation.
7. No using water to wash down sidewalks, driveways, parking areas, tennis courts, patios or other paved areas, except to alleviate immediate safety or sanitation hazards.

Stage 3 Water Supply Shortage Level

A level 3 water supply shortage exists when the Board determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the board of a level 3 water supply shortage, SSWC shall implement the mandatory level 3 conservation measures identified in this section.

Water Conservation Measures: The following water conservation requirements apply during a declared level 3 water supply shortage:

1. Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area is limited to 1 day per week, according to a schedule established and posted by the department. This subsection does not apply to the following categories of use, as determined by SSWC in its sole discretion:
    i. Watering or irrigating by use of a hand-held bucket or similar container, or a hand-held hose equipped with a water shut-off nozzle or device for very short periods of time for the express purpose of adjusting or repairing an irrigation system; or for maintenance of vegetation, including fruit trees and shrubs, intended for consumption.
    ii. Watering for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
    iii. Maintenance of vegetation, including fruit trees and shrubs, intended for consumption.
    iv. Maintenance of existing landscape necessary for fire protection.
    v. Maintenance of existing landscape for soil erosion control.
    vi. Maintenance of plant materials identified to be rare or essential to the well-being of protected species.
2. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks or other malfunctions in the water user's plumbing or distribution system shall be repaired

within 36 hours of notification by SSWC, unless other arrangements are made with the department.

3. Limits on Filing Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life.

Stage 4 Water Supply Shortage Level

A level 4 water supply shortage exists when the Board determines, in its sole discretion, that due to drought or other water supply conditions, a water supply shortage or threatened shortage exists and demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the board of a level 4 water supply shortage, SSWC shall implement the mandatory level 4 conservation measures identified in this section.

Water Conservation Measures: The following water conservation requirements apply during a declared level 4 water supply shortage:

1. Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area is limited to 1 day per week, according to a schedule established and posted by the department. This subsection does not apply to the following categories of use, as determined by SSWC in its sole discretion:
    i. Watering or irrigating by use of a hand-held bucket or similar container, or a hand-held hose equipped with a water shut-off nozzle or device for very short periods of time for the express purpose of adjusting or repairing an irrigation system; or for maintenance of vegetation, including fruit trees and shrubs, intended for consumption.
    ii. Watering for very short periods of time for the express purpose of adjusting or repairing an irrigation system.
    iii. Maintenance of vegetation, including fruit trees and shrubs, intended for consumption.
    iv. Maintenance of existing landscape necessary for fire protection.

v. Maintenance of existing landscape for soil erosion control.
vi. Maintenance of plant materials identified to be rare or essential to the well-being of protected species.

2. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks or other malfunctions in the water user's plumbing or distribution system shall be repaired within 36 hours of notification by SSWC, unless other arrangements are made with the department.
3. Limits on Filing Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatic life.

Stage 5 Water Supply Shortage Level

A level 5 water supply shortage condition is also referred to as an "emergency" condition. A level 5 condition exists when the Board declares a level 5 water supply shortage.

Water Conservation Measures: The following water conservation requirements apply during a declared level 5 water supply shortage:

1. No Watering or Irrigating: Watering or irrigating of lawn, landscape or other vegetated area is prohibited. This restriction does not apply to the following categories of use, as determined by the SSWC in its sole discretion:
   i. Maintenance of vegetation, including fruit trees and shrubs, vegetation intended for consumption.
   ii. Maintenance of existing landscape necessary for fire protection.
   iii. Maintenance of existing landscape for soil erosion control.
   iv. Maintenance of plant materials identified to be rare or essential to the well-being of protected species.
2. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks or other malfunctions in the water user's plumbing or distribution system shall be repaired within 24 hours of notification by SSWC, unless other arrangements are made with the department.

3. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatics life.
4. Limits on Filling Residential Swimming Pools and Spas: Refilling of more than 1 foot and initial filling of residential swimming pools or outdoor spas is prohibited.
5. No New Potable Water Service: Upon declaration of a level 5 water supply shortage, no new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statements of willingness to serve or provide potable water service will be issued, except under the following circumstances:
    i. A valid, unexpired building permit has been issued for the project; or
    ii. The project is necessary to protect the health, safety and welfare of the public.

Stage 6 Water Supply Shortage Level

A level 6 water supply shortage condition is also referred to as an "emergency" condition. A level 6 condition exists when the Board declares a level 6 water supply shortage.

Water Conservation Measures: The following water conservation requirements apply during a declared level 6 water supply shortage:

1. No Watering or Irrigating: Watering or irrigating of lawn, landscape or other vegetated area is prohibited. This restriction does not apply to the following categories of use, as determined by the SSWC in its sole discretion:
    i. Maintenance of vegetation, including fruit trees and shrubs, vegetation intended for consumption.
    ii. Maintenance of existing landscape necessary for fire protection.
    iii. Maintenance of existing landscape for soil erosion control.
    iv. Maintenance of plant materials identified to be rare or essential to the well-being of protected species.

2. Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks or other malfunctions in the water user's plumbing or distribution system shall be repaired within 24 hours of notification by SSWC, unless other arrangements are made with the department.
3. Limits on Filling Ornamental Lakes or Ponds: Filling or re-filling ornamental lakes or ponds is prohibited, except to the extent needed to sustain aquatics life.
4. Limits on Filling Residential Swimming Pools and Spas: Refilling of more than 1 foot and initial filling of residential swimming pools or outdoor spas is prohibited.
5. No New Potable Water Service: Upon declaration of a level 6 water supply shortage, no new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statements of willingness to serve or provide potable water service will be issued, except under the following circumstances:
    i. A valid, unexpired building permit has been issued for the project; or
    ii. The project is necessary to protect the health, safety and welfare of the public.

Table 8-2 Demand Reduction Actions

Submittal Table 8-2: Demand Reduction Actions				
Shortage Level	Demand Reduction Actions ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool. Select those that apply.*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? ***For Retail Suppliers Only*** *Drop Down List*
Add additional rows as needed				
1	Landscape - Limit landscape irrigation to specific days	Collective reduction from all Shortage Level 1 actions is up to 345 AF		Yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Collective reduction from all Shortage Level 1 actions is up to 345 AF		Yes
2	Other	Collective reduction from all Shortage Level 2 actions is up to 690 AF	Includes all Stage 1 Actions	Yes
2	Other water feature or swimming pool restriction	Collective reduction from all Shortage Level 2 actions is up to 690 AF		Yes
3	Other	Collective reduction from all Shortage Level 3 actions is up to 1,036 AF	Includes all Stage 2 Actions	Yes
3	Other	Collective reduction from all Shortage Level 3 actions is up to 1,036 AF	No new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statements of immediate ability to service or provide potable water service will be issued.	Yes
4	Other	Collective reduction from all Shortage Level 4 actions is up to 1,381 AF	Includes all Stage 3 Actions	Yes
5	Other	Collective reduction from all Shortage Level 5 actions is up to 1,726 AF	Includes all Stage 4 Actions	Yes
5	Landscape - Prohibit all landscape irrigation	Collective reduction from all Shortage Level 5 actions is up to 1,726 AF	Except maintenance of fruit trees and shrubs, vegetation intented for consumption. Existing landscape necessary for fire protection. Existing landscape for soil erosion control. Plant materials identified to be rare or essential to the well-being of protected species. Landscape within active public parks and playing fields, school grounds, golf course greens, and daycare centers.	Yes
6	Other	Collective reduction from all Shortage Level 6 actions is greater than 1,726 AF	Includes all Stage 5 Actions	Yes
NOTES:				

8.4.2 SUPPLY AUGMENTATION

As discussed in Chapter 6, SSWC's sources of water supply include groundwater produced from the Main Basin and Raymond Basin. As noted in Section 8.2, beginning July 1, 2022, SSWC will prepare and submit an Annual Assessment which will include a review of water supplies available to meet water demands for the current and upcoming years. In the event SSWC is currently in, or considers entering into, one of the standard water shortage levels identified in Section 8.3, SSWC will consider the water supply augmentation actions described below.

For each water shortage level discussed in Section 8.3, SSWC will consider supplementing its existing water supplies through increased groundwater production. Due to previous critically dry conditions, MWD developed the "Water Supply Allocation Plan" (WSAP) whereby available supplies are equitably allocated to its member agencies, including Upper District. The WSAP establishes ten different shortage levels and a corresponding drought allocation to each member agency. Based on the shortage level established by MWD, the WSAP provides a reduced drought allocation to a member agency for its Municipal and Industrial (M&I) retail demand. The ratio of MWD water supply drought allocation to local water supply will change based on the WSAP stage. The MWD drought allocation can be used to make Full Service water deliveries at the Tier 1 rate up to a Tier 1 allocation. Any Full Service water delivered in excess of a drought allocation is subject to a penalty rate in addition to the normal rate paid for the water.

In addition to the WSAP, MWD describes supply augmentation actions in its Regional 2020 UWMP, which is incorporated by reference. MWD's primary first response to any gap between core supplies (from the State Water Project and Colorado River) and demand is to make optimal use of its supply augmentation options, consisting of drawing from flexible supply programs and storage reserves. MWD has developed and actively manages a portfolio of water supply programs including water transfer, storage, and exchange agreements. MWD pursues voluntary water transfer and exchange programs

to help mitigate supply/demand imbalances and provide additional dry-year supply sources. In addition, MWD has developed significant storage capacity in reservoirs, conjunctive use, and other groundwater storage programs totaling approximately 6.0 million AF. Pursuant to MWD's "Emergency Storage Objective", updated in 2019, approximately 750,000 AF of total stored water is emergency storage reserved by MWD for use in the event of supply interruptions. Based on MWD's historical and on-going water supply and storage programs and management practices, SSWC will continue relying on groundwater from the Main Basin in association with each of the standard water shortage levels identified in Section 8.3.

SSWC will consider augmenting its existing water supplies through production of additional groundwater from the Main Basin. As noted in Section 6.2.2, the Main Basin is managed by the Main Basin Watermaster. During the period of management under the Main Basin Judgment, significant drought events have occurred. In each drought cycle the Main Basin has been managed to maintain water levels. Parties to the Main Basin Judgment, including SSWC, are authorized to produce groundwater in excess of their rights and pay assessments for such production to the Main Basin Watermaster. The assessments are used to purchase untreated imported water to replenish the Main Basin. The Main Basin Watermaster purchases untreated imported water to replenish the Main Basin from MWD through Upper District. Groundwater quality is carefully monitored and managed by the Main Basin Watermaster. Treatment facilities and/or blend plans have been developed by water agencies to meet potable water standards and to prevent the spread of any groundwater contamination. Groundwater quality in the Main Basin is not expected to impact potable supplies or constrain supply reliability. Based on historical and on-going management practices, SSWC will be able to continue relying on the Main Basin for adequate supplies in response to each of the standard water shortage levels identified in Section 8.3.

Table 8-3 Supply Augmentation and Other Actions

Submittal Table 8-3: Supply Augmentation and Other Actions			
Shortage Level	Supply Augmentation Methods and Other Actions by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	How much is this going to reduce the shortage gap? *Include units used (volume type or percentage)*	Additional Explanation or Reference *(optional)*
Add additional rows as needed			
1	Transfers	Not applicable (see Notes)	
2	Transfers	Not applicable (see Notes)	
3	Transfers	Not applicable (see Notes)	
4	Transfers	Not applicable (see Notes)	
5	Transfers	Not applicable (see Notes)	
6	Transfers	Not applicable (see Notes)	
NOTES: SSWC will consider increased production from the Main Basin using existing facilities to address increased demands. As noted on Table 8-2, SSWC plans to implement demand reduction measures in the event water supplies from existing sources are not sufficient to meet anticipated demands.			

8.4.3 OPERATIONAL CHANGES

During a water supply shortage situation, SSWC will manage its water supply resources to provide sufficient water supplies capable of meeting the demands of its customers. Section 8.4.1 describes SSWC's water supply sources and water supply augmentation actions available. Section 8.4.2 describes SSWC's standard water shortage levels and associated demand reduction measures. The supply augmentation actions and demand reduction measures, when implemented, may potentially result in short-term operational changes which are necessary to allow SSWC to utilize all available water supply sources in response to water shortage situations.

As noted in Section 8.2, beginning July 1, 2022, SSWC will prepare and submit an Annual Assessment which will include a review of the water supplies available to meet water demands for the current and upcoming years. Preparation of the Annual Assessment will assist SSWC in determining any potential operational changes. In addition, SSWC's standard water shortage levels and the associated demand reduction measures, in conjunction with SSWC's existing Demand Management Measures (DMMs) (discussed

in Chapter 9), will be essential to SSWC in reducing water demands during any water shortage period. The operational changes SSWC will consider in addressing non-catastrophic water shortages on a short-term basis include the following:

- Improved monitoring, analysis, and tracking of customer water usage to enforce demand reduction measures
- Optimized production from existing available water supply sources
- Potential use of emergency supply sources, including emergency interconnections
- Potential blending of water supply resources
- Improved monitoring, maintenance, and repairs to reduce water distribution system losses

8.4.4 ADDITIONAL MANDATORY RESTRICTIONS

The mandatory restrictions which are implemented by SSWC to reduce customer demands are discussed in Section 8.4.1. There are no additional mandatory restrictions planned at this time.

8.4.5 EMERGENCY RESPONSE PLAN

Catastrophic water shortages are incorporated in SSWC's standard water shortage levels (identified in Section 8.3) and the associated demand reduction measures (described in Section 8.4.1). In addition to the water supply augmentation actions (Section 8.4.2) and potential operational changes (Section 8.4.3) which SSWC may consider in order to continue providing sufficient water supplies, SSWC will review and implement any necessary steps included in its "Emergency Response Plan".

As part of the "America's Water Infrastructure Act of 2018", community water systems serving a population greater than 3,300 people, including SSWC, are required to review

and update their "Risk and Resilience Assessment" (RRA) and the associated "Emergency Response Plan" (ERP) every five (5) years. However, due to security concerns regarding the submitting of these reports, water systems are required to submit certifications to USEPA, from March 31, 2020 and December 30, 2021, confirming the current RRA and ERP have been reviewed and updated.

SSWC's RRA, prepared in 2021, evaluates the vulnerabilities, threats, and consequences from potential hazards to SSWC's water system. SSWC prepared its RRA (which is incorporated by reference) by evaluating the following items:

- Natural hazards and malevolent acts (i.e., all hazards);
- Resilience of water facility infrastructure (including pipes, physical barriers, water sources and collection, treatment, storage and distribution facilities, and electronic, computer and other automated systems);
- Monitoring practices;
- Financial systems (e.g., billing systems);
- Chemical storage and handling; and
- Operation and maintenance.

The District's RRA evaluated a series of potential malevolent acts, natural hazards, and other threats in order to estimate the potential "monetized risks" (i.e. associated economic consequences to both the water system and surrounding region, and the likelihood of occurrence) associated with SSWC water facility assets. The cost-effectiveness of implementing potential countermeasures to reduce risks was also reviewed.

SSWC's ERP, which will be completed later in 2021, will provide the management, procedures, and designated actions SSWC and its employees will implement during emergency situations (including catastrophic water shortages) resulting from natural disasters, system failures and other unforeseen circumstances. SSWC's ERP (which is

incorporated by reference) will provide the guidelines for evaluating an emergency situation, procedures for activating an emergency response, and details of the different response phases in order to ensure that customers receive a reliable and adequate supply of potable water. The scope of the ERP includes emergencies which directly affect the water system and the ability to maintain safe operations (such as a chlorine release, and earthquake or a threat of contamination). The ERP will also incorporate the results of SSWC's RRA and includes the following:

- Strategies and resources to improve resilience, including physical and cybersecurity
- Plans and procedures for responding to a natural hazard or malevolent act
- Actions and equipment to lessen the impact of a natural hazard or malevolent act
- Strategies to detect natural hazards or malevolent act

SSWC will review the ERP for procedures regarding the utilization of alternative water supply sources in response to water supply shortages, including during the standard water shortage levels. SSWC will also review applicable procedures described in the ERP regarding any necessary temporary shutdown of water supply facilities, including appropriate regulatory and public notifications.

8.4.6 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.

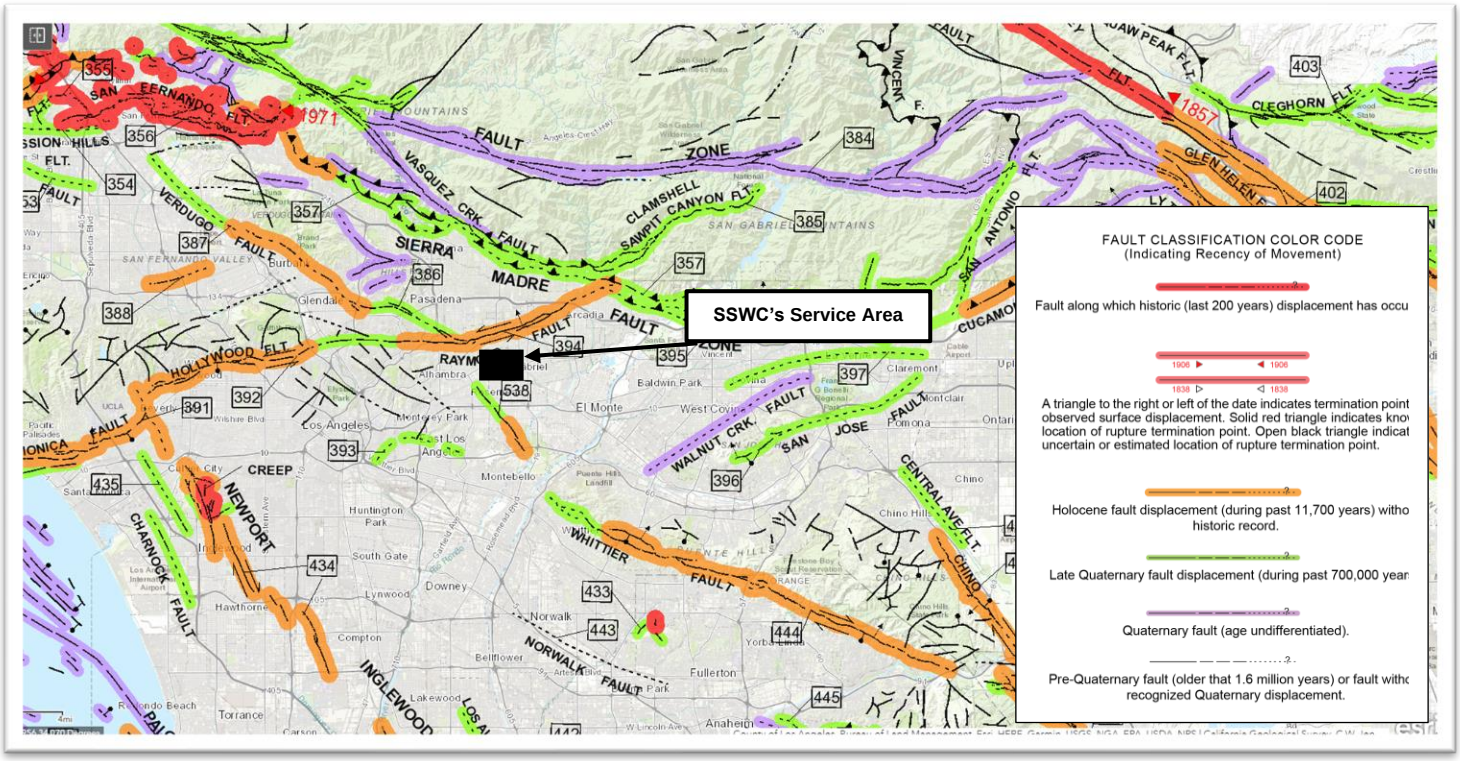
(b) An urban water supplier shall update the seismic risk assessment and mitigation plan when updating its urban water management plan as required by Section 10621.

(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.

The County of Los Angeles prepared a "All-Hazards Mitigation Plan" in 2019 which identified methods to assess significant natural hazards (including earthquakes) affecting areas throughout Los Angeles County, and the mitigation strategies necessary to reduce risks, including seismic risk. The County's All-Hazards Mitigation Plan is provided in Appendix M.

The California Geological Survey has published the locations of numerous faults which have been mapped in the Southern California region. Although the San Andreas fault is the most recognized and is capable of producing an earthquake with a magnitude greater than 8 on the Richter scale, some of the lesser-known faults have the potential to cause significant damage. The locations of these earthquake faults in the vicinity of SSWC's water service area are provided in the figure below. The faults that are located in close proximity to and could potentially cause significant shaking in SSWC's water service area include the San Andreas fault, the Walnut Creek fault, the Whittier fault, the Raymond fault, the Sierra Madre fault, and the East Montebello fault.

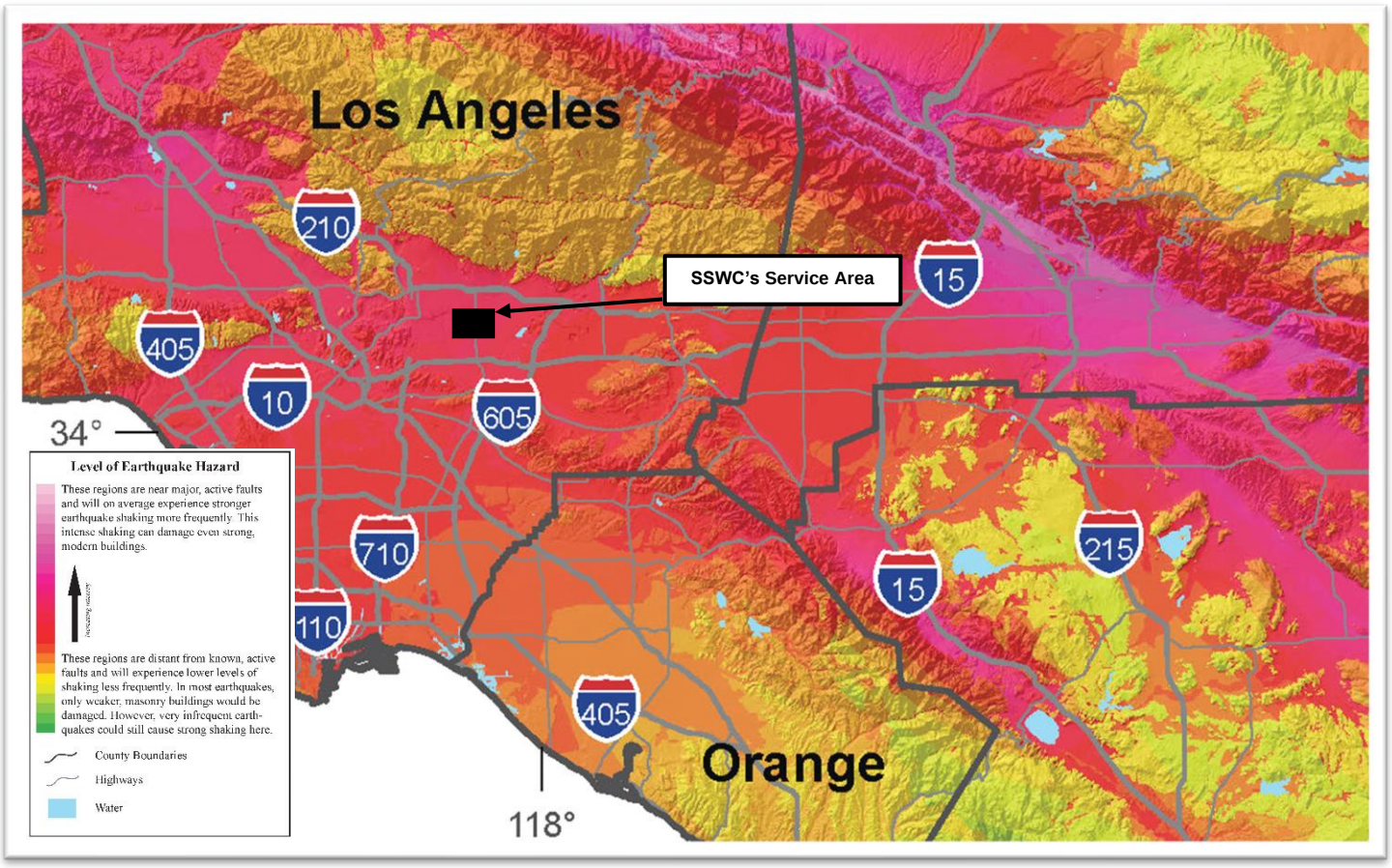
Location of Earthquake Faults



Source: https://maps.conservation.ca.gov/cgs/fam/App/

The following figure provides the relative intensity of ground shaking in the vicinity of SSWC's service area from anticipated future earthquakes. The locations of relatively long-period (1.0 second) earthquake shaking, including SSWC's service area, are provided. Long-period shaking affects tall, relatively flexible buildings, but also correlates with earthquake damage. The shaking potential is calculated based on the level of ground motion that has a 2 percent chance of being exceeded in 50 years (or the level of ground-shaking with an approximate 2,500-year average repeat time). As discussed in Section 8.4.5, SSWC is preparing an Emergency Response Plan which will provide the management, procedures, and designated actions SSWC and its employees will implement during emergency situations resulting from natural disasters, including during earthquakes, to ensure that customers receive a reliable and adequate supply of potable water. SSWC's ERP is incorporated by reference.

Earthquake Shaking Potential



Source: "Earthquake Shaking Potential for California", 2016, California Geological Survey and United States Geological Survey

8.4.7 SHORTAGE RESPONSE ACTION EFFECTIVENESS

The effectiveness of the shortage response actions for each of the standard water shortage levels identified in Section 8.3 is evident in SSWC's historical ability to meet its customer's water demands in response to a water supply shortage. In addition, SSWC imposes water consumption regulations and restrictions, and supports local agencies in efforts to enforce regulations and prohibitions on water use. The effectiveness of each of SSWC's shortage response actions, in order to reduce any potential gaps between supply and demand, has been quantified in the expected demand reduction provided in Table 8-2 and Table 8-3.

Section 6.1 provides a tabulation of SSWC's historical annual water demands for each water supply source. During the past 10 years, SSWC experienced a five consecutive year drought within its service area from CY 2011 to CY 2015. Throughout this extended dry year period, SSWC's annual water production ranged from 3,237 AF to 4,192 AF, with an average of approximately 3,872 AF. In addition, historical records indicate SSWC previously produced a maximum of up to 4,192 AF during CY 2013. SSWC has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. In addition, SSWC has been able to provide water service to meet maximum day water demands for these years, including during the summer months.

SSWC water demands during the most recent five years (from CY 2016 to CY 2020) averaged approximately 3,448 AFY. Due to conservation efforts and demand management measures (discussed in Chapter 9), SSWC's recent water demands have been less than its historical water demands, including during long-term droughts. SSWC's projected water demands (during normal year, single dry year, and five consecutive year drought) are provided in Section 7.2.3 and are anticipated to incorporate similar reductions in water use rates as a result of the shortage response actions, ongoing conservation efforts, and demand management measures. Because SSWC's projected water demands are similar to its historical water demands, it is anticipated SSWC will be able to continue providing sufficient water supplies to its customers to meet projected water demands, including during five consecutive year droughts. In addition, as discussed in Section 8.4.2, based on historical and on-going management practices, SSWC will be able to continue relying on its water supply sources from the Main Basin and Raymond Basin for adequate supply augmentation in response to each of the standard water shortage levels identified in Section 8.3.

Based on SSWC's demonstrated ability to meet water demands during past water supply shortages, the adopted water shortage levels, the adjusted operating safe yields, and

water supplies during five consecutive year droughts, it is anticipated that SSWC will be able to provide sufficient water supplies to its customers during each of its standard water shortage levels. Although adequate supplies are anticipated, the cost of those water supplies may become incrementally more expensive. SSWC will enact varying stages of its WSCP to encourage retail customers to reduce water consumption and at the same time reduce the need to use the more expensive water supplies. Notwithstanding, the effectiveness of each of SSWC shortage response actions, in order to reduce any potential gaps between supply and demand, has been quantified in the expected demand reduction section provided in Table 8-2 and Table 8-3. The effectiveness of SSWC's shortage response actions is based on SSWC's water demands prior to 2015 (unconstrained demands). SSWC reduced its water demands in 2015 in response to the Governor's April 1, 2015 Executive Order B-29-15 which mandated statewide reduction in water use of 25 percent. SSWC's actual water demand reduction during this period was used to estimate the extent of water use reductions for SSWC's Water Shortage Stages. SSWC's Water Shortage Levels 1, 2, 3, 4, 5, and 6 are expected to reduce water demands by up to 10%, 20%, 30%, 40%, 50%, and greater than 50%, respectively.

8.5 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.

The existence of Water Supply Shortage Stage conditions may be declared by resolution and adopted at a regular or special Board meeting held by SSWC in accordance with State law. The mandatory conservation requirements applicable to each Water Shortage Stage condition will take effect after the Stage level is declared. Following the declaration of the shortage level, SSWC will publish a copy of the resolution in a newspaper used for publication of official notices.

8.6 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.

Penalties for failure to comply with the aforementioned water conservation restrictions are as follows:

1. Door Hangers: In Stage 1 and 2, SSWC will leave three Courtesy Reminders then move on the violations. In Stage 3, 4, 5, and 6, SSWC will go straight to First Violation.
2. First Violation: SSWC will issue a written warning along with a penalty assessment not to exceed one hundred dollars, which will be subject to collection by SSWC as are all other rates, charges and assessments and deliver a copy of this WSCP to the shareholder of record for the property on which the violation occurred by hand delivery or United States Postal Service first class mail.
3. Second Violation: A second violation within the following twelve calendar months of the first violation will subject the shareholder's account for the property on which the violation occurred to a penalty assessment not to exceed two hundred fifty dollars, which will be subject to collection by SSWC as are all other rates, charges and assessments.

4. Third Violation: A third violation within the following twelve calendar months of the first violation will subject the shareholder's account for the property on which the violation occurred to a penalty assessment not to exceed five hundred dollars, which will be subject to collection by SSWC as are all other rates, charges and assessments.
5. Water Flow Restrictor: In addition to any penalty assessments, SSWC may install a water flow restrictor device of approximately one gallon per minute capacity for service pipe up to one and one-half inch size and comparatively sized restrictors for larger services after issuance by SSWC of a written notice of intent to install a flow restrictor for a minimum of 5 business days.
6. Discontinuing Service: In addition to any penalty assessments and the installation of a water flow restrictor, the Company may disconnect a shareholder's water service for willful violations of mandatory water conservation restrictions. Reconnection fees may apply.

8.7 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.

CWC Division 1, Section 350

The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, shall declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

SSWC General Manager or his or her designated representative is hereby authorized and directed to implement the staged water conservation and enforcement provisions of the WSCP, as necessary. In that regard, the General Manager or his or her designated representative shall have the authority to select from among the mandatory water use restrictions, including daily irrigation limitations, specified for each stage of water supply shortage based on SSWC's then existing water supply conditions.

SSWC's General Manager, or designee, may declare a water shortage emergency and may immediately enact the mandatory requirements of any of the water supply shortage stages designated herein. The required measures of the designated water supply shortage stage will be effective immediately and will be communicated to the public. The emergency implementation will be ratified by resolution of SSWC's Board of Directors at its next meeting.

SSWC shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency.

8.8 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.

Potential revenue reductions and expenses increases associated with activated shortage response actions are regulated and tracked by SSWC's Finance Manager.

During periods of water supply shortages, state-mandated water use restrictions, or emergency conditions, SSWC may require its customers to reduce demands below levels projected under the current water rate structure. Under any of these circumstances, SSWC may experience a decrease in revenues that may result in insufficient funds to meet projected expenses.

In order to offset any decline in revenues, SSWC's Board of Directors may adopt resolutions to make additional adjustments to the water rates based on SSWC's increased costs to provide water to its customers.

8.9 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.

Customer compliance of the provisions adopted by declaration of a WSCP are monitored and reported through water loss audits performed by SSWC. Staff prepares annual Distribution System Water Audits to monitor water losses. Staff reviews the audits to track real and apparent losses. Losses are monitored by comparing water production to sales. SSWC regularly monitors its system and repairs leaks in a timely manner. This includes regular checks on valves and meters, and pipeline maintenance. If leaks are encountered or suspected during routine inspection of the system, further evaluation is conducted. If leaks are found, they are repaired.

8.10 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.

SSWC's WSCP has been prepared as an adaptive management plan. As discussed in Section 8.9, SSWC will monitor and report on the implementation of the WSCP. SSWC will review the implementation results for any current or potential shortage gaps between water supplies and demands. SSWC will evaluate the need for revising the WSCP in order to resolve any shortage gaps, as necessary. SSWC will consider the following potential revisions in the event of a potential shortage gap:

- Implementation of additional public outreach, education, and communication programs (in addition to the programs discussed in Chapter 9).
- Implementation of more stringent water use restrictions under the standard water shortage levels (discussed in Section 8.4.2)
- Implementation of stricter enforcement actions and penalties (discussed in Section 8.6)
- Improvements to the water supply augmentation responses (discussed in Section 8.4.1), as well as any associated operational changes (discussed in Section 8.4.3) which may be required
- Incorporation of additional actions recommended by SSWC staff or other interested parties

SSWC will use the monitoring and reporting data to evaluate the ability for these potential revisions to resolve any shortage gaps which may occur within the standard water shortage levels.

This WSCP is adopted as part of SSWC's 2020 Urban Water Management Plan adoption process discussed in Section 10.3. It is anticipated SSWC will review, revise, and adopt an updated Water Shortage Contingency Plan as part of preparing its 2025 Urban Water Management Plan as necessary. However, SSWC will continue to review the monitoring and reporting data, and if needed, update the WSCP more frequently. Any updates to the SSWC's will include a public hearing and adoption process by SSWC's Board (see Section 8.12).

8.11 SPECIAL WATER FEATURE DISTINCTION

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.

SSWC's WSCP defines "decorative water features" as water features which are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, but excluding pools and spas. In general, there are additional health and safety considerations in the water supplied to pools and spas compared to decorative water features. As a result, SSWC's WSCP has reviewed the response actions, enforcement actions, and monitoring and reporting programs separately for decorative water features and for pools and spas, as applicable.

8.12 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

CWC 10632.

(a)(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.

SSWC's WSCP is adopted as part of SSWC's 2020 Urban Water Management Plan adoption process discussed in Chapter 10. The process for adopting SSWC's WSCP includes the following:

- SSWC will conduct a public hearing and make the WSCP available for public inspection.
- SSWC will provide notification of the time and place of the public hearing to any city or county in which water is provided.
- SSWC will publish notice of public hearing in a newspaper once a week, for two successive weeks (with at least five days between publication dates).
- SSWC's Board will adopt the 2020 Urban Water Management Plan and the WSCP.
- As part of submitting the 2020 Urban Water Management Plan to DWR, SSWC will also submit the WSCP (electronically through DWR's online submittal tool) within 30 days of adoption and by July 1, 2021. SSWC will submit a copy of the WSCP to the California State Library and to any city or county in which water is provided within 30 days of adoption. In addition, SSWC will make the WSCP available for public review within 30 days of adoption.

If there are any subsequent amendments required, the process for adopting an amended Water Shortage Contingency Plan includes the following:

- SSWC will conduct a public hearing and make the amended WSCP available for public inspection.
- SSWC's Board will adopt the amended WSCP.
- SSWC will submit the amended WSCP to DWR (electronically through DWR's online submittal tool) within 30 days of adoption

Additional information regarding the adoption, submittal, and availability of SSWC's WSCP (and 2020 Urban Water Management Plan) is provided in Chapter 10.

CHAPTER 9

DEMAND MANAGEMENT MEASURES

LAY DESCRIPTION – CHAPTER 9

DEMAND MANAGEMENT MEASURES

Chapter 9 (Demand Management Measures) of SSWC's 2020 Plan discusses and provides the following:

- SSWC has implemented "Demand Management Measures" to reduce its water demands and achieve its water use targets (discussed in Chapter 5)
- SSWC's Demand Management Measures include adoption of a Water Shortage Plan to prevent water waste.
- SSWC's Demand Management Measures include metering of all customer connections, including separate metering for single-family residential, multi-family, and commercial facilities.
- SSWC's Demand Management Measures include conservation pricing. SSWC's current water rate structure is tiered to promote water conservation by customers.
- SSWC's Demand Management Measures include public education and outreach programs regarding water conservation.
- SSWC's Demand Management Measures include various actions to assess and manage water distribution system losses.
- Additional Demand Management Measures including rebate, conservation, and educational programs are discussed.

- A summary of the Demand Management Measures SSWC has implemented over the past five (5) years is provided. SSWC met the 2020 Water Use Target (discussed in Chapter 5) through the implementation of these Demand Management Measures.

9.1 DEMAND MANAGEMENT MEASURES FOR WHOLESALE SUPPLIERS

CWC 10631.

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

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

(ii) Metering.

(iv) Public education and outreach.
(vi) Water conservation program coordination and staffing support.

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

(2) For an urban wholesale water supplier, as defined in Section 10608.12, a narrative description of the items in clauses (ii), (iv), (vi), and (vii) of subparagraph (B) of paragraph (1), and a narrative description of its distribution system asset management and wholesale supplier assistance programs.

SSWC is not a wholesale agency and is not required by DWR to complete Section 9.1.

9.2 EXISTING DEMAND MANAGEMENT MEASURES FOR RETAIL SUPPLIERS

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.

9.2.1 WATER WASTE PREVENTION ORDINANCES

Waste is defined as any excessive, unnecessary, or unwarranted use of water, including but not limited to any use which causes unnecessary runoff beyond the boundaries of any property as served by its meter and any failure to repair as soon as reasonably possible any leak or rupture in any water pipes, faucets, valves, plumbing fixtures or other water service appliances. In 2015, SSWC adopted a Water Shortage Plan to establish water conservation measures, staged water supply shortage reductions actions, and to prevent any water use practices that SSWC deems as "wasteful". The adoption of the Water Shortage Plan was part of a comprehensive water shortage planning effort to manage

SSWC's response to any water supply challenges it may encounter. SSWC will review and update as necessary when DWR publishes urban water use targets for its service area in accordance SB 606 and AB 1668 regulations.

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… located within its service area.

CWC 527.

(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.

SSWC meters all customer connections, including separate metering for single-family residential, multi-family, and commercial facilities. Furthermore, if there is new development within SSWC, each facility is individually metered. Service charges for SSWC are based on the customers' connection size. Further information regarding SSWC's service fees and conservation pricing is provided in Section 9.2.3.

9.2.3 CONSERVATION PRICING

SSWC has two water rate charges: the commodity charge and the service charge. Since 2015, there are two seasonal water rates for both the commodity charge and the service charge. Between May through October, the water quantity rates per 100 cubic feet are less expensive than rates during November through April. The service charge is added to the commodity charge to comprise the total water bill. The service charge is based on

the size of the meter. Water bills are sent out each month. Under the commodity charge, SSWC's customers receive a discount on their water bill if they use less than 800 cubic feet of water per month. The water rates have been developed to fund the cost of water and are related to the overall cost of water service. A water rate sheet showing current rates is provided in Appendix N.

9.2.4 PUBLIC EDUCATION AND OUTREACH

As a sub-agency of Upper District, SSWC implements this DMM through Upper District's public information programs. Upper District offers conservation brochures and posters, activity booklets, public outreach displays, oral presentations, and workshops to inform the public of conservation efforts. Upper District also raises awareness about water conservation through paid advertising, press releases, news ads, media events, and through the Speaker's Bureau. Annually, Upper District also hosts a water awareness festival, known as Water Fest, to raise public awareness about water conservation, water quality, and other water-related issues. Additional information regarding Upper District's public information programs can be found in Upper District's 2020 Plan.

In addition, SSWC has provided public information programs to educate and inform the general public about the role water plays, either directly or indirectly, within the community. These include working with social groups, notifying public about any arising water issues, responding promptly to requests for information, and organizing water awareness festivals and social events.

SSWC notifies consumers of the need for water conservation by printing water conservation messages and tips on water bills to inform customers. In addition, SSWC's customers are also encouraged to participate in other social events and programs hosted by Upper District. These events include the annual Water Fest, 5K walk, "Water Wise Gardens" event, and others.

9.2.5 PROGRAMS TO ASSESS AND MANAGE DISTRIBUTION SYSTEM REAL LOSS

SSWC conducts a monthly check of water production records to determine any losses within its water system. If losses are found to be continued and excessive, a system wide leak detection is performed. Based on the AWWA Water Audit, overall losses for SSWC's distribution system over the past 12 months was approximately 8.2 percent of total production.

In addition, SSWC assists residents in auditing their water use and in identifying and locating water leaks on their property. SSWC's service representatives are trained to determine if a leak exists in the customer's private water system. If the problem is determined to exist in the customer's private system, the service representative will make the customer aware of the unusual high or low water demand. If the customer makes a request, the service representative will inspect the customer's private system and will make recommendations about repairing or replacing faulty or inefficient equipment.

9.2.6 WATER CONSERVATION PROGRAM COORDINATION AND STAFFING SUPPORT

As a sub-agency of Upper District, SSWC implements this DMM. Conservation programs available to the SSWC's customers through Upper District are coordinated by a water conservation coordinator. The conservation coordinator employed by Upper District promotes water conservation issues and programs. The position was created in 1992 as a full-time position. The water conservation coordinator conducts research on water management practices and advises the Upper District Board Members and its sub-agencies, including SSWC, on water conservation matters. More information about Upper District's water conservation coordinator can be found in its 2020 Plan.

9.2.7 OTHER DEMAND MANAGEMENT MEASURES

Rebate Programs

Upper District, in partnership with MWD, implement region-wide rebate programs through MWD's SoCal Water$mart program. As a sub-agency of Upper District, SSWC currently offers rebates to qualifying residential customers for high-efficiency washing machines, high-efficiency toilets, energy star dishwashers, weather-based irrigation controllers, rain barrels and pool covers. The rebate application, along with a list of qualifying appliances, are listed on MWD's "Be Water Wise" website. During CY 2015 through CY 2020, SSWC provided rebates for this program.

9.3 REPORTING IMPLEMENTATION

9.3.1 IMPLEMENTATION OVER THE PAST FIVE YEARS

CWC 10631.

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

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

SSWC is committed to implementing water conservation programs and works collaboratively with Upper District to provide water conservation programs for its residents. As a sub-agency of Upper District, SSWC's residents have the benefit of participating in Upper District's conservation efforts. The highlights of DMM implementation over the past five years are described below.

As discussed in Section 9.2.1, in 2015, SSWC adopted a Water Shortage Plan to establish water conservation measures, staged water supply shortage reduction actions,

and to prevent any water use practices that SSWC deems as wasteful. During CY 2015 through CY 2020, SSWC's Water Shortage Plan has been in effect.

As discussed in Section 9.2.2, SSWC metered all customer connections, including separate metering for single-family residential, multi-family, and commercial facilities during the past five years. Furthermore, if there was new development within SSWC, each facility was individually metered. Service charges for SSWC are based on the customers' connection size.

As discussed in Section 9.2.3, SSWC has two water rate charges: the commodity charge and the service charge. Since 2015, there are two seasonal water rates for both the commodity charge and the service charge. Between May through October, the water quantity rates per 100 cubic feet are less expensive than rates during November through April. The service charge is added to the commodity charge to comprise the total water bill. The service charge is based on the size of the meter. Water bills are sent out each month. Under the commodity charge, SSWC's customers receive a discount on their water bill if they use less than 800 cubic feet of water per month.

As discussed in Section 9.2.4, SSWC implemented public information programs through Upper District. Upper District offers conservation brochures and posters, activity booklets, public outreach displays, oral presentations, and workshops to inform the public of conservation efforts. Upper District also raises awareness about water conservation through paid advertising, press releases, news ads, media events, and through the Speaker's Bureau. Annually, Upper District also hosts a water awareness festival, known as Water Fest, to raise public awareness about water conservation, water quality, and other water-related issues.

In addition, SSWC has provided public information programs to educate and inform the general public about the role water plays, either directly or indirectly, within the community. These included working with social groups, notifying public about any arising

water issues, responding promptly to requests for information, and organizing water awareness festivals and social events.

As discussed in Section 9.2.5, SSWC assisted residents in auditing their water use and in identifying and locating water leaks on their property. SSWC's service representatives are trained to determine if a leak exists in the customer's private water system. If the problem is determined to exist in the customer's private system, the service representative will make the customer aware of the unusual high or low water demand. If the customer makes a request, the service representative will inspect the customer's private system and will make recommendations about repairing or replacing faulty or inefficient equipment.

As described in Section 9.2.6, programs available to the SSWC's customers through Upper District were coordinated by a water conservation coordinator. The conservation coordinator employed by Upper District promotes water conservation issues and programs. The water conservation coordinator conducts research on water management practices and advises the Upper District Board Members and its sub-agencies, including SSWC, on water conservation matters.

Other DMMs, such as rebate programs, employed by SSWC are discussed in Section 9.2.7. Upper District, in partnership with MWD, implemented region-wide rebate programs through MWD's SoCal Water$mart program. As a sub-agency of Upper District, SSWC offered rebates to qualifying residential customers for high-efficiency washing machines, high-efficiency toilets, energy star dishwashers, weather-based irrigation controllers, rain barrels and pool covers during CY 2015 through CY 2020. The rebate application, along with a list of qualifying appliances, are listed on MWD's "Be Water Wise" website.

9.3.2 IMPLEMENTATION TO ACHIEVE WATER USE TARGETS

CWC 10631.

(e)(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.

The Demand Management Measures implemented by SSWC are discussed in Section 9.2. Descriptions regarding the nature and extent of these Demand Management Measures implemented by SSWC over the past five years are discussed in Section 9.3. SSWC will continue to implement these Demand Management Measures and other water conservation programs and work collaboratively with Upper District to provide water conservation programs for its residents.

As discussed in Section 5.5, SSWC's per-capita water use during CY 2020 was 128 GPCD. SSWC's confirmed 2020 Water Use Target is 138 GPCD. SSWC's per-capita water use during CY 2020 meets the 2020 Water Use Target and is in compliance. SSWC met the 2020 Water Use Target through the implementation of the Demand Management Measures discussed in Section 9.2. Continued implementation of these Demand Management Measures will assist SSWC in meeting water use targets and objectives.

9.4 WATER USE OBJECTIVES (FUTURE REQUIREMENTS)

SSWC is currently working with DWR to develop Water Use Objectives pursuant to AB 1668 and SB 606. Beginning in 2024, water agencies, including SSWC, are required to begin reporting compliance of their Water Use Objectives consisting of indoor residential water use, outdoor residential water use, commercial, industrial and institutional, irrigation with dedicated meters, water loss, and other unique local uses. SSWC plans to meet its Water Use Objectives through continued implementation of the Demand Management Measures discussed in Section 9.2.

CHAPTER 10

PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

LAY DESCRIPTION – CHAPTER 10

PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

Chapter 10 (Plan Adoption, Submittal, and Implementation) of SSWC's 2020 Plan discusses and provides the following:

- The steps SSWC has performed to adopt and submit its 2020 Plan are detailed
- The steps SSWC has performed to adopt and submit its Water Shortage Contingency Plan are detailed
- SSWC coordinated the preparation of the 2020 Plan with the Raymond Basin Management Board, the Main Basin Watermaster, and Upper District. SSWC notified these agencies, as well as the cities and county within which SSWC provides water supplies. SSWC notified these agencies at least sixty (60) days prior to the public hearing of the preparation of the 2020 Plan and invited these agencies to participate in the development of the 2020 Plan.
- SSWC provided a notice of the public hearing to the same agencies regarding the time, date, and place of the public hearing.
- SSWC published a newspaper notification of the public hearing, once a week for two successive weeks
- SSWC conducted a public hearing to discuss and adopt SSWC's 2020 Plan and SSWC's Water Shortage Contingency Plan.

- Within 30 days of adoption, SSWC submitted the 2020 Plan and Water Shortage Contingency Plan to the California Department of Water Resources.
- Within 30 days of adoption, SSWC submitted all data tables associated with the 2020 Plan to the California Department of Water Resources.
- Within 30 days of adoption, SSWC submitted a copy of the 2020 Plan to the State of California Library.
- Within 30 days of adoption, SSWC submitted a copy of the 2020 Plan (and Water Shortage Contingency Plan) to the County of Los Angeles Recorder/ Clerk's office and SSWC's main office.
- Within 30 days after submittal of the 2020 Plan to the California Department of Water Resources, SSWC made the 2020 Plan (including the Water Shortage Contingency Plan) available at SSWC's main office and on SSWC's website.
- The steps SSWC will perform to amend the 2020 Plan and/or the Water Shortage Contingency Plan, if necessary, are provided.

10.1 INCLUSION OF ALL 2020 DATA

The data provided in SSWC's 2020 Plan and the Water Shortage Contingency Plan is provided on a CY basis through December 31, 2020 (as discussed in Section 2.5).

10.2 NOTICE OF PUBLIC HEARING

SSWC's public hearing notification process for its 2020 Plan and the Water Shortage Contingency Plan is discussed below.

10.2.1 NOTICE TO CITIES AND COUNTIES

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.

CWC 10642.

(b) …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… A privately owned water supplier shall provide an equivalent notice within its service area….

10.2.1.1 60 DAY NOTIFICATION

As discussed in Section 2.6.2., SSWC coordinated the preparation of the 2020 Plan with the Raymond Basin Management Board, the Main Basin Watermaster, and Upper District. SSWC notified these agencies, as well as the cities and county within which SSWC provides water supplies, at least sixty (60) days prior to the public hearing of the preparation of the 2020 Plan and invited them to participate in the development of the Plan. A copy of the notification letters sent to these agencies is provided in Appendix D.

10.2.1.2 NOTICE OF PUBLIC HEARING

SSWC provided a notice of the public hearing to the Raymond Basin Management Board, the Main Basin Watermaster, and Upper District, as well as the cities and county within which SSWC provides water supplies. The notice includes the time and place of the public hearing. To ensure the draft 2020 Plan and the draft Water Shortage Contingency Plan were available for review, SSWC placed a copy at its main office location and made a copy available for review on its website. Copies of the notice of the public hearing are provided in Appendix D.

10.2.1.3 SUBMITTAL TABLES

Table 10-1 summarizes the agencies which were provided notifications by SSWC.

Table 10-1 Notification to Cities and Counties

Submittal Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Arcadia	Yes	Yes
San Gabriel	Yes	Yes
San Marino	Yes	Yes
Temple City	Yes	Yes
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
Los Angeles County	Yes	Yes
NOTES:		

10.2.2 NOTICE TO THE PUBLIC

CWC 10642.

…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.

Government Code 6066.

Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.

SSWC encouraged the active involvement of the population within its service area prior to and during the preparation of the Plan. Pursuant to Section 6066 of the Government Code, SSWC published notices of the public hearing in the newspaper. A notice of public hearing was also provided to SSWC's main office and was posted throughout SSWC's service area and on SSWC's website. A copy of the published notice is provided in Appendix D. To ensure the draft 2020 Plan and the draft Water Shortage Contingency Plan were available for review, SSWC placed a copy at SSWC's main office and made a copy available for review on its website.

10.3 PUBLIC HEARING AND ADOPTION

CWC 10642.

…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.

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.

10.3.1 PUBLIC HEARING

Prior to adopting the draft 2020 Plan and the draft Water Shortage Contingency Plan, SSWC held a public hearing on June 16, 2021 which included input from the community regarding SSWC's draft 2020 Plan and the draft Water Shortage Contingency Plan. As part of the public hearing, SSWC adopted a method to determine of its water use targets through selection of Target Method 3 (see Section 5.2.1 and Appendix G). In addition, SSWC considered the economic impacts of meeting these water use targets; including measures described in Section 8.8.

10.3.2 ADOPTION

CWC 10642.

… 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.

Following the public hearing, SSWC adopted both the draft 2020 Plan and the draft Water Shortage Contingency Plan (included in Chapter 8). A copy of the resolution adopting the 2020 Plan and the Water Shortage Contingency Plan is provided in Appendix O.

10.4 PLAN SUBMITTAL

CWC 10621.

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

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.

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.

SSWC's submittal process for its 2020 Plan and the Water Shortage Contingency Plan is discussed below.

10.4.1 SUBMITTING A UWMP AND WATER SHORTAGE CONTINGENCY PLAN TO DWR

Within 30 days of adoption, SSWC submitted the adopted 2020 Plan (including the Water Shortage Contingency Plan) to DWR. The 2020 Plan and Water Shortage Contingency Plan will be submitted through DWR's "Water Use Efficiency (WUE) Data Portal" website.

DWR developed a checklist which was used by SSWC to assist DWR with its determination that SSWC's 2020 Plan has addressed the requirements of the California

Water Code. SSWC has completed the DWR checklist by indicating where the required CWC elements can be found within SSWC's 2020 Plan (See Appendix C).

10.4.2 ELECTRONIC DATA SUBMITTAL

CWC 10644.

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

Within 30 days of adoption of the 2020 Plan, SSWC submitted all data tables associated with the 2020 Plan through DWR's "Water Use Efficiency Data Portal" website.

10.4.3 SUBMITTING A UWMP TO THE CALIFORNIA STATE LIBRARY

Within 30 days of adoption of the 2020 Plan by SSWC's Board of Directors, a copy (CD or hardcopy) of the 2020 Plan was submitted to the State of California Library. A copy of the letter to the State Library will be maintained in SSWC's file. The 2020 Plan will be mailed to the following address if sent by regular mail:

California State Library
Government Publications Section
Attention: Coordinator, Urban Water Management Plans
P.O. Box 942837
Sacramento, CA 94237-0001

The 2020 Plan will be mailed to the following address if sent by courier or overnight carrier:

California State Library
Government Publications Section
Attention: Coordinator, Urban Water Management Plans
900 N Street
Sacramento, CA 95814

10.4.4 SUBMITTING A UWMP TO CITIES AND COUNTIES

Within 30 days of adoption of the 2020 Plan (including the Water Shortage Contingency Plan) by SSWC's Board of Directors, a copy of the 2020 Plan was submitted to the County of Los Angeles Registrar / Recorders office and to SSWC's main office. A copy of the letter to the County of Los Angeles will be maintained in SSWC's file.

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.

Within 30 days after submittal of the 2020 Plan to DWR, SSWC made the 2020 Plan (including the Water Shortage Contingency Plan) available at its main office during normal business hours and on SSWC's website.

10.6 NOTIFICATION TO 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.

SSWC is not regulated by the California Public Utilities Commission.

10.7 AMENDING AN ADOPTED UWMP OR WATER SHORTAGE CONTINGENCY PLAN

CWC 10621.

(d)The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

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.

SSWC's amendment process for its 2020 Plan is discussed below.

10.7.1 AMENDING A UWMP

If SSWC amends the adopted 2020 Plan, the amended Plan will undergo adoption by SSWC's Board of Directors. Within 30 days of adoption, the amended Plan will then be submitted to DWR, the State of California Library, the County of Los Angeles Registrar / Recorders office, and SSWC's main office.

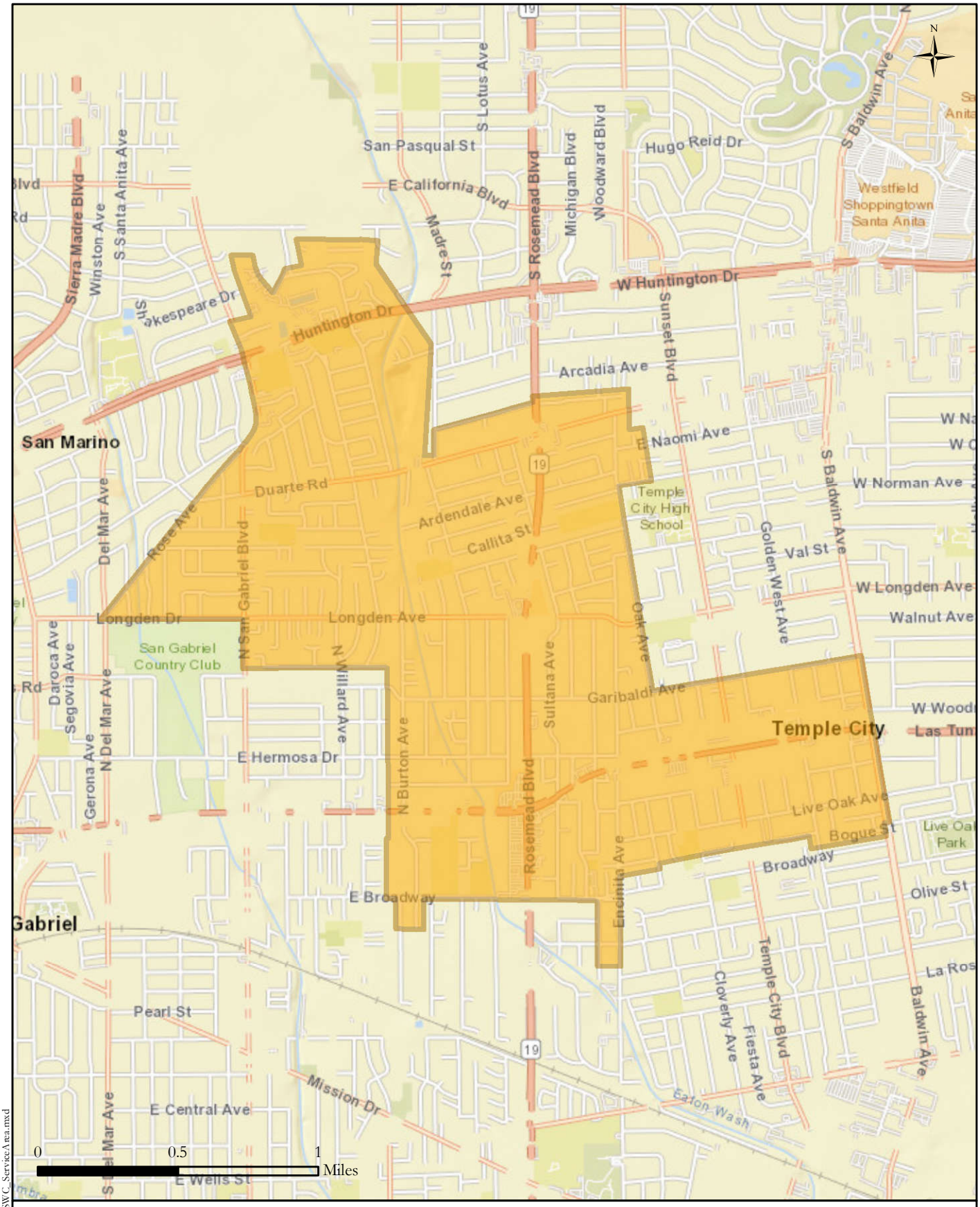
10.7.2 AMENDING A WATER SHORTAGE CONTINGENCY PLAN

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 SSWC amends the adopted 2020 Plan (including the Water Shortage Contingency Plan), the amended Plan (and Water Shortage Contingency Plan) will undergo adoption by SSWC's Board of Directors. Within 30 days of adoption, the amended Plan (and Water Shortage Contingency Plan) will then be submitted to DWR, the State of California Library, the County of Los Angeles Registrar / Recorders office, and SSWC's main office.

FIGURE 1

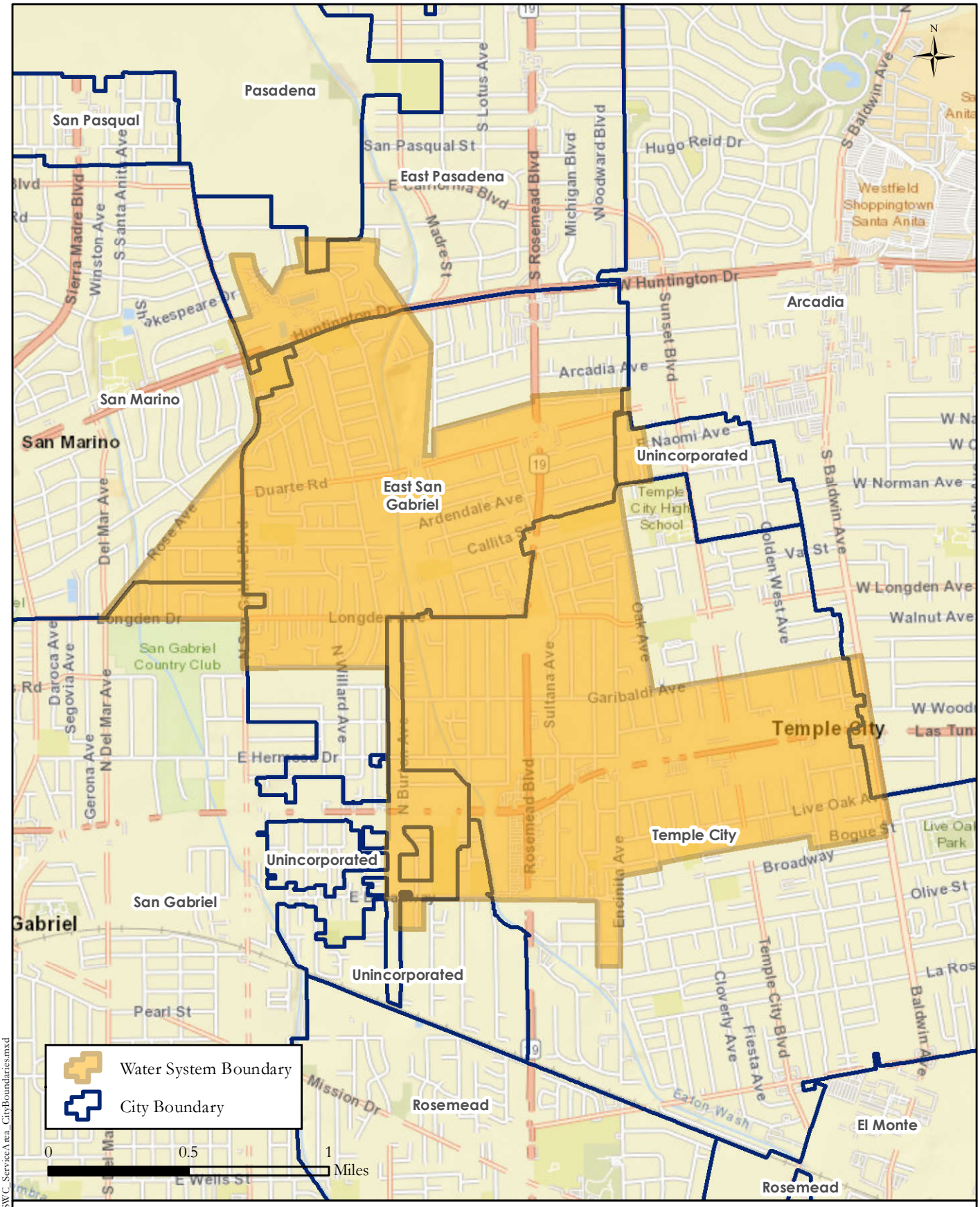


Document Path: J:\jn2741\SSWC_ServiceArea.mxd

STETSON ENGINEERS INC.

SUNNY SLOPE WATER COMPANY
WATER SERVICE AREA

FIGURE 2

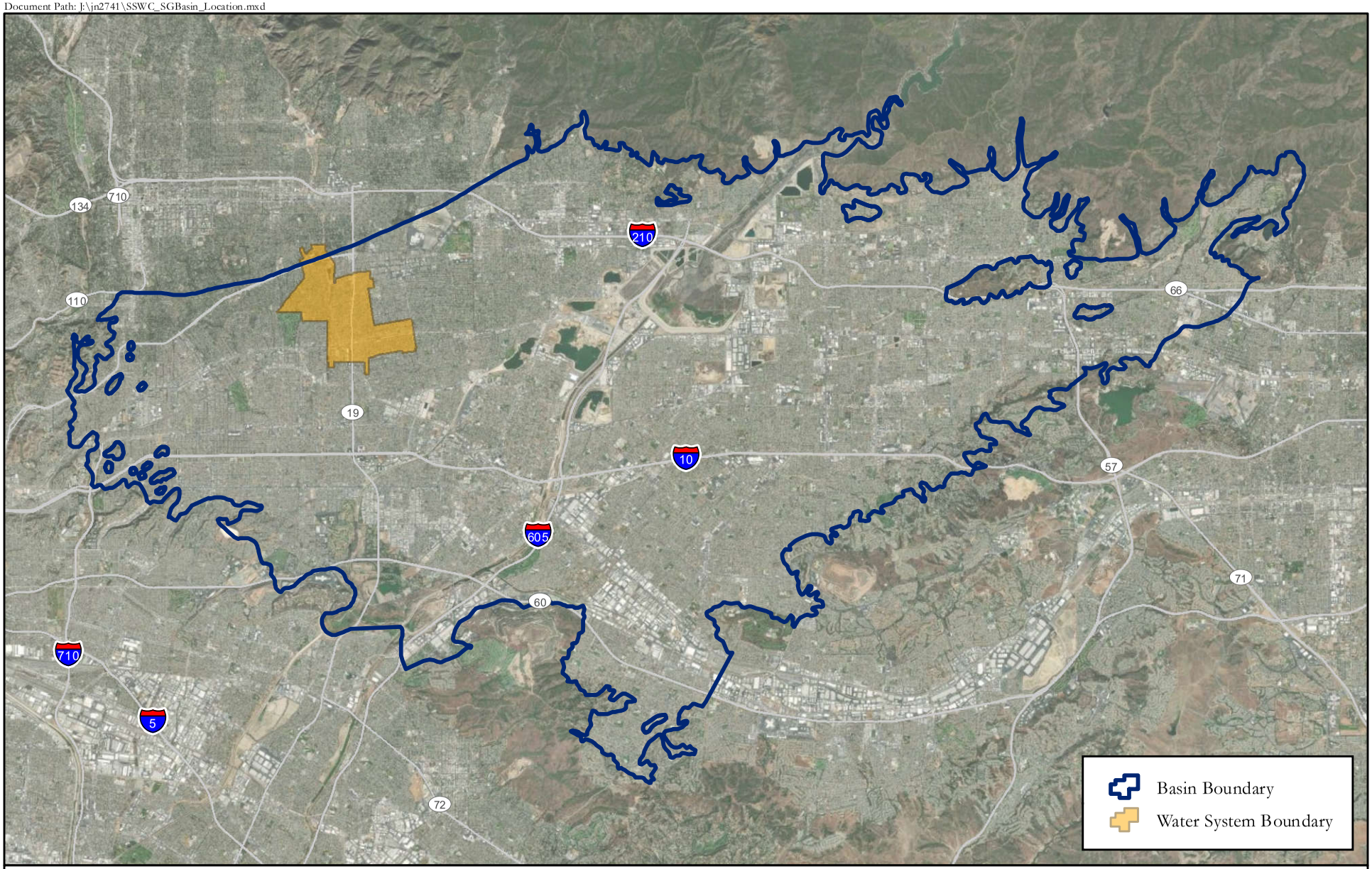


Document Path: J:\jn2741\SSWC_ServiceArea_CityBoundaries.mxd

STETSON ENGINEERS INC.

SUNNY SLOPE WATER COMPANY
WATER SERVICE AREA
AND CITY BOUNDARIES

Document Path: J:\jn2741\SSWC_SGBasin_Location.mxd



STETSON ENGINEERS INC.

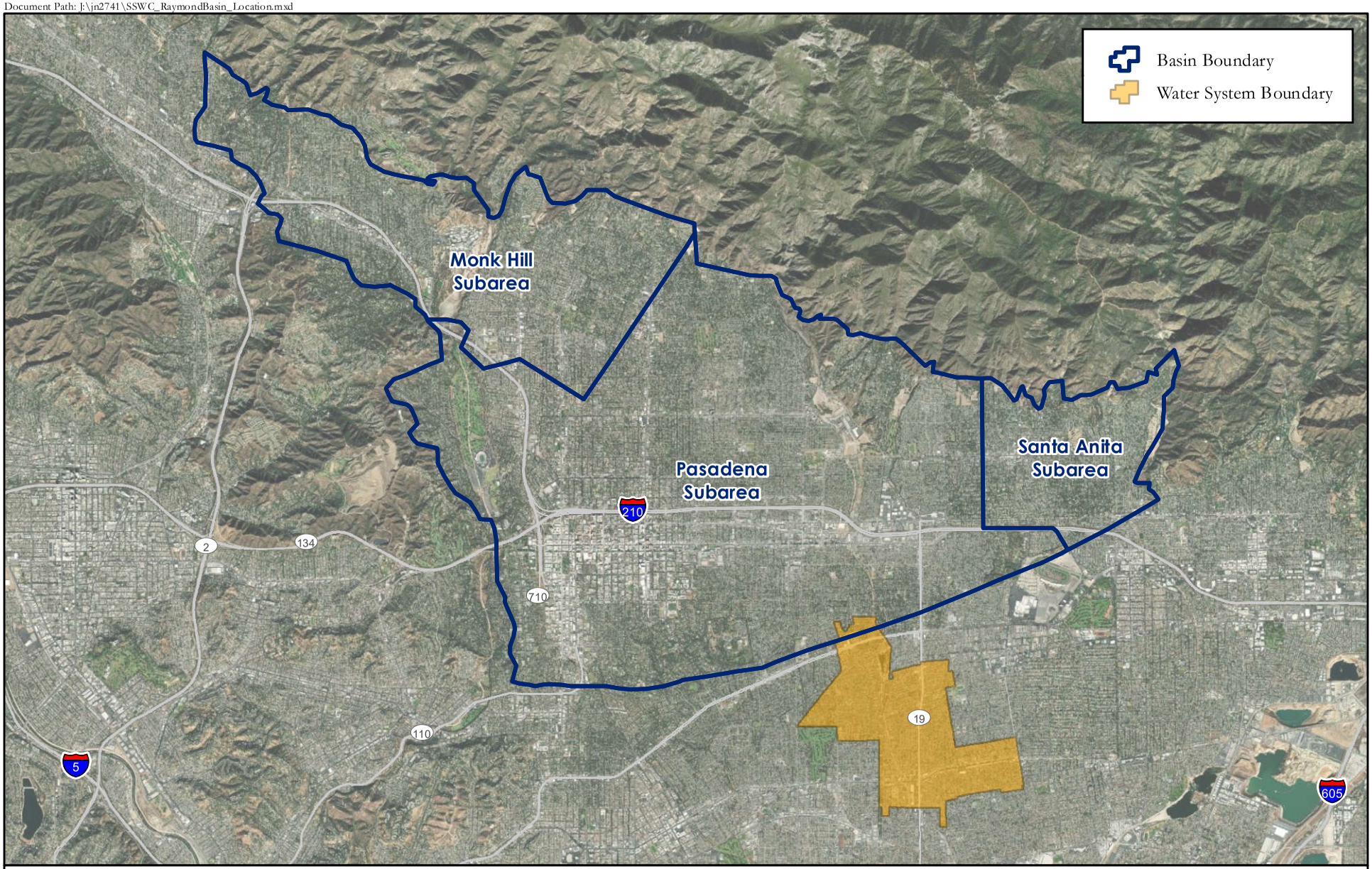
SUNNY SLOPE WATER COMPANY
MAIN SAN GABRIEL BASIN LOCATION

0 1.5 3 Miles

N

FIGURE 3

Document Path: J:\jn2741\SSWC_RaymondBasin_Location.mxd



STETSON ENGINEERS INC.

SUNNY SLOPE WATER COMPANY
RAYMOND BASIN LOCATION

0 1 2 Miles

N

FIGURE 4