CITY OF ONTARIO

CITY OF ONTARIO

JUNE 2021

FINAL

2020 URBAN WATER MANAGEMENT PLAN

STETSON ENGINEERS INC.

Northern California • Southern California • Arizona • Colorado • Oregon

City of Ontario
2020 Urban Water Management Plan

JUNE 2021

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LIST OF ACRONYMS

1,2,3-TCP	1,2,3-Trichloropropane
AB	Assembly Bill
AF	Acre-feet
AFY	Acre-feet per year
Annual Assessment	Annual Water Supply and Demand Assessment
AWWA	American Water Works Association
CBWCD	Chino Basin Water Conservation District
CCWRF	Carbon Canyon Water Recycling Facility
CEQA	California Environmental Quality Act
CDA	Chino Basin Desalter Authority
CIMIS	California Irrigation Management Information System
City	City of Ontario
CPUC	California Public Utilities Commission
CWC	California Water Code
DACs	Disadvantaged Communities
Delta	Sacramento-San Joaquin Delta
DMMs	Demand Management Measures
DOF	Department of Finance
DRA	Drought Risk Assessment
DWR	Department of Water Resources
DYYP	Dry-Year Yield Program
ERP	Emergency Response Plan
ETo	Evapotranspiration
FEMA	Federal Emergency Management Agency
FY	Fiscal Year
GCMs	General Circulation Models
GIS	Geographical Information Systems
GPCD	Gallons per capita per day
GSP	Groundwater Sustainability Plan
IEUA	Inland Empire Utilities Agency
JPA	Joint Exercise of Powers Agreement
kWh	Kilowatt Hours
LSLS	Local Storage Limitation Solution
M&I	Municipal and Industrial
MGD	Million Gallons Per Day
MWD	Metropolitan Water District of Southern California
NRWS	Non-Reclaimable Wastewater System
OBMP	Optimum Basin Management Program
OMC	Old Model Colony
OR	Ontario Ranch
Plan	Urban Water Management Plan
RCP	Representative Concentration Pathway
PCE	Perchloroethylene
RP-1	Regional Water Recycling Plant No. 1

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RP-2	Regional Water Recycling Plant No. 2
RP-3	Regional Water Recycling Plant No. 3
RP-4	Regional Water Recycling Plant No. 4
RP-5	Regional Water Recycling Plant No. 5
RRA	Risk and Resilience Assessment
RWQCB	Regional Water Quality Control Board
SAWCo	San Antonio Water Company
SB	Senate Bill
SBCFCD	San Bernardino County Flood Control District
SCAG	Southern California Association of Governments
SGMA	Sustainable Groundwater Management Act of 2014
SWRCB	State Water Resources Control Board
SWRCB - DDW	State Water Resources Control Board – Division of Drinking Water
TCE	Trichloroethylene
TDS	Total Dissolved Solids
USEPA	U.S. Environmental Protection Agency
UWMP	Urban Water Management Plan
VOCs	Volatile Organic Compounds
WFA	Water Facilities Authority
WRCC	Western Regional Climate Center
WSAP	Water Supply Allocation Plan
WSCP	Water Shortage Contingency Plan
WUCA	Water Utilities Climate Alliance
WUE	Water Use Efficiency

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Chapter 1

URBAN WATER MANAGEMENT PLAN INTRODUCTION AND OVERVIEW

INTRODUCTION

An urban water supplier is defined (pursuant to Section 10617 of the California Water Code or CWC[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 City of Ontario (City) 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 the City) 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.

The City'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) in 2016. Urban water suppliers (including the City) are required to complete and submit their 2020 UWMPs to DWR by July 1st, 2021.

The current requirements for preparing the UWMP are included in CWC Sections 10608 through 10657. The City'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 the City) with a planning document 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.

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

The City'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 Baseline, 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

Lay descriptions are presented at the beginning of each of these Chapters that offer a succinct, executive summary type overview.

LAY DESCRIPTION – CHAPTER 1

URBAN WATER MANAGEMENT PLAN INTRODUCTION AND OVERVIEW

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

- An analysis of the City's ability to provide sufficient water supplies to meet the projected water demands of its customers, including during a five consecutive year drought period.
- An overall lay description of the 2020 Plan, including California Water Code and Urban Water Management Plan Act requirements, is provided. The City is required to prepare an Urban Water Management Plan.
- The City'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. The City'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.
- The City's coordination efforts with other planning agencies are discussed, including coordination efforts with the City of Ontario's Planning Division, Inland Empire Utilities Agency, Water Facilities Authority, and the Southern California Association of Governments
- The City'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 the City's prior, continued, and projected reduction on imported water supplies obtained (either directly or indirectly) from the Sacramento-San Joaquin Delta (Delta). The City has reduced its reliance on imported water supplies through a reduction of GPCD water demand and increased recycled water use for Fiscal Year 2014-15 through Fiscal Year 2019-2020. In addition, the City is projected to continue reducing its reliance on imported water supplies through Fiscal Year 2044-45. Further discussion which demonstrates the City's measurable reduction in imported water supplies and improvement in regional self-reliance is provided in Appendix B.
- The checklist developed by DWR and used by the City to incorporate the specific UWMP requirements is discussed. The completed checklist is provided in Appendix C.

1.1 RECOMMENDED UWMP ORGANIZATION

The City'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. The City'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, the City'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. The City also submitted the UWMP data (standardized tables) electronically through DWR's Online Submittal Tool.

The City'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 the City's governing body. Further discussions regarding these supporting documents are provided within the individual Chapters of the City's 2020 Plan.

1.2 UWMPS IN RELATION TO OTHER EFFORTS

The City's 2020 Plan was prepared in coordination with planning agencies including the City of Ontario's Planning Division and the Southern California Association of Governments (SCAG). In addition, the City's 2020 Plan was prepared using management documents including the City's "*2020 Water System Master Plan*", the City's *"2018 Hazard Mitigation Plan"*, and the San Bernardino County's "*2017 San Bernardino County Multi-Jurisdictional Hazard Mitigation Plan*".

The City is a member agency of various wholesale agencies including the Chino Basin Desalter Authority (CDA), Inland Empire Utilities Agency (IEUA), and the Water Facilities Authority (WFA). CDA, IEUA, and WFA have each individually prepared a 2020 Plan which are incorporated in the City's 2020 Plan by reference. In addition, the City provided its 2020 Plan to CDA, IEUA, and WFA, 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.

The City is a shareholder in, and purchases water from, San Antonio Water Company (SAWCo). The City receives water from SAWCo based upon the City's proportional number of shares and the water supply available to SAWCo.

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*."

The City's 2020 Plan has been prepared 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 (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).*

The City has reduced its reliance on imported water supplies for FY 2014-15 and FY 2019-20. In addition, the City is projected to continue reducing its reliance on imported water supplies through FY 2044-45. A further discussion which demonstrates the City's measurable reduction imported water reliance and improvement in regional self-reliance is provided in Appendix B.

1.5 TIPS FOR UWMP PREPARERS

The City's 2020 Plan (which includes the City's 2020 Water Shortage Contingency Plan (WSCP) is considered an update to the City's 2015 Plan. However, the 2020 Plan and the WSCP are considered stand-alone documents. As discussed in Section 1.1, the City'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 the City's 2020 Plan discusses and provides the following:

- The basis for preparing an Urban Water Management Plan is provided. The City is required to prepare the 2020 Plan because it is an "urban water supplier" (the City serves more than 3,000 customers and it supplies more than 3,000 acre-feet of water annually to its customers for municipal purposes).
- The City is a "Public Water System" and is regulated by the State Water Resources Control Board - Division of Drinking Water. The City's Public Water System number is provided in Table 2-1.
- The City's Plan has been prepared as an "individual" plan rather than a "regional" plan in an effort to provide information specific to the City to best inform its employees, management, and customers.
- Information presented in the City's 2020 Plan is provided on "fiscal year" basis which is from July 1 through June 30 of the following year.
- Water quantities presented in the City's 2020 Plan are provided on an "acre-foot" basis.
- The City's coordination and outreach efforts with wholesale water agencies, other retail water agencies, and the community are described. The City coordinated the preparation of its 2020 Plan with the Chino Basin Watermaster, Chino Basin Desalter Authority, Cucamonga Valley Water District, Fontana Water Company, Inland Empire Utilities Agencies, Monte Vista Water District, Metropolitan Water District (MWD) of Southern California, Santa Ana Watershed Project Authority, San Antonio Water Company, and Water Facilities Authority.
- The City's notification process to the cities and county which the City provides water to is discussed.

2.1 PLAN PREPARATION

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

"*The [CWC] 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 CWC requirements, the City'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.

The City'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 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." (CWC 10617.)

Section 10621(a) of the CWC states, "*[e]ach 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.

The City 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. The City's 2020 Plan is an update to the City'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, the City'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. The City also submitted the UWMP data (from the standardized tables) electronically through DWR's Online Submittal Tool.

In addition, the City 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 to provide the number of connections, water usage, and other information annually. The information provided to SWRCB-DDW indicates the City serves potable water to more than 3,000 customers and supplies more than 3,000 AFY. Table 2-1 provides the City's Public Water System name and number.

2.2.2 SUPPLIERS SERVING MULTIPLE SERVICE AREAS / PUBLIC WATER SYSTEMS

The City serves only a single Public Water System. Table 2-1 provides the City'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			
3610034	Ontario Municipal Utilities Company	36,514	39,921
	TOTAL	36,514	39,921
**** Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: The "Volume of Water Supplied 2020" includes recycled water supplies of 7,812 AF. Source for "Number of Municipal Connections 2020": https://sdwis.waterboards.ca.gov/PDWW/			

2.3 REGIONAL PLANNING

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

2.4 INDIVIDUAL OR REGIONAL PLANNING AND COMPLIANCE

As shown in Table 2-2, the City's 2020 Plan is an "Individual UWMP". The City 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 SB X7-7 Water Conservation Act of 2009 reporting (discussed further in Chapter 5). The City 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, the City's 2020 Plan was developed as an "Individual UWMP" and not as 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, the City'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 the City's 2020 Plan is reported on a fiscal year (FY) basis, unless noted otherwise, as shown in Table 2-3. A fiscal year begins on July 1st of every year.

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)	
07/01	
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 the City's 2020 Plan is provided on a fiscal year basis through June 30, 2020.

2.5.3 UNITS OF MEASURE

As shown in Table 2-3, the data provided in the City'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

The City is a member agency of CDA, IEUA, and WFA. As indicated in Table 2-4, the City has provided its 2020 Plan to CDA, IEUA, and WFA, 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.

The City is a shareholder in SAWCo, a private water company. The City obtains water supply based on its proportional number of shares and the amount of water available to SAWCo.

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
Chino Basin Desalter Authority
Inland Empire Utilities Agency
San Antonio Water Company
Water Facilities Authority
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…

The City of Ontario is a retail water supplier that serves customers in the City of Ontario. The City 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, the City coordinated the preparation of its 2020 Plan with the Chino Basin Watermaster, CDA, Cucamonga Valley Water District, Fontana Water Company, IEUA, Monte Vista Water District, MWD, Santa Ana Watershed Project Authority, SAWCo, and WFA. As discussed in Section 10.2, the City notified these agencies, as well as the cities and county within which the City 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 that the City was reviewing and considering amendments (updates) to the previous 2015 Plan, and preparing the 2020 Plan was provided to the cities and counties for which the City provides water supplies. Notification was provided at least 60 days prior to the public hearing (see Appendix D).

Chapter 3

SYSTEM DESCRIPTION

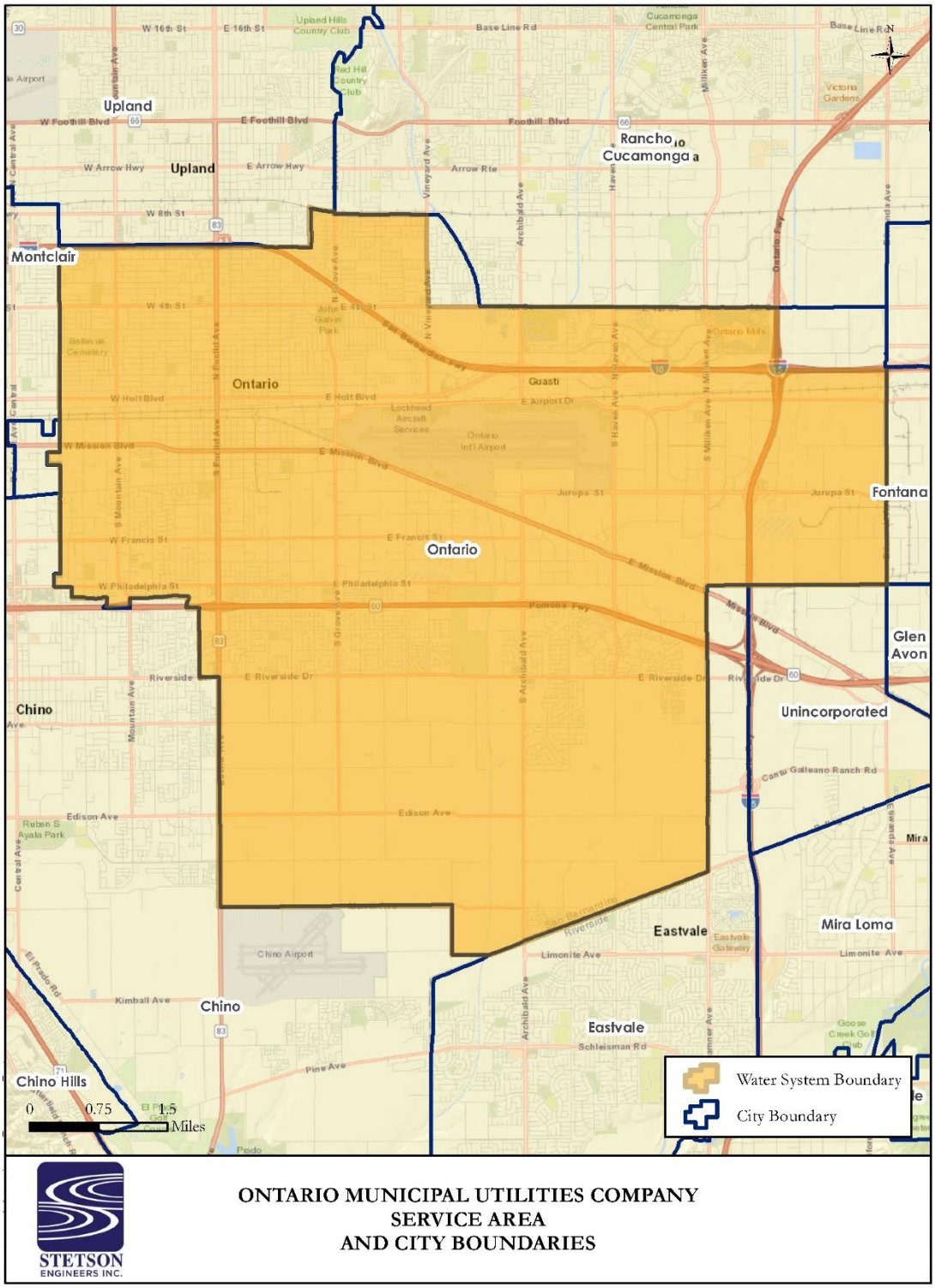
LAY DESCRIPTION – CHAPTER 3

SYSTEM DESCRIPTION

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

- A description of the City's service area is provided. The City is located approximately 35 miles easterly of downtown Los Angeles in the County of San Bernardino. The City is bounded by the Cities of Chino and Montclair to the west; the Cities of Rancho Cucamonga and Upland to the north; the City of Fontana to the east; and the Cities of Chino and Eastvale to the south.
- The City's water service area encompasses an area of approximately 49 square miles. The location of the City's water service area is provided in Figure 1.
- A description regarding the City'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 the City's service area is summarized. The sources of the climate information are also discussed.
- The population within the City's water service area is discussed and projected. The sources of the population information are also discussed. The City provides water service to an area with a current population of 178,409. The City is projected to have a population of 362,903 by Fiscal Year 2044-45.
- A discussion of land use information used by the City to develop the 2020 Plan is provided. The City reviewed the current and projected land uses within its service area. The City also reviewed data provided by the Southern California of Governments, the Department of Finance, and the United States Census Bureau and prepared for counties, cities, and unincorporated areas within Southern California.

Figure 1 – Water Service Area and City Boundaries



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.

The City of Ontario was founded in 1881 and was officially incorporated in 1891. The City is located approximately 35 miles easterly of downtown Los Angeles in the County of San Bernardino. The City is bounded by the Cities of Chino and Montclair to the west; the Cities of Rancho Cucamonga and Upland to the north; the City of Fontana to the east; and the Cities of Chino and Eastvale to the south.

The predominant land developments found within the City's service area are residential, commercial, industrial, and agricultural. Since acquiring new land in 1999, the City's service area is divided between two districts known as the Old Model Colony (OMC) and the Ontario Ranch (OR). The OMC area is mostly composed of residential, commercial, and industrial developments, including the Ontario International Airport, whereas the OR area is predominantly an agricultural development with plans to be redeveloped for residential, commercial, industrial, and public uses. Large areas of the OR already have been or are currently undergoing redevelopment.

3.2 SERVICE AREA BOUNDARY MAPS

The City's service area covers approximately 49 square miles encompassing most of the City of Ontario. The City's water service area boundary relative to the City of Ontario's municipal boundary is provided in Figure 1.

The City'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 the City's service area is summarized in the tabulation below. Historical climate information was obtained from the Western Regional Climate Center (WRCC), the National Oceanic and Atmospheric Administration, 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	55.47	44.06	67.63	2.17	1.95
February	55.12	44.85	67.44	2.69	2.41
March	58.82	48.21	58.82	1.27	3.75
April	60.93	51.00	74.85	0.87	4.55
May	67.88	55.61	79.62	0.30	5.19
June	71.22	59.78	86.23	0.01	5.97
July	77.76	64.70	93.08	0.05	6.60
August	78.88	65.16	94.20	0.03	6.41
September	75.39	62.90	90.75	0.11	4.88
October	67.78	56.58	82.00	0.46	3.46
November	58.87	48.62	73.87	0.85	2.31
December	54.68	43.22	66.20	1.86	1.72
Annual	65.23	53.73	77.89	10.68	49.20

Source:

Historical average monthly precipitation and temperature information was obtained from the National Oceanic and Atmospheric Administration (https://search.usa.gov/search?utf8=%E2%9C%93&affiliate=noaa.gov&query=ontario+ca) from 1998 through 2020 (for Ontario International Airport). 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 255 (Chino).

The historical average rainfall in the vicinity of the City's service area is 10.68 inches. The City's service area has a dry climate and summers can reach average maximum daily temperatures in the high 80s to low 90s. The City's water supplies and demands are projected during average year, single dry year and a five consecutive year drought (See Chapter 7), and are based on historical data and projected demands. Nonetheless, it is recognized changes in climatic conditions may have an impact on water supplies (as discussed in Section 4.5). Precipitation within the vicinity of the City's service area is discussed further in Section 7.2.

A discussion of the City's sources of supply, how those sources may be impacted by climate change, and the proactive actions the City 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.*

The City provides water service to an area with a current population of 178,409. Table 3-1 presents the current and projected population of the area encompassed by the City's service area from FY 2019-20 to FY 2044-45. The City is projected to have a population of 362,903 by FY 2044-45.

The City initially reviewed the available historical populations within its service area for population growth trends. The City determined historical U.S. Census populations within its service area using DWR's Population Tool (https://wuedata.water.ca.gov/). The City'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 the City'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 FY 2019-20 population (discussed in Section 5.4) was used to determine compliance with the City's SB X7-7 water use target for 2020 (discussed in Section 5.5).

Projected populations in the City's service area were based on growth rate projections obtained from data provided by SCAG. 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)*
	178,409	232,583	266,339	300,095	362,903	362,903
NOTES: The 2020 population and the populations projected through 2045 were obtained the City of Ontario's 2020 Water Master Plan (See Section 3.4.1 and Section 5.4.1). Population is equal for years 2040 and 2045 because the City anticipates buildout to occur in 2040.						

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.

Many families within the City's water service area have special housing needs. They are the severely low-income earners, single-parent families, large families, seniors, people with disabilities, and homeless persons. Pursuant to the California Census' "Census 2020 California Hard-to-Count Fact Sheet, Census 2020 California Hard-to-Count Fact Sheet" approximately 28.1 percent of the population within the City has an income level below 150 percent of the poverty level. The City current has a vacancy rate of approximately 6.2 percent. In addition, approximately 46.5 percent of households are renter occupied. Extremely low income earners account for most renters because homeownership is essentially infeasible for them. Significant financial subsidies are necessary to assist extremely low-income earners in acquiring affordable housing. The City's efforts in providing this assistance are concentrated on rental housing vouchers. Large families are typically more prone to overpayment since they require bigger houses. Those who live in cheaper, smaller apartments experience overcrowding and substandard living conditions. To solve the housing problem among large families and single-parent households, the City offers low cost units at mobile home parks, deed restricted apartments, and units in publicly assisted multi-family housing projects. Additional units, part of the Ontario Town Square project, are also planned to be built. The City has considered these demographic factors which can affect the City's water management planning. Increased population will also 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.

The City 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 City's General Plan and the City's 2020 Water Master Plan. Information regarding current and projected land uses identified in the City's 2020 Water Master Plan is provided in Appendix E. The existing land uses within the City's service area include residential (single-family and multi-family), commercial, industrial, and agricultural developments. Pursuant to the City's 2020 Water Master Plan Update, approximately 6,124 acres of the City's total land area use is currently attributed to residential use. Commercial and industrial use accounts for approximately 7,508 acres. Additionally, agricultural use comprises of 6,740 acres (184 acres within the Original Model Colony and 6,556 acres within the Ontario Ranch area).

The City anticipates the Ontario Ranch area will be converted from primarily agricultural land use to other land uses as the City transitions to buildout. As a result, land area for residential purposes is estimated to increase from its current amount of 6,124 acres to 10,869 acres at buildout. Additionally, land area for commercial and industrial purposes is projected to increase from 7,508 acres to 11,017 acres at buildout. In addition, the projected population within the City'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 the City's service area, which includes the different land uses, is provided in Section 4.2. As discussed in Section 2.6, the City coordinated the preparation of the 2020 Plan with the City of Ontario, the County of San Bernardino, and other agencies.

As discussed in Section 3.4, the City 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 the City'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 the City's 2020 Plan discusses and provides the following:

- The City provides water service to individual "water use sectors". These water use sectors include single-family residential, multi-family, commercial, institutional (and governmental), landscape, and industrial. Individual descriptions for these water use sectors are provided in Section 4.2.1.
- The City's total water demands (including potable and recycled water) over the past 10 years have ranged from 36,036 AFY to 45,196 AFY, with an average of 40,831 AFY. The City currently measures its water use through meter data and billing records.
- The City 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 the City's projected water demands.
- The City's current and projected water demands are provided in five-year increments over the next 25 years are provided (through Fiscal Year 2044-45) as shown on Table 4-3.
- The City'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 the City's total projected water demands
- The City's sources of water supply and how those sources may be impacted by climate change are discussed. The proactive actions the City and other local/regional water managers may take to address the potential climate change impacts on water supplies are also discussed.

The City 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 the City's service area, including both non-potable and potable water. Recycled water (non-potable) uses are addressed in Section 6.5; however, a summary is provided in Table 4-3. Furthermore, Chapter 4 addresses the City'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.

The City's current and projected water demands are provided in five-year increments over the next 25 years (through FY 2044-45) in Tables 4-1, 4-2, and 4-3. The City'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, the City of Ontario's Water Master Plan Update 2020, the City of Ontario Recycled Water Master Plan Update 2020, and the total population projections based on land use trends within the City.

The City provides water service to individual "water use sectors" as identified by the California Water Code. The water use sectors supplied by the City are discussed in Section 4.2.1. The water use for each of these sectors during FY 2019-20 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 FY 2019-20 (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	12,502
Multi-Family		Drinking Water	5,068
Commercial		Drinking Water	5,359
Industrial		Drinking Water	2,078
Institutional/Governmental		Drinking Water	538
Landscape		Drinking Water	4,631
Losses		Drinking Water	1,565
Other	Hydrant	Drinking Water	368
		TOTAL	32,109

[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: Recycled water demands are provided in Table 4-3 and Table 6-4.

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		15,723	17,540	19,109	22,431	22,431
Multi-Family		6,374	7,110	7,746	9,093	9,093
Commercial		6,740	7,519	8,191	9,615	9,615
Industrial		2,613	2,915	3,176	3,728	3,728
Institutional/Governmental		677	755	822	965	965
Landscape		5,824	6,497	7,078	8,309	8,309
Losses		1,968	2,196	2,392	2,808	2,808
Other		463	516	562	660	660
TOTAL		40,382	45,048	49,076	57,609	57,609

[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: Projected water use are equal for years 2040 and 2045 because the City anticipates buildout to occur in 2040.

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*	32,109	40,382	45,048	49,076	57,609	57,609
Recycled Water Demand[1] *From Table 6-4*	7,812	12,168	13,465	14,762	16,059	16,059
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]						
TOTAL WATER USE	39,921	52,550	58,513	63,838	73,668	73,668

[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: Projected total water use are equal for years 2040 and 2045 because the City anticipates buildout to occur in 2040.

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, the City'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)

- Institutional (and governmental)
  (Institutional users are defined as water user dedicated to public service. Institutional users include, among other users, higher education institutions, schools, courts, churches, hospitals, government facilities, and nonprofit research institutions.)

- Landscape
  (Landscape connections supply water solely for landscape irrigation. Landscape users may be associated with multi-family, commercial, industrial, or institutional/governmental sites, but are considered a separate water use sector if the connection is solely for landscape irrigation. Landscape water demands are included in retail demands.)

- Industrial
  (Industrial users are defined as water users that are primarily a manufacturer or processor of materials as defined by the North American Industry Classification System (NAICS) code sectors 31 to 33, inclusive, or an entity that is a water user primarily engaged in research and development. Industrial water demands are included in retail demands.)

- Agricultural
  (Water used for commercial agricultural irrigation. Agricultural water demands are included in recycled water retail demands.)

- 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

The City'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 the City uses to meet its water demands. Section 6.1 provides a tabulation of the City's historical annual water demands for each water supply source. Over the past ten years, the City's total water demands (including potable and recycled water demands) have ranged from 36,036 AFY to 45,196 AFY, with an average of 40,831 AFY. In addition, the City recently experienced a five-consecutive-year-drought within its service area from FY 2011-12 to FY 2015-16. The City also reviewed its historical water demands to determine the projected water demands and water supply reliability (discussed in Chapter 7). The City 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(b)(1) requires "[o]n or before October 1of each year until October 1, 2023, 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. The City has completed the annual water loss audit process through October 1, 2020, as required by the California Water Code (i.e. the City has completed water loss audits representing calendar years 2016, 2017, 2018, and 2019). The City'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 the City (provided in Appendix F), are available on DWR's website (https://wuedata.water.ca.gov/awwa_plans).

The City'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). The City'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, the City's average distribution system water

losses represent approximately 2.9 percent of its total water demands. This average water loss factor was incorporated into the City'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]
07/2015	618
07/2016	1,325
07/2017	1,282
07/2018	1,031
07/2019	1,565
[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 Losses" from FY 2016-17 through FY 2018-19 are based on the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheets. Because the water loss audits are reported in calendar years, the volume of water losses were calculated to be an average of the two calendar years as part of that fiscal year. The volume of water losses for FY 2015-16 and FY 2019-20 (calendar years 2016 and 2020) were estimated based on water system metered production and sales data.	

The California Water Code Section 10608.34(i) 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 the City) have been submitting water loss audits to DWR annually since October 2017. Pursuant to (SB) Senate Bill 606, urban retail water suppliers are required to calculate an "urban water use objective" that includes indoor, outdoor, commercial, industrial and institutional irrigation uses, and allowed system water loss by November 1, 2023. The City will continue to develop its water loss standard and urban water use objective pursuant to SWRCB requirements.

4.2.5 CURRENT WATER USE

The City currently measures its water use through meter data and billing records. The water use for the City's individual water use sectors during FY 2019-20 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. The City's total water uses during FY 2019-20 have been reviewed for compliance with the SB X7-7 water use target for 2020 adopted in the City'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 the City is not required by DWR to use the tool. Section 6.1 provides a tabulation of the City's historical annual water uses for each water supply source. During the past 10 years, the City experienced a five-consecutive-year-drought within its service area from FY 2011-12 to FY 2015-16. Historical records indicate the City's annual water demands had been greater prior to FY 2011-12. The City 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, the City 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 the City'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.

The City's projected water demands are provided in five-year increments over the next 25 years (through FY 2044-45) in Table 4-3. The City'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 the City's water use sectors are provided in Table 4-2.

The City'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, the total population projections based on projected land uses; and information identified in the City's 2020 Water Master Plan. The projected ultimate water demands at buildout (anticipated to occur in year 2040) for the water use sectors were determined using projected land uses and water & recycled water demand factors obtained from the City's 2020 Water Master Plan (see Appendix E) and 2020 Recycled Water Master Plan (see Section 6.2.5.4). A discussion of the City's water supplies from wholesalers CDA, IEUA, and WFA, are discussed in Section 6.2. As discussed in Section 2.6, the City has coordinated its water demand projections with CDA, IEUA, and WFA for each water use sector.

The City'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. The City's Municipal Code Title 6, Chapter 8A "Water Conservation Plan", which was created through the adoption of Ordinance No. 3027 in October 2015 (discussed in Section 9.2), includes methods for current and ongoing reduction in water use and water waste. Prior to adoption of Ordinance No. 3027, the City's water use rate ranged from approximately 224 gallons per capita day to 264 gallons per capita day (from 1995 through 2004). As identified in Section 5.5, the City's actual water use rate during FY 2019-20 was 161 gallons per capita per day which is a decrease of up to 103 gallons per capita per day from the recent historical water use . The City's projected water demands use GPCD water use rates which are less than the City's established SB X7-7 water use target for 2020 and incorporate ongoing water passive savings and reduced water use resulting from the City's existing Water Conservation Plan. As indicated in Table 4-5, estimated future water savings have been considered as part of the City'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.

The City's projected water demands are provided in five-year increments over the next 25 years (and through FY 2044-45) in Table 4-3. The City'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 FY 2044-45) are provided in Chapter 7.

The City's "Drought Risk Assessment" (DRA) for the next five years (from FY 2020-21 through FY 2024-25) is discussed in Section 7.3. The DRA includes the City'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 the City'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 the City's Water Shortage Contingency Plan (provided in Chapter 8). In addition to historical drought hydrology, the City 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

The City's current and projected water demands, including the water demands for each of the City's water use sectors, are provided in five-year increments over the next 25 years (and through FY 2044-45) 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 the City is not required by DWR to use the tool. In addition, the City has been able to provide sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. The City has also been able to provide water service to meet maximum day water demands for these years, including during the summer months. For these reasons, the City chose not to use the optional worksheet. A further discussion regarding the reliability of the City's water supply sources is provided in Chapter 7.

4.3.2 DWR 2020 UWMP SUBMITTAL TABLES

The City's current water demands for each of the water use sectors during FY 2019-20 are provided in Table 4-1. The City's projected water demands for each of the water use sectors, in five-year increments over the next 25 years (and through FY 2044-45), are provided in Table 4-2. The City's total projected water demands, including potable and recycled water, in five-year increments over the next 25 years (and through FY 2044-45), are summarized in Table 4-3. The City'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. The City's annual AWWA water loss audits are provided in Appendix F.

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.

The City'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 San Bernardino County was used for the "area median income". The median household income within San Bernardino County was $67,903. The total number of lower income households within the City's service area was estimated based on billing records provided by the City, a review of the City's General Plan, a review of median household income range statistics provided by the US Census Bureau, 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 (i.e. with a median household income less than 80 percent of $67,903) located within the City's service area is approximately 34.5 percent of the total number of households. As indicated in Table 4-2, the total projected residential (single family and multi-family) water demands within the City in 2045 is estimated at about 31,524 AFY. Based on a 34.5 percent use factor of total residential water demands, the projected water demand for lower income households will be about 10,876 AFY by the FY 2044-2045. The projected water demands for lower income households were included in the City'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 the five-year cycle of its urban water management plan update. The drought risk assessment shall include each of the following…

[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)

(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 the City'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 the City's water supply sources. Chapter 8 provides a detailed discussion of the City'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 the City's sources of supply, how those sources may be impacted by climate change, and the proactive actions the City and other local/regional water managers may take to address the potential climate change impacts on water supplies.

Imported Water Supplies

The City receives treated imported water (see Section 6.2.1 for a more in depth discussion). Consequently, the City directly and/or indirectly relies on the Metropolitan Water District of Southern California 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, the City is a retail agency of the Inland Empire Utilities Agency 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.

[3] www.merriam-webster.com

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

The City relies on groundwater produced from the Chino Basin as discussed in Section 6.2.2. The Chino Basin (Basin Number 8-2.01 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 Chino Basin is actively managed by the Chino Basin Watermaster and those management activities are described in detail in Section 6.2.2.

Recognizing the potential impacts of climate change on the Chino Basin groundwater supplies (decreased local runoff and replenishment, along with increased groundwater production which may lead to decreased groundwater levels), the City 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 Chino 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 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 the City'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 the City'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 Chino Basin. An electronic boundary of the Chino 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 G), the average annual rainfall in the Chino Basin is projected to be 16.00 over the next 25 years (through 2045), inches compared to a historical average of 14.82 inches (from 1950 through 2019). In addition, the average maximum temperature is projected to be 82.1 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 simulation does not denote the duration or intensity of the storms contributing to the annual precipitation. Notwithstanding, the Santa Ana River watershed (including the area of the Chino Bain) has a complex and interconnected series of dams, reservoirs and replenishment basins to capture stormwater runoff in the Santa Ana River watershed. Most if not all precipitation (whether it is rain or snowfall) likely will be captured during normal and dry year conditions and will not be 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 Chino 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 the City to rely on the Chino Basin as a reliable source of supply.

Chino Basin – Storage Management Plan

The Chino Basin Judgment parties adopted as part of the 2000 Chino Basin Peace Agreement a storage management plan, which consists of three types of storage agreements that result in five types of storage accounts: 1) Excess Carryover, 2) Local Supplemental-Recycled, 3) Local Supplemental-Imported, 4) Pre-2000 Quantified Supplemental, and 5) Storage and Recovery. An Excess Carryover account includes a Party's unproduced rights in the Safe Yield and Basin Water purchased or transferred from other Parties. A Local Supplemental Water account includes any imported and/or recycled water that is recharged by a producer and similar water acquired from other Parties. A Storage and Recovery Account includes Supplemental Water and is intended to produce a broad and mutual benefit to the Judgment Parties. The Chino Basin Watermaster maintains records of the replenishment, production, losses, and end-of-year storage totals for all storage accounts and reports this accounting on an annual basis.

Individual Parties are involved in water transfers of annual unproduced rights in the Safe Yield and water in their storage accounts. Chino Basin Watermaster has an application and review process for these transfers. The Parties engage in conjunctive-use activities individually by storing

Chino Basin and Supplemental Water that are in excess of their demands and may recover that water in the future as the need arises. These activities collectively cause temporary adjustment in the managed storage. The Parties' aggregate amount of water in managed storage was 541,845 AF during FY 2019-20.

MWD's Dry-Year Yield Program (DYYP), a water exchange, is the only active Storage and Recovery Program in the Chino Basin. The DYYP can store up to 100,000 AF with maximum replenishment of 25,000 AFY and maximum extraction of 33,000 AFY. During FY 2019-20, there was 45,961 AF within the DYYP account, resulting in a total managed storage volume of 587,806 AF (541,845 AF + 45,961 AF). The agreement that authorized the DYYP will expire in 2028.

Inland Empire Utilities Agency's "Addendum No. 2 to the Optimum Basin Management Program Project", completed in February 2021, amends the 2000 Chino Basin Peace Agreement's Programmatic Environmental Impact Report to address managed storage within the Chino Basin, consistent with the Local Storage Limitation Solution (LSLS). Consistent with Addendum No. 1, from July 1, 2017 through June 30, 2021, the Safe Storage Capacity of the Chino Basin is 600,000 AF. The LSLS proposes a change in the Safe Storage Capacity to 700,000 AF through June 30, 2030, and to 620,000 AFY from July 1, 2030 through June 30, 2035. Full utilization of the allowable increased storage space is expected to occur gradually as additional water is stored and less groundwater is produced. The Safe Storage Capacity of the Chino Basin will revert to 500,000 AF after June 30, 2035.

Chino Basin Safe Yield

The Chino Basin Judgment assessed the initial Safe Yield for the Chino Basin at 140,000 AFY, but reserved to re-determine the Safe Yield after ten years. Pursuant to the most recent Safe Yield reset effective July 2020, the Safe Yield in the Chino Basin is determined to be 131,000 AFY (through June 30, 2030). The Safe Yield is recalculated every 10 years and is defined in the Chino Basin Judgment as "the long-term average annual quantity of ground water (excluding replenishment of stored water but including return flow to the Basin from use of replenishment or stored water) which can be produced from the Chino Basin under conditions of a particular year without causing an undesirable result".

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 the City'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 the City, 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.
- The City 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. The City's SB X7-7 Verification Form has not been modified and is included as part of this 2020 Plan as Appendix H. The City's 2020 Water Use Target is 196 GPCD.
- The City's 2020 Plan incorporates the 2020 Water Use Target and determines compliance based on actual water use.
- The population within the City's service area during Fiscal Year 2019-20 is estimated at 178,409. The City's population was estimated using the City's 2020 Water Master Plan Update. The 2020 Water Master Plan Update reviewed population data from the Southern California Association of Governments and land use data for residential, retail/service, mixed use, and public use areas to estimate the FY 2019-20 population with the City's municipal boundaries.
- The City's "gross water" use represents the total volume of water entering its distribution system from its water supply sources. The City's gross water use excludes recycled water deliveries or water conveyed to another supplier. The City's annual gross water during Fiscal Year 2019-20 was 32,109 AF.
- The City's per-capita water use is based on the gross water use divided by the population. The City's per-capita water use during Fiscal Year 2019-20 was 161 GPCD. The City's confirmed 2020 Water Use Target is 196 GPCD. The City's per-capita water use during Fiscal Year 2019-20 meets the 2020 Water Use Target.
- The City has also demonstrated compliance with the 2020 Water Use Target by completing the SB X7-7 2020 Compliance Form (provided in Appendix I).

5.1 GUIDANCE FOR WHOLESALE SUPPLIERS

CWC 10608.12.

(w) "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.

The City 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

The City previously calculated its "Baseline" water periods and a "2020 Water Use Target" in its 2015 Plan. There were two different Baseline periods identified (consisting of a "10-year Baseline" period and a "5-year Baseline" period). The average water use for each of these two Baseline periods, expressed in GPCD, represents the Baseline water use for each period. A 10-year Baseline period was identified by the City and information regarding the starting year, ending year, and average year water use rate during this period is provided in Table 5-1. The City determined its 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 the City 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 if the 2020 Water Use Target required any adjustments.

The City's calculated 2020 Water Use Target was compared with the 95 percent of the average water use within the 5-year Baseline to determine if any adjustments were required. As shown in Table 5-2, no adjustments were required. The Baseline water uses were used to confirm the City'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)

The City's service area has not changed (i.e. expansion or contraction) since the 2015 Plan was prepared. The City's 2020 Plan incorporates the Baseline water uses and 2020 Water Use Target calculated in the 2015 Plan. The City 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 the City's 2015 Interim Water Use Target. The City's SB X7-7 Verification Form has not been modified and is included as part of this 2020 Plan as Appendix H.

5.2.2 SB X7-7 2020 COMPLIANCE FORM

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

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	*1995*	*2004*	*245*	*196*
5 Year	*2003*	*2007*	*237*	
**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
161	*0*	*161*	*196*	*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, the City's 2020 Plan was not developed as part of a Regional Alliance. Information from the City'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, the City calculated the Baseline water uses and 2020 Water Use Target in its 2015 Plan. The City's service area has not changed (i.e. expansion or contraction) since the 2015 Plan was prepared. The City's 2020 Plan incorporates the Baseline water uses and 2020 Water Use Target calculated in the 2015 Plan. The City's SB X7-7 Verification Form is included in Appendix H.

As discussed in Section 5.2.1, the City prepared standardized tables (SB X7-7 Verification Form) to demonstrate compliance with the Water Conservation Act of 2009. The City's SB X7-7

Verification Form is provided in Appendix H 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. The City's recycled water deliveries were less than 10 percent of its retail water demands during FY 2007-08. Consequently, a 10-year Baseline period was identified by the City 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 the City and information regarding the starting year, ending year, and average water use rate during this period is provided in Table 5-1. The average was 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.

The City'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 City's confirmed 2020 Water Use Target is 196 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 the City'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 the City's water service during FY 2019-20. Because U.S. Census 2020 population data was not available during the preparation of the 2020 Plan, the City reviewed the methodologies recommended by DWR to estimate the FY 2019-20 population. The population methodology used by the City in the 2020 Plan is provided below.

The City initially reviewed the available historical populations within its service area for population growth trends. The City determined historical U.S. Census populations within its service area using DWR's Population Tool (https://wuedata.water.ca.gov/). The City'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 the City'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 the City's service area boundary, to estimate the population served by the City in the years 1990, 2000, and 2010.

The population within the City's service area in FY 2019-20 was estimated using data prepared in the City's 2020 Water Master Plan Update, which is a method allowed by DWR. The 2020 Water Master Plan Update reviewed population data from the Southern California Association of Governments and land use data for residential, retail/service, mixed use, and public use areas to estimate the FY 2019-20 population with the City's municipal boundaries. Based on Geographical Information Systems data, the area within the City's water service boundary is approximately 97.6 percent of the area within the City's municipal boundaries. The estimated population within the City's water service area for FY 2019-20 is 178,409 (or approximately 97.6 percent of the estimated FY 2019-20 population within the City's municipal boundaries) and is consistent with the historical population growth trends. The City's FY 2019-20 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, indirect potable use, 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. The City's annual gross water use amounts are based on the total amount of water entering the City's distribution system from its water supply sources (including groundwater production wells, purchased water, and purchased treated imported water). The annual gross water use by the City during FY 2019-20 was 32,109 AF.

The annual gross water use amounts within the City for each year of the Baseline periods (discussed in Section 5.6) are provided in SB X7-7 Verification Form, Table 4 (Appendix H). A further discussion of the Baseline periods is provided in Section 5.6.

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

Industrial process water is not subtracted from the City's gross water use provided in SB X7-7 Verification Form, Table 4. The City 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 the City during FY 2019-20 was 32,109 AF. As discussed in Section 5.4.1, the estimated population within the City's service area for FY 2019-20 is 178,409. As a result, the City's per-capita water use during FY 2019-20 was 161 GPCD. As discussed in Section 5.3.1, the City's confirmed 2020 Water Use Target is 196 GPCD. The City's per-capita water use during FY 2019-20 meets the 2020 Water Use Target and is in compliance. The City has also demonstrated compliance with the 2020 Water Use Target by completing the SB X7-7 2020 Compliance Form (provided in Appendix I).

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.

The City has determined its compliance with the 2020 Water Use Target without adjusting its annual gross water use during FY 2019-20.

5.5.2 SPECIAL SITUATIONS

The City'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 the City to recalculate the Baseline water uses and 2020 Water Use Target.

5.5.3 IF SUPPLIER DOES NOT MEET 2020 TARGET

The City's per-capita water use during FY 2019-20 meets the 2020 Water Use Target and is in compliance.

5.6 REGIONAL ALLIANCE

As discussed in Section 2.4, the City's 2020 Plan was not developed as part of a Regional Alliance. Information from the City'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 the City's 2020 Plan discusses and provides the following:

- The City's water supply sources include: groundwater pumped from the Chino Basin; treated groundwater from the Chino Basin produced by the Chino Basin Desalter Authority; imported water from Metropolitan Water District of Southern California treated and purchased through Water Facilities Authority; groundwater and/or surface water purchased from San Antonio Water Company; and recycled water purchased from Inland Empire Utilities Agency.
- The City's main source of water supply is groundwater pumped from the Chino Basin.
- A tabulation of the City's historical water supplies is provided in Section 6.1.
- A discussion regarding the City's imported water supplies from the Water Facilities Authority is provided. Information regarding imported water connections, capacities, reliability, and historical production is provided.
- A discussion regarding the City's purchased water supplies from San Antonio Water Company is provided. Information regarding purchased water connections, capacities, and historical production is provided.
- A discussion regarding the City's groundwater supplies from the Chino Basin is provided. Information regarding basin location, adjudication, management, water levels, water quality, water rights, and historical production is provided.
- A discussion regarding the City's recycled water supply is provided. The City's recycled water supplies are produced by Inland Empire Utilities Agency. The City uses recycled water for industrial processes, landscape irrigation, agricultural irrigation, and golf course irrigation.
- The City's proposed future projects to maximize its water supply resources are discussed.
- The City'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 the City's water management processes was estimated during FY 2019-20.

In this Chapter, the City will identify and describe each of its sources of water supply. In addition, the City 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 the City 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 the City'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 FY 2044-45.

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).

The City's water supply sources include: groundwater pumped from the Chino Basin; treated groundwater from the Chino Basin produced by the Chino Basin Desalter Authority; treated, imported water purchased from MWD through Water Facilities Authority; groundwater and/or surface water purchased from San Antonio Water Company; and recycled water purchased from Inland Empire Utilities Agency. The City's main source of water supply is groundwater pumped from the Chino Basin. A tabulation of the City's historical water uses is provided below in Figure 2.

Figure 2 - Historical Water Use by Source

Fiscal Year	System Water Supply Sources (AF)						
	Potable Water					Recycled Water	Total
	Groundwater	Purchased Water			Subtotal		
	Chino Basin	Chino Basin Desalter Authority	Water Facilities Authority	San Antonio Water Company			
2010-11	18,938	5,176	9,824	0	33,938	5,743	39,681
2011-12	19,164	5,127	10,820	0	35,111	7,492	42,603
2012-13	20,801	4,793	10,243	0	35,837	6,894	42,730
2013-14	21,724	5,141	9,904	0	36,769	8,427	45,196
2014-15	17,425	4,827	10,703	172	33,128	8,098	41,226
2015-16	22,751	2,682	2,755	338	28,526	7,510	36,036
2016-17	24,672	3,069	2,327	171	30,238	8,351	38,589
2017-18	26,109	4,032	3,211	341	33,693	9,653	43,346
2018-19	19,604	5,724	5,737	403	31,467	7,511	38,978
2019-20	18,395	6,636	6,513	565	32,109	7,812	39,921

Source: Data provided by Ontario Municipal Utility 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:

- The City's existing and planned sources of water supply are identified;
- Each source of supply is quantified in five-year increments through FY 2044-45;
- 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.

The City historically has relied on groundwater pumped from the Chino Basin; treated groundwater from the Chino Basin produced by the Chino Basin Desalter Authority; treated, imported water purchased from MWD through Water Facilities Authority; groundwater and/or surface water purchased from San Antonio Water Company; and recycled water purchased from Inland Empire Utilities Agency. The following descriptions summarize the City's sources of supply (detailed descriptions are provided in Section 6.2).

Existing and Planned Sources of Supply

Purchased Treated Imported Water

The City has historically purchased treated imported water from the Water Facilities Authority (from IEUA), as described in Section 6.2.1. In addition, Section 6.2.1 provides a detailed discussion of the existing and planned supply of the treated imported water, including a description of the management and reliability of those treated imported water supplies. Table 6-8 summarizes the actual treated imported water supply for FY 2019-20. Table 6-9 summarizes the projected water supply, in five-year increments, through FY 2044-45 under varying water supply conditions.

Groundwater

The City has historically pumped groundwater from the Chino 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 FY 2019-20. Table 6-9 summarizes the projected water supply, in five-year increments, through FY 2044-45 under varying water supply conditions.

Surface Water

The City does not use self-supplied surface water sources to meet its water demands. The City purchases treated surface water supplies from SAWCo.

Storm Water

The City has historically produced groundwater from the Chino Basin. Management and use of the stormwater runoff from the Chino Basin watershed is crucial to groundwater management. However, the City currently does not have its own program to beneficially use stormwater runoff as a direct source of supply.

Wastewater and Recycled Water

The City has historically purchased recycled water supplies from Inland Empire Utilities Agency as described in Section 6.2.5. In addition, Section 6.2.5 provides a detailed discussion of the existing and planned use of the recycled water, including a description of the management and reliability of those recycled water supplies. Table 6-8 summarizes the actual recycled water supplies for FY 2019-20. In addition, Table 6-9 summarizes the projected recycled water supply, in five-year increments, through FY 2044-45 under varying water supply conditions.

6.1.2 OTHER CHARACTERIZATION CONSIDERATIONS

A description of the City'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 the City 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 the City is not required by DWR to use the tool. Section 6.1 provides a tabulation of the City's historical annual water uses for each water supply source. During the past 10 years, the City experienced a five-consecutive-year-drought within its service area from FY 2011-12 to FY 2015-16. Historical records indicate the City's annual water demands had been greater prior to FY 2011-12. The City 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, the City 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 the City'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

CHINO BASIN DESALTER AUTHORITY

The City purchases treated groundwater from the Chino Basin Desalter Authority (through the "*Amended and Restated Water Purchase Agreement, January 1, 2011*" contract between the City and CDA). On September 25, 2001, CDA was formed under a Joint Exercise of Powers Agreement (JPA) to remove salts from brackish groundwater extracted from the lower Chino Basin. The area which receives water supplies from CDA is 304 square miles. A further discussion of CDA's treatment facilities is provided in Section 6.2.2.

Treated water is distributed to CDA's member agencies which include the City of Chino, City of Chino Hills, City of Norco, City of Ontario, Inland Empire Utilities Agency, Jurupa Community Services District, Santa Ana River Water Company, and Western Municipal Water District. Western Municipal Water District joined the CDA member agencies in 2010. CDA's member agencies provide water service within Riverside County and San Bernardino County. The member agencies have contract entitlements to receive a total of 35,200 AFY of treated water from CDA[4]. The City has a contract entitlement to receive a total of 8,533 AFY of treated water from CDA. A further discussion of CDA's water supplies, and the management of these supplies in the Chino Basin, is provided in Section 6.2.2.

The City purchases treated groundwater supplies from CDA. The City's purchases over the past five years have been tabulated in Figure 2 above. Over the past five years, the City has purchased 2,682 AFY to 6,636 AFY, with an average of 4,429 AFY from CDA. The City's projected purchases from the CDA, over the next 25 years in five-year increments, is provided in Table 6-9.

WATER FACILITIES AUTHORITY

The City purchases treated, imported surface water from the Water Facilities Authority (through the "*Installment Purchase Agreement Relating to Water Facilities Authority Water Treatment Plant, October 1, 1985*" contract between the City and WFA). On February 19, 1980, WFA was formed under a Joint Exercise of Powers Agreement to acquire and construct facilities to supply and distribute potable water to its member agencies. WFA's service area is located within Chino Basin's boundaries at the western portion of San Bernardino county. WFA's member agencies include the Cities of Chino, Chino Hills, Ontario, Upland, and the Monte Vista Water District. The area which receives water supplies from WFA is approximately 148 square miles.

[4] https://www.chinodesalter.org/98/Member-Agencies

WFA purchases untreated imported water from Metropolitan Water District of Southern California through Inland Empire Utilities Agency. WFA owns and operates the Agua de Lejos Treatment Plant located in the City of Upland. The Agua de Lejos Treatment Plant is a conventional surface water treatment facility that treats and disinfects imported water supplies from the State Water Project delivered by MWD through IEUA. The Agua de Lejos Treatment Plant began operating in 1988 and has a treatment capacity of 81 million of gallons per day (MGD).

The City purchases treated, imported water supplies from the Water Facilities Authority. The City's purchases over the past five years has been tabulated in Section 6.1. Over the past five years, the City has purchased 2,327 AFY to 6,513 AFY, with an average of 4,109 AFY from WFA. The City's projected purchases from the WFA, over the next 25 years in five-year increments, are provided in Table 6-9.

The City's treated imported water supplies from MWD, through WFA, may be impacted during a multi-year drought or other conditions which limits MWD from delivering sufficient water supplies to all of its member agencies, and consequently to the City. In anticipation of such a reduction in supplies, MWD developed a Water Supply Allocation Plan (WSAP) which is briefly described below. The WSAP provides a means of equitably providing reduced water supplies to each of MWD's member agencies for up to 10 levels of reduction representing up to a 50 percent reduction.

During calendar year 2007, critically dry conditions impacted MWD's water supply sources. In addition, a ruling in the Federal Courts in August 2007 provided protective measures for the Delta Smelt (and subsequently other aquatic species) in the Sacramento-San Joaquin River Delta resulting in restrictions on the availability of State Water Project water. As a result, MWD adopted a WSAP in February 2008 to allocate available water supplies to its member agencies. MWD revised the WSAP in December 2014.

The WSAP establishes ten different shortage levels and a corresponding Allocation to each member agency. Based on the shortage levels established by MWD, the WSAP provides a separate reduced Allocation to a member agency for its 1) Municipal and Industrial (M&I) retail demand and 2) replenishment demand. The WSAP formula considers historical local water production, full service treated water deliveries, agricultural deliveries and water conservation efforts when calculating each member agency's Allocation.

In general, the WSAP process calculates total historical member agency demand. That historical demand is then compared to member agency projected local supply for a specific Allocation year. The balance required from MWD, less an Allocation reduction factor, is the member agency's "Water Supply Allocation" of imported water from MWD. When a member agency reduces its local demand through conservation or other means, the Allocation of imported water will increase. Depending on MWD's available supply, MWD can establish a specific WSAP shortage level. The shortage level causes a regional reduction and calculates an allocation for each of its member

agency. Additional information about MWD's WSAP is provided in MWD's Regional 2020 UWMP which is incorporated by reference. The following is a summary of MWD's water shortage levels:

Level 1 – Regional Percent Reduction of 5%
Level 2 – Regional Percent Reduction of 10%
Level 3 – Regional Percent Reduction of 15%
Level 4 – Regional Percent Reduction of 20%
Level 5 – Regional Percent Reduction of 25%
Level 6 – Regional Percent Reduction of 30%
Level 7 – Regional Percent Reduction of 35%
Level 8 – Regional Percent Reduction of 40%
Level 9 – Regional Percent Reduction of 45%
Level 10 – Regional Percent Reduction of 50%

In response to a fourth consecutive year of below average rainfall and critically dry conditions, MWD declared a WSAP Allocation Level 3 for FY 2015-16, which represented a regional reduction of 15 percent. MWD rescinded the WSAP for FY 2016-17 and has not reinstated the WSAP since that time.

SAN ANTONIO WATER COMPANY

The City purchases water from SAWCo (through the "*Water Service Agreement, January 1, 2017*" contract between the City and SAWCo) which delivers domestic and irrigation water to a variety of shareholders. These shareholders include most residents of San Antonio Heights (an unincorporated area of San Bernardino County), the Cities of Upland and Ontario, Monte Vista Water District, the United States Forest Service, the San Bernardino County Flood Control District, local golf courses, rock quarries, and grove irrigators. SAWCo is governed by a seven-member Board of Directors that is elected by shareholders at the end of each calendar year.

Pursuant to SAWCo's "*Approved FY 2020 Budget Report*[5]", there are 6,178 Active Shares and a total of 6,389 Company Shares (Inactive Shares are those shares currently not utilizing entitlement water). In 2020, each Active Share was equal to 2.035 AF of entitlement water from SAWCo, making the total active share entitlement 12,570 AF. The City of Upland is the largest shareholder with an entitlement of 9,186 AF and the domestic customers of San Antonio Heights as a group represent the second largest block of shareholders, with an entitlement of 1,269 AF. Monte Vista Water District has an entitlement of 671 AF and the City has an entitlement of 600 AF based on Active Share entitlements (volume per share is subject to change).

[5] https://www.sawaterco.com/2020-approved-budget

SAWCo's water supply sources include surface water obtained from the San Antonio Canyon, water from the San Antonio Tunnel, and groundwater sources from the Chino Basin, Six Basins, and Cucamonga Basin. The majority of SAWCo's water supplies are obtained from groundwater produced from the Cucamonga Basin and surface water from San Antonio Creek. A description regarding of the reliability of SAWCo's individual water supply sources is included in SAWCo's 2020 UWMP, which is incorporated by reference.

The City's purchase of treated water from SAWCo over the past five years has been tabulated in Section 6.1. Over the past five years, the City has purchased 171 AFY to 565 AFY, with an average of 364 AFY from SAWCo. The City's projected purchased water from SAWCo, over the next 25 years in five-year increments, is provided in Table 6-9.

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.

CHINO BASIN

Chino Basin - Sustainable Groundwater Management Act

The Chino Basin is a sub-basin of the Upper Santa Ana Valley Groundwater Basin pursuant to DWR Bulletin 118, Basin Number 8-2.01. Pursuant to the Sustainable Groundwater Management Act of 2014 (SGMA), the Chino 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 Chino Basin Watermaster submits its Annual Report to DWR.

Chino Basin - Adjudication

The Chino Basin was adjudicated under the Chino Basin Judgment, entered on January 27, 1978 by the Superior Court for the County of San Bernardino. A copy of the Chino Basin Judgment is provided in Appendix J. The Chino Basin Watermaster was created by the Judgement to administer the provisions of the Judgement as an arm of the Court.

The Chino Basin Judgment originally established a Safe Yield for the Chino Basin of 140,000 AFY. Pursuant to the most recent Safe Yield reset effective in 2020, the Safe Yield in the Chino Basin is currently 131,000 AFY (July 1 to June 30, 2030). The Safe Yield is recalculated every 10 years and is defined in the Chino Basin Judgment as "the long-term average annual quantity of ground water (excluding replenishment of stored water but including return flow to the Basin from use of replenishment or stored water) which can be produced from the Chino Basin under conditions of a particular year without causing an undesirable result". The Chino Basin Judgment's allocation of the Safe Yield includes three separate Pools: (1) the "Overlying Agricultural Pool"; (2) the "Overlying Non-Agricultural Pool"; and (3) the "Appropriative Pool". The Operating Safe Yield (OSY) is defined as "The annual amount of groundwater which Watermaster shall determine, pursuant to criteria specified in Exhibit "I", can be produced from Chino Basin by the Appropriative Pool parties free of replenishment obligation under the physical solution herein."

The City is a member of both the Overlying Non-Agricultural Pool and the Appropriative Pool. The Judgment allocates a portion of the safe yield to the Overlying Non-Agricultural Pool and a portion of the OSY to the Appropriative Pool. Pursuant to the Judgment, the City has appropriative rights to 20.742 percent of the OSY allocated to the Appropriative Pool. The City has gained 53.338 percent of the Safe Yield assigned to the Overlying Non-Agricultural Pool.

As of July, 2020 the Safe Yield is allocated at 82,800 AFY to the Overlying Agricultural Pool, 7,366 AFY to the Overlying Non-Agricultural Pool, and 40,834 AFY to the Appropriative Pool. Per the Judgment, the City has appropriative rights to 20.742 percent of the OSY. With an OSY

of 40,834 AF, the City's current appropriative right is approximately 8,470 AFY as of July 2020. The City has purchased and has rights to 3,921 AF of Overlying Non-Agricultural Pool water.

Appropriators who are Parties to the Chino Basin Judgment, are authorized to produce groundwater in excess of their rights. Appropriators pay assessments for groundwater produced in excess of their rights to the Chino Basin Watermaster. The assessments are used to purchase water to replenish the Chino Basin. The Chino Basin Watermaster purchases water from Metropolitan Water District of Southern California through Inland Empire Utilities Agency and/or Three Valleys Municipal Water District, on behalf of the Parties, to replenish the Chino Basin. Occasionally, Watermaster has purchased water from storage accounts from parties within the Chino Basin.

In addition to the water rights described above, the City of Ontario has rights to groundwater held in the Chino Basin as described below:

Land Use Conversion and Annual Early Transfers

The City gains rights to additional Chino Basin groundwater as a result of land use conversions from agricultural to non-agricultural uses. This is expected to increase from development of Ontario Ranch; the total of which is adjusted annually by the Watermaster. As of FY 19/20, the City receives 4,254 AFY from land use conversions.

The Chino Basin Watermaster reallocates the unused portion of the Chino Basin Safe Yield from the Overlying Agricultural Pool to the Appropriative Pool members as a supplement to the Appropriative Pool share of Operating Safe Yield rights in any year. These transfers are permanent if agricultural land has been converted to non-agricultural use, or temporary if agricultural pool extractions are less than their share of the Safe Yield. From FY 2000-01 to FY 2019-20, the annual quantity of the Agricultural Pool's share available for reallocation to Appropriative Pool members[6] ranged from 40,822 AF to 61,014 AF, with an annual average of approximately 50,457 AF. As Agricultural Pool production declines within the Chino Basin, the reallocation of water to the Appropriative Pool will increase.

Groundwater Recharge Credits

The City is entitled to water rights due to groundwater recharge with stormwater and recycled water in the Chino Basin. The credited amount is based on the volume recharged and therefore varies annually but is projected to increase over time. Stormwater recharge credit is assigned based on OSY percentage. Recycled water recharge credit is assigned based on wastewater contribution percentage. In FY 2018/2019, 2,544 AF of recycled water was recharged for the City. In FY

[6] Pursuant to the Chino Basin Watermaster "*Fiscal Year 2019-20, 43rd Annual Report*", Appendix G

19/20, no recharge credits were purchased by the City due to limitations on groundwater storage capacity.

Fontana Recycled Water Rights

The City has a long-term contract to purchase up to 3,000 AFY of recharged recycled water rights from the City of Fontana. The City of Fontana does not operate a water system. The amount purchased by OMUC each year will vary. In FY 2018/2019, the City purchased 2,157 AF of Fontana's recycled water entitlement. In FY 19/20, no recharged water rights were purchased due to limitations on groundwater storage capacity.

Groundwater Storage Accounts

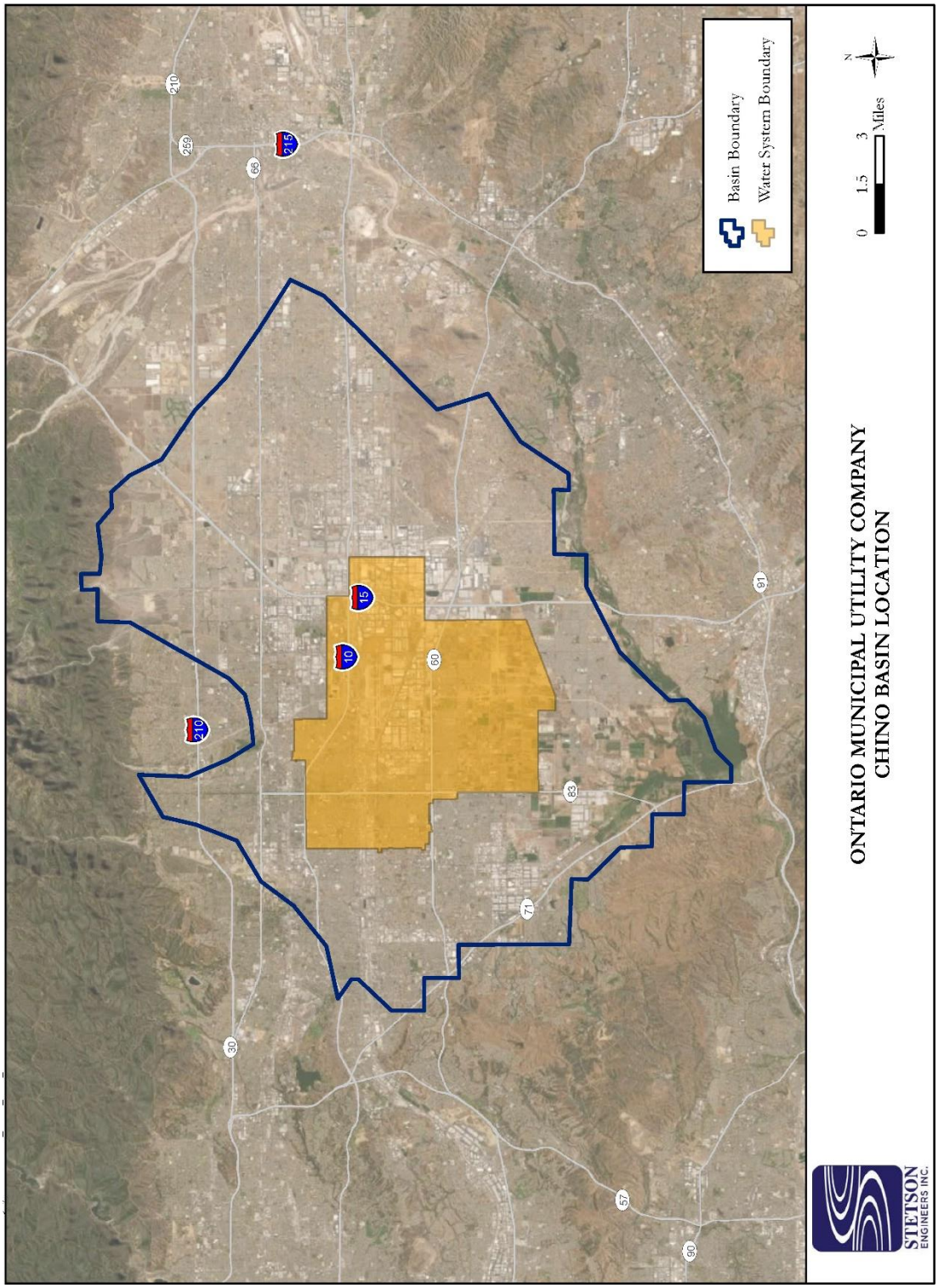
The City has rights to store water in the Chino Basin (Appropriative and Overlying Non-Agricultural) and has been increasing its various storage accounts in recent years. The City holds water in both local storage accounts and supplemental accounts. Local storage accounts hold un-pumped OSY groundwater rights and stormwater that has been recharged into the Chino Basin. Supplemental accounts hold both imported water and recycled water that has been recharged into the Chino Basin. As of June 30, 2020, the City has 96,544 AF in storage pursuant to Appropriative rights and 3,461 AF in storage pursuant to Overlying Non-Agricultural rights.

Chino Basin - Description

The Chino Basin is located within the Upper Santa Ana Valley, which is located in San Bernardino County and is bounded on the east by the Rialto-Colton fault; on the southeast by the contact with impermeable rocks forming the Jurupa Mountains; on the south by impermeable rocks of the Puente Hills and by the Chino fault; on the northwest by the San Jose fault; and on the north by the impermeable rocks of the San Gabriel Mountains and by the Cucamonga fault. The location of the Chino Basin is provided in Figure 3. The surface area of the Chino Basin is approximately 154,000 acres (or 240 square miles). The San Antonio Creek and Cucamonga Creek drain the Chino Basin area southward and flow into the Santa Ana River. Pursuant to DWR Bulletin 118 (for Basin Number 8-2.01), the total storage capacity of the Chino Basin is approximately 18,300,000 AF.

The water-bearing units in the Chino Basin includes Holocene and Upper Pleistocene alluvium. This Holocene alluvium consists mainly of alluvial-fan deposits, with maximum thickness of 150 feet that are coarsest in and near the mouths of the canyons and are finer away from canyon mouths in the southern part of the Chino Basin. The Pleistocene alluvium is exposed mainly in the northern part of the subbasin and supplies most of the water to wells located within the Chino Basin. The Pleistocene alluvium is about 600 to 700 feet thick throughout most of the Chino Basin. The alluvium contains interfingering finer, alluvial-fan deposits and coarser, fluvial deposits.

Figure 3 – Chino Basin Location



The Chino Basin is bounded by three major fault systems. Many of the faults within the Chino Basin form groundwater barriers marked by discontinuities in groundwater elevations. The Rialto-Colton fault forms the eastern boundary of the Chino Basin. Although it has no surface expression, it forms a major barrier to groundwater movement. The San Jose fault forms the northwest boundary of the Chino Basin. The Cucamonga fault zone forms part of the northern boundary of the Chino Basin. Displacement on the Cucamonga fault amounts to about 1,000 feet on its west end to 4,000 feet at its east end.

Chino Basin - Management

Basin Production

Over the past 20 years, total groundwater production from the Chino Basin has ranged from approximately 133,275 AFY to 188,910 AFY[7]. A majority of production currently is pumped for municipal and agricultural purposes while the remaining production is pumped by non-agricultural Parties.

Groundwater Level Monitoring

Groundwater elevation contours in the Chino Basin Watermaster's 2018 State of the Basin Report show a regional depression of groundwater surrounding the Chino-II Desalter well field and the eastern half of the Chino-I Desalter well field. Hydraulic Control of the Chino Basin is achieved east of Chino Desalter Well I-20. The contours also indicate groundwater flowing past the desalter wells west of Chino Desalter Well I-20, indicating only partial Hydraulic Control; however, losses are currently considered de minimis.

Chino Basin Desalter Authority

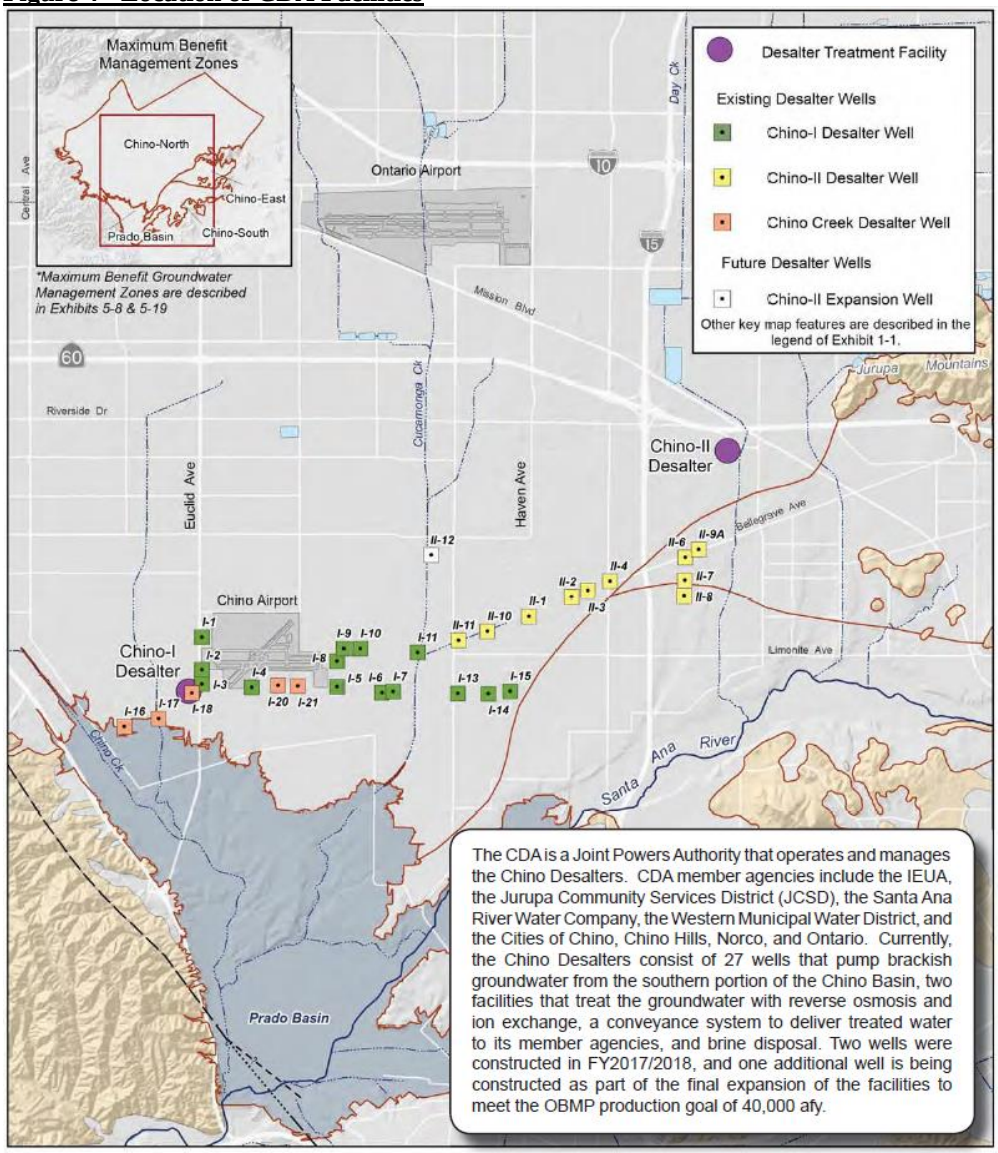
On September 25, 2001, the Chino Basin Desalter Authority was formed under a Joint Exercise of Powers Agreement to remove salts from brackish groundwater extracted from the lower Chino Basin. The area which receives water supplies from CDA is 304 square miles. A map showing CDA Desalter facilities and associated wells is provided in Figure 4 below.

CDA removes salts from brackish groundwater extracted from the lower Chino Basin through the Chino I and II Desalter facilities. The Chino I Desalter is located in the City of Chino and commenced operation in 2001 and was expanded in 2005 to have a total capacity of 14.2 MGD. The Chino I Desalter includes reverse osmosis, ion exchange, and air stripper treatment for treating brackish water and removing nitrate and volatile organic chemicals (VOCs). The Chino II Desalter is located in Jurupa Valley and began operation in 2006 and was expanded in 2011 and again in

[7] Pursuant to the Chino Basin Watermaster "*Fiscal Year 2019-20, 43rd Annual Report*", Appendix H http://www.cbwm.org/docs/annualrep/43rd%20Annual%20Report.pdf

2017 to have a total capacity of 33 MGD. The Chino II Desalter includes reverse osmosis and ion exchange treatment for treating brackish water and removing nitrate. Following the expansion, CDA constructed the Concentrate Reduction Facility in 2017, which utilizes chemical softening to remove the limiting foulants (specifically, calcium and silica) from the reverse osmosis concentrate. Additional components of the Chino II Desalter were constructed as part of the South Archibald Plume Project which will be operational in 2021, with the goal of removing and treated trichloroethylene (from groundwater wells impacted by the South Archibald Plume.

Figure 4 - Location of CDA Facilities



(source: Chino Basin Optimum Basin Management Program 2018 State of the Basin Report)

Treated water is distributed to CDA's member agencies which include the City of Chino, City of Chino Hills, City of Norco, City of Ontario, Inland Empire Utilities Agency, Jurupa Community Services District, Santa Ana River Water Company, and Western Municipal Water District through "take or pay" contracts. CDA's member agencies provide water service within Riverside County and San Bernardino County. CDA can produce up to 40,000 AF from the Chino Basin every year for the purpose of groundwater cleanup and control of contaminant migration. This production is fixed to achieve the desired groundwater cleanup goal. The member agencies have contract entitlements to receive a total of 35,200 AFY of treated water from CDA. The City's current contract entitlement is 8,533 AFY.

A portion of the production is in-lieu of those CDA member agencies producing an equal amount of groundwater from their own groundwater wells using their individual water rights. An additional portion of the production is temporarily assigned as "controlled overdraft". Pursuant to the Chino Basin Judgment, a total of 200,000 AF was authorized for controlled overdraft between the period of 1978 through 2017. In 2007, the Peace II Agreement was adopted to establish measures for achieving hydraulic control of the Chino Basin. One of the measures put forth included increasing the authorized controlled overdraft to 600,000 AF. This increase in controlled overdraft is separate from, and in addition to, the 200,000 AF authorized in the Chino Basin Judgment and is available for utilization until December 31, 2030. For the balance of the production, the Chino Basin Watermaster levies an annual Replenishment Assessment to purchase replenishment water to replace that overproduced water. Each of CDA's member agencies is responsible to pay a Replenishment Assessment for their purchases in excess of their respective water rights allocated to the program.

Chino Basin Optimum Basin Management Program

In 2000, the Chino Basin Watermaster developed the Chino Basin Optimum Basin Management Program (OBMP). The OBMP was developed in a collaborative process that identified the needs of the stakeholders, described the physical state of the basin, defined a set of management goals, identified impediments to these goals, and established a series of actions that would remove these impediments and achieve the management goals. The goals identified in the OBMP included: (1) Enhance Basin Water Supplied; (2) Protect and Enhance Water Quality; (3) Enhance Management of the Basin; and (4) Equitably Finance the OBMP.

The OBMP defines nine Program Elements which were incorporated into the OBMP Implementation Plan as part of the Court-ordered Peace Agreement (2000):

- Program Element 1 - Develop and Implement Comprehensive Monitoring Program
- Program Element 2 - Develop and Implement Comprehensive Recharge Program
- Program Element 3 - Develop and Implement a Water Supply Plan for Impaired Areas
- Program Element 4 - Develop and Implement Comprehensive Groundwater Management Plan for Management Zone 1

- Program Element 5 - Develop and Implement Regional Supplemental Water Program
- Program Element 6 - Develop and Implement Cooperative Programs with the Regional Board and Other Agencies to Improve Basin
- Program Element 7 - Develop and Implement Salt Management Plan
- Program Element 8 - Develop and Implement Groundwater Storage Management Program
- Program Element 9 - Develop and Implement Storage and Recovery Programs

The "Peace Agreement" (2000) and the "Peace II Agreement" (2007) are agreements among the Parties that allow the implementation of the OBMP and guides the management of the Chino Basin, including the construction and operations of the Desalters, hydraulic control of the Basin, groundwater production and replenishment for the Desalters, yield accounting and recharge.

Chino Basin Storage Management Plan

The Peace Agreement (2000) establishes rules and regulations, standard storage agreements, and related forms for storage in the Chino Basin. Since 2000, Chino Basin Watermaster administers groundwater storage in the Chino Basin pursuant to the storage management plan described in Program 8 of the 2000 OBMP and evaluated in the Programmatic Environmental Impact Report.

The three types of storage agreements resulted in five types of storage accounts: Excess Carryover, Local Supplemental-Recycled, Local Supplemental-Imported, Pre-2000 Quantified Supplemental, and Storage and Recovery. An Excess Carryover account includes a Party's unproduced rights in the Safe Yield and Basin Water purchased or transferred from other Parties. A Local Supplemental Water account includes any imported and/or recycled water that is recharged by a producer and similar water acquired from other Parties. A Storage and Recovery Account includes Supplemental Water and is intended to provide a broad and mutual benefit to the Parties of the Judgement. The Chino Basin Watermaster tracks the puts, takes, losses, and end-of-year storage totals for all storage accounts and reports on this accounting on an annual basis. The Chino Basin Watermaster assesses losses by considering water in managed storage (excluding Carryover) and offsets the increases in groundwater discharge to the Santa Ana River and from the Chino Basin attributable to managed storage (excluding Carryover). Chino Basin Watermaster also considers losses due to evaporation on the puts when water is recharged in spreading basins.

The individual Parties are involved in water transfers of annual unproduced rights in the Safe Yield and water in their storage accounts. Chino Basin Watermaster has an application and review process for these transfers. The Parties engage in conjunctive-use activities individually by storing Chino Basin and Supplemental Water that are in excess of their demands and recover that water as necessary. These activities collectively cause a temporary increase in the storage. The Parties' aggregate amount of water in managed storage was 541,845 AF as of June 30, 2020.

MWD's Dry-Year Yield Program is the only active storage and Recovery Program in Chino Basin. This program is a water exchange as discussed in 6.2.7.1. The DYYP can store up to 100,000 AF

with maximum replenishment of 25,000 AFY and maximum extraction of 33,000 AFY. As of June 30, 2020, there was 45,961 AF within the DYYP account, resulting in a total managed storage volume of 587,806 AF (541,845 AF + 45,961 AF). The agreement that authorized the DYYP will expire in 2028. The combined volume of managed storage by MWD's DYYP and the Parties is projected to have a maximum of 790,000 AF in 2028, assuming DYYP has 100,000 AF in storage and that MWD removes the contract rate of 33,000 AFY starting in 2029.

As discussed in Section 4.5, Inland Empire Utilities Agency's "Addendum No. 2 to the Optimum Basin Management Program Project", completed in February 2021, amends the 2000 Chino Basin Peace Agreement's Programmatic Environmental Impact Report to address managed storage within the Chino Basin consistent with the Local Storage Limitation Solution. Consistent with Addendum No. 1, from July 1, 2017 through June 30, 2021 the Safe Storage Capacity of the Chino Basin is 600,000 AF. The LSLS proposes a change in the Safe Storage Capacity to 700,000 AF through June 30, 2030, and to 620,000 AFY from July 1, 2030 through June 30, 2035. Full utilization of the allowable increased storage space is expected to occur gradually as additional water is stored and less groundwater is produced. The Safe Storage Capacity of the Chino Basin will revert to 500,000 AF after June 30, 2035.

Groundwater Clean-up

Groundwater in areas of the Chino Basin is currently contaminated with Perchlorate and VOCs, including 1,2,3-Trichloropropane (1,2,3-TCP), trichloroethylene (TCE), and perchloroethylene (PCE). In addition, nitrates and TDS concentrations in areas of the Chino Basin exceed drinking water quality standards. Wellhead treatment is necessary in these areas to allow delivery of the groundwater for potable purposes.

Chino Basin - Historical and Projected Basin Production

The City currently produces groundwater from the Chino Basin. The City's share of the Operating Safe Yield is 20.742 percent; Ontario's current appropriative right is 8,470 AFY as of July 2020. In addition, the City has purchased and has rights to 3,921 AF of Overlying Non-Agricultural Pool water.

Over the past five years, the City has produced 18,395 AFY to 26,109 AFY, with an average of 22,306 AFY from the Chino Basin. The City's projected production from the Chino 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	Chino Basin	22,751	24,672	26,109	19,604	18,395
	TOTAL	22,751	24,672	26,109	19,604	18,395
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES:						

6.2.3 SURFACE WATER

The City does not use surface water supplies to meet its water demands.

6.2.4 STORMWATER

The City has historically received groundwater from the Chino Basin. Management and use of the stormwater runoff from the Chino Basin watershed, which is crucial to groundwater management. However, the City currently does not have its own program to beneficially use stormwater runoff as a direct source of supply.

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.

As a local water purveyor, the City delivers water to its customers from its potable and recycled water supplies. Table 6-4 summarizes current and projected recycled water use within the City from FY 2019-20 to FY 2044-45. The following sections provide a description of the City's current recycled water use and its plans to expand the use of recycled water as a source of water supply over the next 25 years.

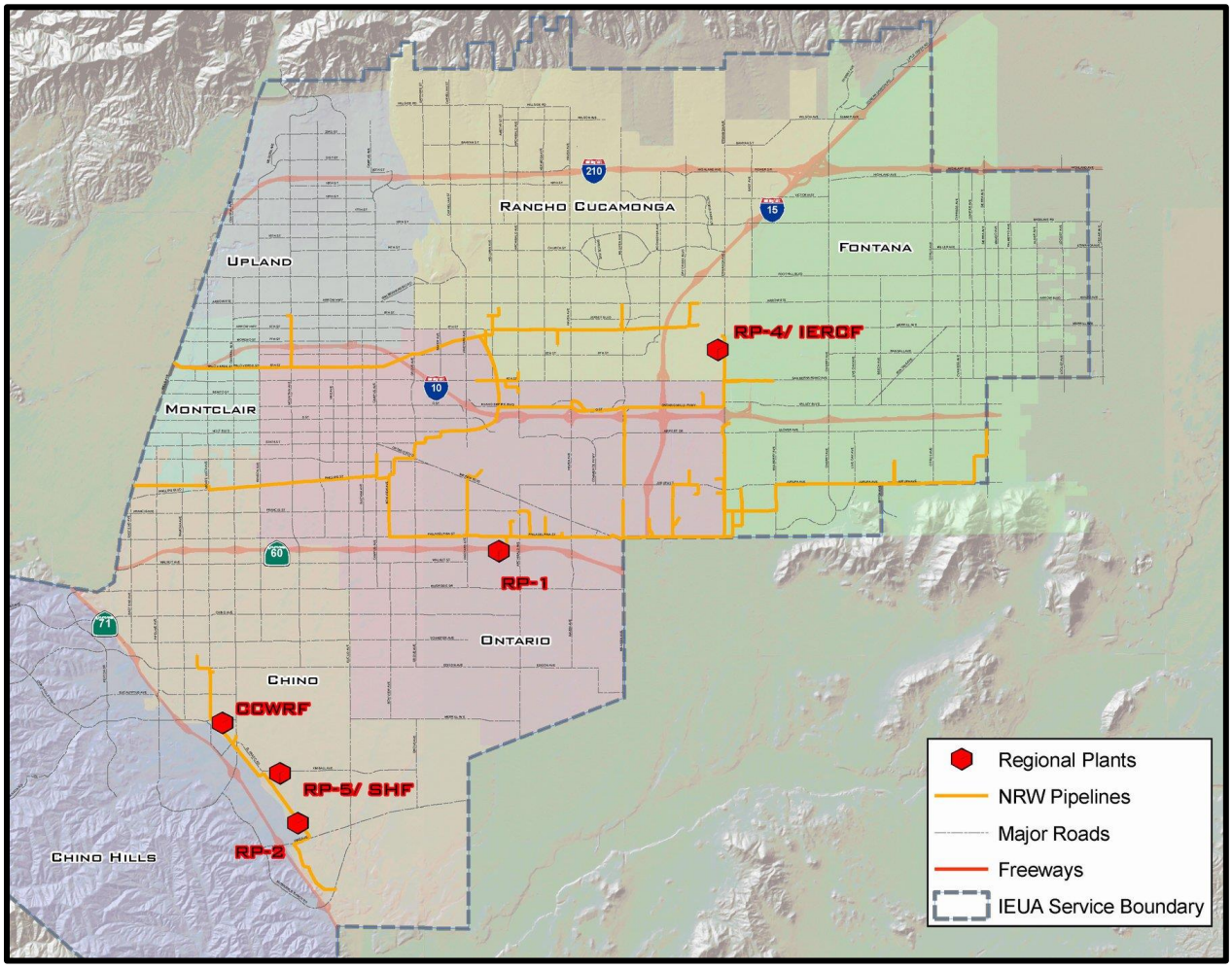
6.2.5.1 RECYCLED WATER COORDINATION

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…*

The City's recycled water supplies are produced by IEUA. Pursuant to the Chino Basin Regional Sewage Service Contract, each Contracting Agency has the right of first purchase of their Base Entitlement. Base Entitlement is defined as the total quantity of sewage delivered into the Regional Sewerage System by the Contracting Agency less normal processing losses resulting from the treatment of sewage. IEUA owns and operates five regional wastewater treatment plants including the Regional Water Recycling Plant No. 1 (RP-1), Regional Water Recycling Plant No. 2 (RP-2), Regional Water Recycling Plant No. 4 (RP-4), Regional Water Recycling Plant No. 5 (RP-5), and Carbon Canyon Water Recycling Facility (CCWRF). RP-1 has a wastewater treatment capacity of 44 MGD; RP-2 does not have any liquid treatment processes and does not produce any recycled water; RP-4 has a wastewater treatment capacity of 14 MGD; RP-5 has a wastewater treatment capacity of 15 MGD; and CCWRF has a wastewater treatment capacity of approximately 9.5 MGD. IEUA is currently planning an expansion of RP-5 which will increase its hydraulic capacity up to 22.5 MGD. The locations of IEUA's regional plants are provided in Figure 5 below.

Figure 5 - Location of IEUA Regional Water Recycling Plants



Source: IEUA (https://www.ieua.org/everything-water/recycled-water/)

IEUA's regional plants (with the exception of RP-2 which does not have any liquid treatment processes) can produce tertiary-treated, Title 22-quality recycled water. Information regarding recycled water effluent monitoring data and compliance data is provided in IEUA's annual "*Recycled Water Quality Reports*" and "*Recycled Water Annual Reports*[8]"

Table 6-4 summarizes current and projected recycled water use within the City from FY 2019-20 to FY 2044-45. The City works closely with IEUA regarding the development of recycled water infrastructure in its service area and the identification of new recycled water users. As discussed in Section 2.6, the City has coordinated the preparation of its 2020 Plan with IEUA.

[8] https://www.ieua.org/read-our-reports/recycled-water-reports/

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 by the City is treated by IEUA. IEUA provides sewage utility services to seven contracting agencies including the Cities of Chino, Chino Hills, Fontana, Montclair, Ontario, Upland, and Cucamonga Valley Water District. Wastewater is collected within the City's local sewer collection system. The City's local sewers tie into IEUA's regional trunk sewers, including 90 miles of regional sewage interceptors. The regional sewer lines deliver wastewater to one or more regional plants owned by IEUA for treatment. IEUA owns and operates five regional water recycling plants including the Regional Water Recycling Plant No. 1, Regional Water Recycling Plant No. 2, Regional Water Recycling Plant No. 4, Regional Water Recycling Plant No. 5, and Carbon Canyon Water Recycling Facility. Wastewater is treated through various processes including preliminary screening, grit removal, primary clarification, secondary treatment, tertiary treatment, dechlorinating, solids thickening, anaerobic digestion, and dewatering. With the exception of RP-2, the regional plants can produce tertiary-treated, Title 22-quality recycled water.

IEUA operates a Non-Reclaimable Wastewater System (NRWS) which conveys high strength wastewater to treatment facilities in Los Angeles and Orange counties for eventual discharge to the Pacific Ocean. The NRWS consists of two trunk lines which convey wastewater to the Los Angeles County Sanitation Districts' sewer system, and one trunk line which conveys wastewater to the Orange County Sanitation District's sewer system. 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

According to information provided by IEUA, IEUA treated approximately 49.1 MGD of wastewater at its regional plants during FY 2019-20. In addition, IEUA estimates that the total estimated amount of wastewater collected within the City's service area during FY 2019-20 was approximately 12,650 AFY), as shown in Table 6-2. As indicated in Table 6-2 and Table 6-3, the City's wastewater is treated at RP-1 and RP-5.

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.					
100	Percentage of 2020 service area covered by wastewater collection system *(optional)*					
100	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*
IEUA	Estimated	12,645	IEUA	RP-1 and RP-5	Yes	No
Total Wastewater Collected from Service Area in 2020:		12,645				
**** 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
RP-1	Santa Ana River	San Ana River		River or creek outfall	Yes	Tertiary	31,000	14,200	7,812	8,988	
						Total	31,000	14,200	7,812	8,988	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: RP-1 are located within the City's service area; however; the water reclamation plant is wholly owned and operated by IEUA. Information regarding "2020 volumes" is estimated based IEUA's Recycled Water Annual Report FY 2019-20. Recycled water volume (within the serviced area) is for fiscal year 2019-20. Because the City does not own the water reclamation plant, information regarding "Instream Flow Permit Requirement" is not available and is not applicable.

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.

The City's recycled water supplies are produced by IEUA. Pursuant to the Chino Basin Regional Sewage Service Contract, each Contracting Agency has the right of first purchase of their Base Entitlement. Base Entitlement is defined as the total quantity of sewage delivered into the Regional Sewerage System by the Contracting Agency less normal processing losses resulting from the treatment of sewage. The City has received recycled water from IEUA since 1972. The City uses recycled water for industrial, landscape irrigation, agricultural irrigation, and golf course irrigation. The recycled water pipelines operated and maintained by the City total approximately 173,000 feet. The pipelines range from 6-inch to 36-inch and consist of polyvinyl chloride and cement mortar lined and coated materials. The location of the City's recycled water distribution system is provided in Appendix K.

Identification of Agencies Involved in the Recycled Water System

As part of the Chino Basin Watermaster's development of the OBMP, recycled water use was identified as a critical component in drought-proofing and maintaining the region's economic

growth. The OBMP established the path for the development of IEUA's regional recycled water distribution system and a Recycled Water Implementation Plan. IEUA in partnership with its member agencies and the Central Basin Watermaster have invested approximately $625 million since 2000 to increase the availability of local water supplies through water recycling, conservation, recharge improvements, the MWD groundwater storage and recovery project, the Chino Desalter, and other water management programs.

As previously discussed, IEUA owns and operates five regional wastewater treatment plants consisting of Regional Water Recycling Plant No. 1, Regional Water Recycling Plant No. 2, Regional Water Recycling Plant No. 4, Regional Water Recycling Plant No. 5, and Carbon Canyon Water Recycling Facility. IEUA began providing recycled water services in the 1970s at the Whispering Lakes Golf Course adjacent to RP-1 in the City Ontario and at the El Prado Park and Golf Course in the City of Chino. RP-2 does not have any liquid treatment processes and does not produce any recycled water. In the 1980s, IEUA expanded its recycled water system with the construction of the CCWRF and RP-4 recycling plants.

Those regional wastewater treatment plant capacities are:

- RP-1 has a wastewater treatment capacity of 44 MGD.
- RP-2 does not have any liquid treatment processes and does not produce any recycled water.
- RP-4 has a wastewater treatment capacity of 14 MGD.
- RP-5 has a wastewater treatment capacity of 15 MGD.
- CCWRF has a wastewater treatment capacity of approximately 9.5 MGD.

Information on Recycled Water System History and Operation

IEUA, in coordination with their member agencies, began providing recycled water services in the 1970s at the Whispering Lakes Golf Course adjacent to RP-1 in the City Ontario and at the El Prado Park and Golf Course in the City of Chino. In the 1980s, IEUA continued the implementation of its recycled water system with the construction of the CCWRF and RP-4 recycling plants. IEUA installed a backbone recycled water distribution system into the Cities of Chino and Chino Hills from the CCWRF in 1997. IEUA began groundwater recharge with recycled water at Ely Basin in 1999. In 2002, IEUA Board of Directors adopted Ordinance No. 75, the Mandatory Use Ordinance, to establish incentives and encourage recycled water use from the regional distributions system. A brief summary of recycled water project is provided below.

- In 2002, the Chino Basin Watermaster, Chino Basin Water Conservation District (CBWCD), San Bernardino County Flood Control District (SBCFCD) and IEUA combined efforts to greatly expand groundwater recharge capacity through the Chino Basin Facilities Improvement Program.

- In 2005, IEUA was permitted by the Regional Water Quality Control Board (RWQCB) to operate its recycled water groundwater recharge programs at six additional recharge sites (Banana, Hickory, Etiwanda Conservation Ponds, Declez, RP3, and Turner Basins).
- In 2007, IEUA was permitted to operate its recycled water groundwater recharge program at seven more recharge sites (Brooks, 8th Street, Victoria, Lower Day, San Sevaine, Etiwanda Spreading Grounds (later reconfigured as the Etiwanda Debris Basin) and Ely Basins).
- November 2007, IEUA and its member agencies unanimously adopted the Three-Year Recycled Water Business Plan. IEUA and its member agencies committed to implementing the plan, which laid out a focused and cost-effective approach to rapidly increase the availability and use of recycled water within IEUA's service area.
- Recycled water use within the IEUA service area increased from approximately 5,396 AF in FY 2004-05 up to 38,251 AF in FY 2013-14. However, with the conversion of land use from agricultural to urban, recycled water demand has decreased in recent years due to a reduction in irrigation demands.

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.

The City's "2020 Recycled Water Master Plan" identified potential recycled water customers within the City based on recycled water use for large-volume irrigation purposes (e.g. municipal parks, fields, golf courses, etc.). Recycled water use factors were applied to the ultimate land uses for these customers to determine the potential ultimate recycled water demands (see Appendix K).

The City uses recycled water for agricultural irrigation, landscape irrigation, golf course irrigation and industrial purposes. The City plans to increase recycled water use within its service area by expanding the recycled water system to additional parks, schools, nurseries, and commercial landscaping areas not currently using recycled water.

The City continues to retrofit landscape irrigation systems to use recycled water where available. Future recycled water use projections are based on current recycled water use and planned recycled water projects. As shown in Table 6-4, the current and projected deliveries reflect the volume of municipal recycled wastewater from IEUA to customers through the City's recycled water distribution system.

The City's recycled water supplies are produced by IEUA. Pursuant to the Chino Basin Regional Sewage Service Contract, each Contracting Agency has the right of first purchase of their Base Entitlement. Base Entitlement is defined as the total quantity of sewage delivered into the Regional Sewerage System by the Contracting Agency less normal processing losses resulting from the treatment of sewage. A tabulation of the City's recycled water demands over the past five years are provided in Section 6.1. Over the past five years, the City recycled water demands have ranged from 7,510 AFY to 9,653 AFY, with an average of 8,167 AFY. The City's actual use of recycled water in FY 2019-20 was 7,812 acre-feet and the 2015 Plan projected a recycled water use of 7,929 acre-feet for FY 2019-20, as shown in Table 6-5. The City's projected recycled water demands, over the next 25 years in five-year increments, are provided in Table 6-4 and Table 6-9.

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:	Inland Empire Utilities Agency
Name of Supplier Operating the Recycled Water Distribution System:	Ontario Municipal Utilities Company
Supplemental Water Added in 2020 (volume) *Include units*	0
Source of 2020 Supplemental Water	N/A

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		5,971		Tertiary	2,905	1,704	1,136	568	0	0
Landscape irrigation (exc golf courses)	Schools, Parks, City Landscape	6,764	Schools, Parks, City Landscape	Tertiary	3,290	7,088	8,612	10,136	11,659	11,659
Golf course irrigation		1,297		Tertiary	631	660	680	700	720	720
Commercial use										
Industrial use		2,027		Tertiary	986	2,716	3,037	3,358	3,680	3,680
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:	7,812	12,168	13,465	14,762	16,059	16,059
				2020 Internal Reuse						

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

NOTES: Projected recycled water use is equal for years 2040 and 2045 because the City anticipates buildout to occur in 2040. Pursuant to the City's 2020 Recycled Water Master Plan, the City anticipates agricultural recycled water use will decrease to 0 AFY at buildout.

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	2,177	2,905
Landscape irrigation (exc golf courses)	4,195	3,290
Golf course irrigation	600	631
Commercial use		
Industrial use	957	986
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	7,929	7,812
[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.

The City plans to continue to increase delivery capacity and expand the recycled water system to serve additional customers. Because the City is reliant on imported water supplies from IEUA, the economic value of a recycled water system continues to increase. Any additional water supplies that can offset imported water purchases will make these projects more viable. As discussed previously, the City's "2020 Recycled Water Master Plan" identified potential recycled water customers within the City based on recycled water use for large-volume irrigation purposes (e.g. municipal parks, fields, golf courses, etc.). The City is evaluating the following potential methods to expand future recycled water use. These potential methods are tabulated in Table 6-6.

- As a retail water supplier, the City will offer its customers (with non-potable water demands) an economic incentive to convert its use to recycled water.
- The City's potable and recycled water rates are a combination of a Readiness-to-Serve Charge, which is based on meter size, and a Usage Charge, which is based on the amount of water use. The Readiness-to-Serve Charge for a recycled water meter is approximately 55 percent of the Readiness-to-Serve Charge for a potable water meter. The variable Usage Charge for recycled water is approximately 60% of the charge for potable water. (The City's current and future recycled water charges largely depend on the rate that IEUA sells the recycled water for.)
- The City's Municipal Code Sec. 6-8.715 Rates, fees, charges and deposits provides that "*Under certain circumstances, the City may contribute to the cost of designing and/or constructing the facilities needed to deliver recycled water to an applicant's property. Subject to the availability of funds, the City may:*
  - *(1) Reimburse an applicant for costs incurred to install oversized facilities in the public right-of-way*
  - (2) *Elect to participate in or construct pipelines, reservoirs, pumping stations or other facilities, as it determines necessary, and/or as funds are available.*
- The City's Municipal Code Sec. Section 6-8.703, Policy states "*It is the policy of the City that recycled water be used for any purposes approved for recycled water use, when it is economically, technically, and institutionally feasible. Recycled water shall be the primary*

source of supply for commercial and industrial uses, whenever available and/or feasible. Use of potable water for commercial and industrial uses shall be contrary to City policy; shall not be considered the most beneficial use of a natural resource; and shall be avoided to the maximum extent feasible."

- As a contracting agency of IEUA, the City will investigate the availability of financial assistance for plumbing retrofits necessary to receive recycled water.
- The City will evaluate the viability of making conversion to recycled water mandatory for those customers with non-potable supplies that are in proximity to an existing or planned recycled water pipeline.

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			
Recycled Water Expansion	Expand recycled water distribution system pursuant to City's "2020 Recycled Water Master Plan" (Near Phase)	2025	4,356
Recycled Water Expansion	Expand recycled water distribution system pursuant to City's "2020 Recycled Water Master Plan" (Future Phase)	2045	3,891
		Total	8,247
***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.

Chino Basin

As discussed in Section 6.2.2, the Central Basin Desalter Authority removes salts from brackish groundwater extracted from the lower Chino Basin through the Chino I and II Desalter facilities. The Chino I Desalter is located in the City of Chino and commenced operation in 2001 and was expanded in 2005 to have a total capacity of 14.2 MGD. The Chino I Desalter includes reverse osmosis, ion exchange, and air stripper treatment for treating brackish water and removing nitrate and VOCs. The Chino II Desalter is located in Jurupa Valley and began operation in 2006 and was expanded in 2011, and again in 2017 to have a total capacity of 33 MGD. The Chino II Desalter includes reverse osmosis and ion exchange treatment for treating brackish water and removing nitrate. Following the expansion, CDA constructed the Concentrate Reduction Facility in 2017, which utilizes chemical softening to remove the limiting foulants (specifically, calcium and silica) from the reverse osmosis concentrate. Additional components of the Chino II Desalter were constructed as part of the South Archibald Plume Project which will be operational in 2021, with the goal of removing and treated TCE from groundwater wells impacted by the South Archibald Plume.

Treated water is distributed to CDA's member agencies which include the City of Chino, City of Chino Hills, City of Norco, City of Ontario, Inland Empire Utilities Agency, Jurupa Community Services District, Santa Ana River Water Company, and Western Municipal Water District. The member agencies have contract entitlements to receive a total of 35,200 AFY of treated water from CDA. A portion of the production is in-lieu of those CDA member agencies producing an equal amount of groundwater from their own groundwater wells from the Chino Basin using their individual water rights.

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 Final 2020 UWMP Guidebook, "*[w]ater 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.*"

As discussed in Section 4.5, the City participates in MWD's Dry-Year Yield Program. The DYYP is a groundwater storage and recovery program where supplemental water is stored in the Chino Basin during surplus years and could be recovered in-lieu of imported water from MWD through IEUA. The DYYP allows maximum use of imported water supplies available during wet years and stored groundwater in the Chino Basin during dry years. The DYYP can store up to 100,000 AF with maximum replenishment of 25,000 AFY and maximum extraction of 33,000 AFY. During FY 2019-20, there was 45,961 AF within the DYYP account. The agreement that authorized the DYYP will expire in 2028.

The City authorized execution of an agreement with IEUA to participate in the DYY program in 2003. Participation obligates the City to reduce its use of imported water compared to the previous year by a fixed amount, known as the "shift obligation." The City's shift obligation is 8,076 AFY. During years when MWD calls for extraction, the City's WFA purchases would be reduced by 8,076 AFY compared to the previous year. Since Jurupa Community Services District does not have an imported water connection, it has entered into an agreement with the City for meeting its shift obligation. Under this agreement, Jurupa Community Services District conveys groundwater to the City in an amount equal to its shift obligation.

DYY funds were used for the construction of three groundwater wells (Wells 45, 46, and 47) and an ion-exchange facility located at John Galvin Park to treat water extracted from Well 44 and Well 52. When the City is required to extract MWD's stored water, MWD will pay for the operation and maintenance costs and the City would pay MWD (through IEUA) the full-service water rate. The City can use the DYY facilities to meet its normal water demands during other periods but is responsible for the cost of well operation and maintenance.

The program allows the City to be less reliant upon imported water supplies. The additional groundwater capacity allows the City to increase the percentage of groundwater supply used to meet peak demands.

6.2.7.2 TRANSFERS

Pursuant to DWR's Final 2020 UWMP Guidebook, "*[t]he 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.*"

Pursuant to the Chino Basin Peace Agreement (discussed in Section 4.5), transfers include the assignment, lease, or sale of a right to produce water to another producer within the Chino Basin or to another person or entity for use outside the basin whether the transfer is temporary or permanent. The leasing of water rights is also permissible. In addition, the Chino Basin Watermaster accounts for transfers of stored water between producers. The City can utilize the transfer opportunities available for Chino Basin water when necessary.

6.2.7.3 EMERGENCY INTERTIES

The City has emergency interties with other water agencies that service 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.

The City has Mutual Aid Agreements with the following agencies: Chino, Chino Hills, Fontana, Monte Vista Water District, Cucamonga Valley Water District and IEUA.

The City also has several existing inter-agency and emergency interconnections with neighboring cities and water agencies. There are additional inter-agency and emergency interconnections planned as the City continues to expand. Currently, the City has two interconnections to WFA and five interconnections to CDA for imported water and can be utilized in times of emergency. Additionally, the City has one interconnection with Cucamonga Valley Water District and one interconnection with the City of Chino. The connection size between the City and Cucamonga Valley Water District is 4 inches and 8 inches through a Pressure Reducing Station. The interconnection size between the City and the City of Chino is 10 inches and the interconnection is located at the City of Chino Reservoir. These interconnections provide reliable water supply, in the event of a catastrophic supply interruption, from multiple sources of supply.

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.

The City's water supply sources include: groundwater pumped from the Chino Basin; treated groundwater from the Chino Basin produced by the Chino Basin Desalter Authority; treated, imported water purchased from MWD through Water Facilities Authority; groundwater and/or surface water purchased from San Antonio Water Company; and recycled water purchased from Inland Empire Utilities Agency. These water supply sources will allow the City to provide sufficient water service in the present moment, and in the future. Although the City has no plans for future water supply projects, the City 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.					
	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						
***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, the City's water supply sources consist of purchased groundwater treated by CDA (see Section 6.2.1), treated imported water purchased from WFA (see Section 6.2.1), treated groundwater and/or surface water from SAWCo (see Section 6.2.1), groundwater from the Chino Basin (see Section 6.2.2), and recycled water from IEUA (see Section 6.2.5). The actual quantities of the water supply sources available to the City during FY 2019-20 are summarized in Table 6-8. The reliable quantities of projected water supply sources available to the City in five-year increments through FY 2044-45 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 the City's projected reliable water supplies from FY 2019-20 through FY 2044-45 in five-year increments is based on historical practices, water supply availability, and the cost of water. It is anticipated the City will initially use groundwater produced from the Chino Basin. At the same time the City will continue to use recycled water for non-potable demands. The City will then use purchased treated water from CDA and SAWCo, to the extent it is available. The City will also use treated imported water. It is important to note that the Chino Basin is adjudicated (as discussed in Section 6.2.2) and that there is no limit to the amount of groundwater which can be produced annually. Consequently, in the event purchased treated water supplies from CDA and SAWCo and/or treated imported water may be limited, the City has the flexibility to increase groundwater production from the Chino Basin.

6.2.9.2 QUANTIFICATION OF SUPPLIES

The actual quantities of the water supply sources available to the City during FY 2019-20 are summarized in Table 6-8. The reliable quantities of projected water supply sources available to the City in five-year increments through FY 2044-45 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.

The City's projected quantities of purchased treated water supplies from CDA and SAWCo are based on historical long-term averages and available supplies during previous dry year conditions. The City's projected quantities of recycled water supplies to meet non-potable demands are based on historical long-term averages. The City's projected quantities of treated imported water and groundwater supplies from the Chino Basin are based on meeting the remainder of the City's total water demands. As noted above, in the event purchased treated water and/or treated imported water may be limited, the City has the flexibility to increase groundwater production from the Chino Basin. Consequently, it is anticipated the City 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)	Chino Basin	18,395	Drinking Water	
Purchased or Imported Water	Chino Basin Desalter Authority	6,636	Drinking Water	
Purchased or Imported Water	Water Facilities Authority	6,513	Drinking Water	
Purchased or Imported Water	San Antonio Water Company	565	Drinking Water	
Recycled Water	Inland Empire Utilities Agency	7,812	Recycled Water	
	Total	39,921		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)	Chino Basin	20,249		22,915		24,943		31,476		31,476	
Purchased or Imported Water	Water Facilities Authority	11,000		13,000		15,000		17,000		17,000	
Purchased or Imported Water	Chino Basin Desalter Authority	8,533		8,533		8,533		8,533		8,533	
Purchased or Imported Water	San Antonio Water Company	600		600		600		600		600	
Recycled Water	Inland Empire Utilities Agency	12,168		13,465		14,762		16,059		16,059	
	Total	52,550	0	58,513	0	63,838	0	73,668	0	73,668	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

The City 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 the City's various sources of supply.

6.2.10.2 REGULATORY CONDITIONS AND PROJECT DEVELOPMENT

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

6.2.10.3 OTHER LOCALLY APPLICABLE CRITERIA

There are no locally applicable criteria which applies to the City.

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 the City is not required by DWR to use the tool. Section 6.1 provides a tabulation of the City's historical annual water uses for each water supply source. During the past 10 years, the City experienced a five-consecutive-year-drought within its service area from FY 2011-12 to FY 2015-16. Historical records indicate the City's annual water demands had been greater prior to FY 2011-12. The City 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, the City 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 the City'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.

Pursuant to DWR's Final 2020 UWMP Guidebook "Energy intensity" is defined as the quantity of energy consumed or generated divided by volume of water entering a water management process. The energy intensity can be calculated based on 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 the City'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.

The City 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. The City has reported the energy intensity associated with the water management processes which occur within its operational control. Because the City does not track individual energy usage for each water management process identified above, the City 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 18,152,675 kWh during FY 2019-20.

The total volume of water entering the potable water system was approximately 32,109 AF during FY 2019-20 and is consistent with the total volume of water provided in Table 4-1 (less recycled water supplies).

The total energy intensity associated with the City's water management processes is estimated at 565 kWh/AF. The energy intensity data and calculations based on the "total utility approach" are provided in Table O-1B below.

The City'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). The City'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, the City'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: *City of Ontario*

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	7/1/2019	**Urban Water Supplier Operational Control**		
End Date	6/30/2020			
☐ 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)		*32109*	*0*	*32109*
Energy Consumed (kWh)		*18152675*	*0*	*18152675*
Energy Intensity (kWh/volume)		*565.3*	*0.0*	*565.3*

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. The total energy consumed excludes electricity usage for general administration (which is not an identified water management process).

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 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 the City's 2020 Plan discusses and provides the following:

- FY 2019-20 represents an "average" or "normal" water year for the City in which the total amount of rainfall was similar to the historical average rainfall.
- A "single dry" year for the City was represented in FY 2017-18, in which the total amount of rainfall was below the historical average rainfall.
- A "five consecutive year drought" period for the City is represented from FY 2011-12 to FY 2015-16, where the total amount of rainfall during each of these years was less than the historical average rainfall.
- The City's current and projected water supplies available during normal years in five-year increments over the next 25 years are provided (through Fiscal Year 2044-45) as shown on Table 7-2.
- The City's current and projected water supplies available during single dry years in five-year increments over the next 25 years are provided (through Fiscal Year 2044-45) as shown on Table 7-3.
- The City'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 Fiscal Year 2044-45) as shown on Table 7-4.
- The reliability of the City'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 the City's ability to provide a reliable supply of water to its customers.
- A Drought Risk Assessment is provided which includes an assessment of the City's water supply reliability over a five-year consecutive drought period. The City's DRA assumes a five-year consecutive drought from FY 2020-21 through FY 2024-25 and includes a review of water supplies, water uses, and water supply reliability for each water supply source during this period. The City'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, the City 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 the City's UWMP describes the City's ability to meet retail customer water demands by analyzing a variety of factors which affect the City's water supply. This section assesses the City'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 the City 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 the City's water supplies is based on the historical precipitation data in the Chino Basin area. Historical annual precipitation in the Chino Basin area is discussed in Section 3.3 and is based on historical data collected from the National Oceanic and Atmospheric Administration (Ontario International Airport). 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 the City'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 the City's service area is 10.68 inches. FY 2019-20 represents an average or normal water year for the City in which the total amount of rainfall was similar to the historical average rainfall. A single dry year for the City was represented in FY 2017-18, in which the total amount of rainfall was below the historical average rainfall. A five consecutive year drought period for the City is represented from FY 2011-12 to FY 2015-16, 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 the City during those base years. The following discussion assesses the water service reliability of the City's water supply sources.

Water Service Reliability - Imported Water

The City's treated imported water supplies from MWD, through WFA (also IEUA, but this is untreated), may be impacted during a multi-year drought or other conditions which limits MWD from delivering sufficient water supplies to all of its member agencies, and consequently to the

City. In anticipation of such a reduction in supplies, MWD developed a WSAP which is briefly described below. The WSAP provides a means of equitably providing reduced water supplies to each of MWD's member agencies for up to 10 levels of reduction representing up to a 50 percent reduction.

During calendar year 2007, critically dry conditions impacted MWD's water supply sources. In addition, a ruling in the Federal Courts in August 2007 provided protective measures for the Delta Smelt (and subsequently other aquatic species) in the Sacramento-San Joaquin River Delta resulting in restrictions on the availability of State Water Project water. As a result, MWD adopted a WSAP in February 2008 to allocate available water supplies to its member agencies. MWD revised the WSAP in December 2014.

The WSAP establishes ten different shortage levels and a corresponding Allocation to each member agency. Based on the shortage levels established by MWD, the WSAP provides a separate reduced Allocation to a member agency for its 1) Municipal and Industrial retail demand and 2) replenishment demand. The WSAP formula considers historical local water production, full service treated water deliveries, agricultural deliveries and water conservation efforts when calculating each member agency's Allocation.

In general, the WSAP process calculates total historical member agency demand. That historical demand is then compared to member agency projected local supply for a specific Allocation year. The balance required from MWD, less an Allocation reduction factor, is the member agency's "Water Supply Allocation" of imported water from MWD. When a member agency reduces its local demand through conservation or other means, the Allocation of imported water will increase. Depending on MWD's available supply, MWD can establish a specific WSAP shortage level. The shortage level causes a regional reduction and calculates an allocation for each of its member agency. Additional information about MWD's WSAP is provided in MWD's Regional 2020 UWMP which is incorporated by reference. The following is a summary of MWD's water shortage levels:

Level 1 – Regional Percent Reduction of 5%
Level 2 – Regional Percent Reduction of 10%
Level 3 – Regional Percent Reduction of 15%
Level 4 – Regional Percent Reduction of 20%
Level 5 – Regional Percent Reduction of 25%
Level 6 – Regional Percent Reduction of 30%
Level 7 – Regional Percent Reduction of 35%
Level 8 – Regional Percent Reduction of 40%
Level 9 – Regional Percent Reduction of 45%
Level 10 – Regional Percent Reduction of 50%

In response to a fourth consecutive year of below average rainfall and critically dry conditions, MWD declared a WSAP Allocation Level 3 for fiscal year 2015-16, which represented a regional reduction of 15 percent. MWD rescinded the WSAP for fiscal year 2016-17 and has not reinstated the WSAP since that time.

Water Service Reliability - Groundwater

The Chino Basin groundwater supplies are managed by the Chino Basin Watermaster, as discussed in Section 6.2.2. During a normal year (FY 2019-20), the City met about 46 percent of its total demands with supplies from the Chino Basin. During a single dry year (FY 2017-18), the City met about 60 percent of its total demands with supplies from the Chino Basin. During a five consecutive year drought multiple dry year period (FY 2011-12 to FY 2015-16), the City met between 42 and 63 percent of its total demands with supplies from the Chino 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 the City's diverse water supply portfolio, water supplies may be re-apportioned during a five consecutive year drought to meet the City'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.*

The City's sources of supplies consist of groundwater pumped from the Chino Basin; treated groundwater from the Chino Basin produced by the Chino Basin Desalter Authority; treated, imported surface water purchased from MWD through Water Facilities Authority; groundwater and/or surface water purchased from San Antonio Water Company; and recycled water purchased from Inland Empire Utilities Agency, as described in Section 6.2. Although all of these supplies are managed, the following constraints may occur which the City has considered in this reliability analysis.

Chino Basin

The City produces groundwater from the Chino Basin. The groundwater historically had been impacted by contamination. However, the City 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.

Overall, groundwater quality in Chino Basin is generally good with better quality in the northern portion of the basin where recharge occurs. However, salinity (TDS) and nitrate-nitrogen concentrations increase in the southern portion of the basin. CDA treats the impaired groundwater by means of reverse osmosis, ion exchange, and air stripping, resulting in high quality drinking water. VOC plumes throughout Chino Basin, several of which are located within the City, are constantly being monitored.

The City has already inactivated several wells (Well 3, 4, 9, 15, 31, 35, and 50) due to high nitrate and perchlorate concentrations detected above the maximum contaminant levels (MCL). Well 34 was removed from service due to (TCP) water quality issues. The operations of Wells 44 and 52 are limited due to the migration of the bacterial groundwater plume when these wells are used too frequently. Well 25 was taken out of service due to a Perfluorooctanoic acid (PFOA) detection, which was below the PFOA interim notification level. The impact on supply due to the closure of these wells is minimized by constructing replacement wells at other locations where contaminant levels are low and constructing wellhead treatment facilities.

High levels (maximum concentration of 5,620 µg/L at one site) of TCE and chromium (485 µg/L) were found at one of the City's inactive well sites in 1987. They were found to have come from the General Electric Flatiron Facility, which operated a clothes iron manufacturing plant in the City from the early 1900s to 1982. Detectable, but low, concentrations of tetrachloroethene (PCE), toluene, and total xylenes were also found. The plant is no longer in operation, but an industrial park occupies the site. Since 1991, that area has been regularly monitored, and in 1995, two wells were constructed to extract groundwater, treat it, and direct it to the Ely Basins via the West Cucamonga Channel. The Ely Basins allowed the treated water to percolate back into the Chino Basin until 2005 when the basins became fully dedicated to the recharge of storm water, recycled water, and imported water pursuant to the long-term recharge plan executed by Watermaster and IEUA. As an alternative, three injection wells and conveyance pipelines were constructed in July 2011 to inject treated water into the Chino Basin. VOCs are also removed from contaminated soil through a Soil Vapor Extraction (SVE) system, which began in 2003.

VOCs were also located at the General Electric Test Facility, whose operations include testing and maintenance of commercial and military aircraft engines. In the past, hazardous wastes were disposed in dry wells, and this activity caused VOCs, such as TCE, PCE, cis-1,2-DCE, 1,2-dichloropropane, 1,1-DCE, 1,1-DCA, and chloroform, to appear in the soils and groundwater. A maximum concentration of 1,240 µg/L of TCE was measured at the site and 190 µg/L was quantified at an offsite monitoring well. Groundwater and soil remediation began in 1988 after a Consent Order was agreed upon by General Electric and the California Department of Public Health (CDPH). Since then, regular monitoring has been conducted, and status reports have been

submitted. In 1996, vapor extraction treatment began, and as recently as 2008, contaminant levels in shallow soils have been deemed acceptable. The remediation process will continue until most, if not all, of the VOCs have been eliminated.

Quantities of TCE are found in private wells south of the Ontario International Airport in the area bounded by State Route 60 on the north, Bellegrave Ave. to the south, Turner Avenue on the east, and Grove Avenue on the west. The maximum concentration detected was 156 ug/L in 1990. Since 2016, the highest detected concentration was 90 ug/L. This area of TCE groundwater contamination is known as the South Archibald Plume and is believed to have come from several parties related to various activities within the airport. In September 2016, the Santa Ana Regional Water Quality Control Board issued a Final Stipulated Settlement and Cleanup & Abatement Order (CAO R8-2016-0016). The plume remediation alternative involves the use of existing and proposed CDA production wells and facilities. The remediation project is currently underway and includes the construction and operation of three new CDA production wells and a dedicated pipeline to convey groundwater produced from the wells to CDA's Chino II Desalter facility where TCE and other VOCs would be removed via air stripping. The project is anticipated to be operational in 2021.

Additionally, organic and inorganic compounds were discovered in the underlying groundwater when groundwater monitoring at the Milliken Sanitary Landfill began in 1987 as part of Solid Waste Assessment Test. An Evaluation Monitoring Program (EMP) was then launched, and 29 monitoring wells were drilled to assess the extent of damage of the compounds on the groundwater. Amounts of TCE, PCE, and dichlorodifluoromethane were found in combined concentrations as high as 159.6 µg/L. Other VOCs found at the site are vinyl chloride, benzene, 1,1-dichloroethane, and 1,2- dichloropropane. The landfill is owned by the County of San Bernardino and managed by the County's Waste System Division. It was inactivated in 1999.

Water quality in the Chino Basin is closely monitored by the Chino Basin Watermaster in compliance with the Optimum Basin Management Plan (OBMP). Data are collected by the Regional Water Quality Control Board (RWQBC) and other agencies that obtain groundwater from Chino Basin. The Chino Basin Watermaster then combines all data into a comprehensive database.

Imported water

The City also receives treated surface water from MWD through WFA. WFA purchases untreated water from IEUA (a MWD wholesale supplier). Constraints to water supplies from MWD relating to supply reliability is addressed in MWD's 2020 Regional Urban Water Management Plan. The relevant MWD discussion relating to supply reliability is provided in Appendix L.

7.2.2 SERVICE RELIABILITY - YEAR TYPE CHARACTERIZATION

7.2.2.1 TYPES OF YEARS

The City'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, the City's water supplies sources have been sufficient in meeting the City'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 the City's service area. Because a single dry year or a five consecutive year drought period will not compromise the City's ability to provide a reliable supply of water to its customers, a single dry year in this Plan was selected based on 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 the City's service area is 10.68 inches. FY 2019-20 represents an average or normal water year for the City in which the total amount of rainfall was similar to the historical average rainfall. A single dry year for the City was represented in FY 2017-18, in which the total amount of rainfall was less than the historical average rainfall. A five consecutive year drought period for the City is represented from FY 2011-12 to FY 2015-16, 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 the City 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	2020	39,921	100%
Single-Dry Year	2018	43,346	108.6%
Consecutive Dry Years 1st Year	2012	42,603	106.7%
Consecutive Dry Years 2nd Year	2013	42,730	107.0%
Consecutive Dry Years 3rd Year	2014	45,196	113.2%
Consecutive Dry Years 4th Year	2015	41,226	103.3%
Consecutive Dry Years 5th Year	2016	36,036	90.3%
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 the City's service area are discussed in Section 3.3 Historical climate information was obtained from the WRCC, the National Oceanic and Atmospheric Administration, and from DWR's CIMIS.

7.2.3 WATER SERVICE RELIABILITY – SUPPLY AND DEMAND COMPARISON

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.

The City primarily obtains its water supplies from groundwater wells located in the Chino Basin. As discussed in Section 7.3 and shown in Table 7-2, Table 7-3, and Table 7-4, each of the City'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 the City's ability to provide a reliable supply of water to its customers.

As previously discussed in Section 4.2.6, the City's projected normal year water demands over the next 25 years, in five-year increments, were based on the City's 2020 Water Use Target of 196 GPCD for potable water demands. The ratio of total water supplies (including potable and recycled water supplies) available to the City during a historical normal year in FY 2019-20 (or 39,921 AF) and during a historical single dry year in FY 2017-18 (or 43,346 AF) was used to estimate the City's projected water demands during single dry years. The ratio of water supplies available to the City during a historical normal year in FY 2019-20 (or 39,921AF) and a historical five consecutive year drought period from FY 2011-12 to FY 2015-16 (or 42,603 AF, 42,730 AF, 45,196 AF, 41,226 AF and 36,036 AF, respectively) was used to estimate the City's projected water demands during a five consecutive year drought period. The City's projected dry year water supplies over the next 25 years were based on the minimum supplies needed by the City to meet projected single-dry year demands. Table 7-2, Table 7-3, and Table 7-4 summarize the City'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 the City 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 the City's projected water demands and supplies over the next 25 years in five-year increments during normal years. Table 7-2 indicates the City 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)*	52,550	58,513	63,838	73,668	73,668
Demand totals *(autofill from Table 4-3)*	52,550	58,513	63,838	73,668	73,668
Difference	0	0	0	0	0
NOTES: Supply and demand are equal for years 2040 and 2045 because the City anticipates buildout to occur in 2040.					

7.2.3.2 WATER SERVICE RELIABILITY – SINGLE DRY YEAR

Table 7-3 summarizes the City's projected water demands and supplies over the next 25 years in five-year increments during single dry years. Table 7-3 indicates the City 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*	57,058	63,534	68,847	79,989	79,989
Demand totals*	57,058	63,534	68,847	79,989	79,989
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: Supply and demand are equal for years 2040 and 2045 because the City anticipates buildout to occur in 2040.					

7.2.3.3 WATER SERVICE RELIABILITY – FIVE CONSECUTIVE DRY YEARS

Table 7-4 summarizes the City'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 the City 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	56,080	62,445	67,667	78,618	78,618
	Demand totals	56,080	62,445	67,667	78,618	78,618
	Difference	0	0	0	0	0
Second year	Supply totals	56,248	62,632	67,870	78,853	78,853
	Demand totals	56,248	62,632	67,870	78,853	78,853
	Difference	0	0	0	0	0
Third year	Supply totals	59,493	66,246	71,786	83,403	83,403
	Demand totals	59,493	66,246	71,786	83,403	83,403
	Difference	0	0	0	0	0
Fourth year	Supply totals	54,268	60,428	65,481	76,078	76,078
	Demand totals	54,268	60,428	65,481	76,078	76,078
	Difference	0	0	0	0	0
Fifth year	Supply totals	47,436	52,820	57,237	66,500	66,500
	Demand totals	47,436	52,820	57,237	66,500	66,500
	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: Supply and demand are equal for years 2040 and 2045 because the City anticipates buildout to occur in 2040.						

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.

As noted in Section 6.2.2, the Chino Basin is managed under the Chino Basin adjudication. During the period of management under the Judgment, significant drought events have occurred. In each drought cycle the Chino Basin has been managed to maintain water levels. Therefore, based on historical and on-going management practices, the City will be able to rely on the Chino 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 Chino Basin, as well as information on basin management. Chapter 6 also demonstrates the management structure of the Chino Basin provides a reliable source of groundwater supply for the City during a normal year, a single-dry year and a five consecutive year drought. Historical data indicates the Chino 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 increased direct use of recycled water (see Section 6.5) and the continued use of recycled water for groundwater replenishment in the Chino Basin to reduce the need to import water from other regions. Therefore, the groundwater supplies in the Chino 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.

The City's sources of supplies consist of groundwater from the Chino Basin (which is managed under the Chino Basin adjudication), treated import water purchased through Water Facilities Authority and managed by the Metropolitan Water District of Southern California, groundwater and/or surface water purchased from San Antonio Water Company, and recycled water purchased from inland Empire Utilities Agency. The following discussion provides a DRA which assesses the City's water supply reliability over a five-year consecutive drought period. The City's DRA incorporates a five-year consecutive drought from FY 2020-21 through FY 2024-25 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

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

- The five consecutive year drought period associated with the 2020 UWMP is based on five consecutive dry years from FY 2020-21 through FY 2024-25.
- 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 FY 2011-12 and FY 2015-16 (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 FY 2019-20 (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 FY 2011-12 and FY 2015-16).
- 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 the City'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 reduced 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, however, this increased use is partially offset by conservation measures. Groundwater and imported water 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; however, this increased use is partially offset by heightened conservation messaging. Groundwater and imported water supplies have not been impacted. However, there is an increased demand on both groundwater and treated imported water.
- 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

The City's DRA incorporates a five-year consecutive drought based on five consecutive dry years commencing in FY 2021-22. The quantity of water supplies available for each year during this five-year consecutive drought period included in the City's DRA is assumed to be the same as the quantity of water supplies produced by the City (i.e. demands) during the most recent and historical five-year consecutive drought which occurred from FY 2011-12 through FY 2015-16. 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

The City receives water supplies from the Chino Basin, which is actively managed under the Chino Basin adjudication, as described in Section 6.2.2. Each year the Chino Basin Watermaster reviews water supply conditions including local rainfall, groundwater levels, local stormwater runoff available for replenishment, imported water availability and the amount of water stored in the groundwater basin for future demands, to ensure the Basin is responsibly managed. Regardless of the annual safe yield adopted (a new safe yield is adopted every ten years) there is never a restriction on the amount of water which may be pumped from the Chino Basin, subject to

replenishment requirements under the Chino Basin Watermaster's oversight. The quantity of 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, the City was able to increase its production of its groundwater supplies from an adjudicated and managed groundwater basin. The City 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 consecutive five-year droughts), the City does not anticipate a water supply shortage from the Chino Basin.

Imported Water

The City obtains imported water from the Metropolitan Water District of Southern California through Water Facilities Authority. Section 6.2.1 describes the planning conducted by the Metropolitan Water District of Southern California regarding treated imported water supplies available to the City. The reliability of MWD's supplies is also discussed in its 2020 Regional UWMP and is incorporated by reference. The City purchases treated imported water which is delivered directly within its distribution system. The City's purchases of treated, imported water over the past ten years have been tabulated in Section 6.1. In the event of a drought which limits imported water supplies, the City will rely on its groundwater production and will pay the applicable assessments to purchase untreated imported water to be delivered in the future when supplies are available.

The imported water purchases by the City during the most recent and historical five consecutive year drought period have been tabulated in Section 6.1. Because the City's DRA assumes the most recent and historical five consecutive year drought scenario will be repeated over the next five years, it is assumed the quantity of treated imported water supplies purchased during the most recent and historical five consecutive year drought scenario will be available. Furthermore, this constitutes the minimum amount of treated imported water which may be available in a future five consecutive year drought absent MWD's programs which it has since implemented.

Recycled Water

The City has a recycled water distribution system which it has developed over the years to reduced demands on its potable water supplies as described in Section 6.2.5. The availability of recycled water supplies is not adversely impacted by drought conditions and are locally available.

The quantity of recycled water used during the most recent and historical five consecutive year drought period have been tabulated in Section 6.1. The quantity of recycled water available during each year of the most recent and historical five consecutive year drought is expected to be available during a future five consecutive year drought.

Summary

The City'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 supplies which are used. Consequently, the City 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 the City will rely on during a five consecutive year drought. The annual quantities are summed and are also provided on Table 7-5. The most important aspect of the City's water supplies is the groundwater which can be produced from a managed groundwater basin without restriction on the amount the City is allowed to produce. However, for the purposes of the City's DRA, as a worst-case scenario, the City has considered no water supply augmentation (as indicated in Table 7-5) from its groundwater supplies. When necessary, the City 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 the City shown in Table 7-5 are based on the quantity of supplies produced by the City (i.e. demands) during the most recent historical five consecutive drought period (from FY 2011-12 through FY 2015-16) as provided in Table 7-1. As shown in Table 7-5, assuming no additional water supply benefits will be available from groundwater supplies, the City 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	45,299
Total Supplies	42,603
Surplus/Shortfall w/o WSCP Action	(2,696)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	2,696
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	6%
2022	**Total**
Total Water Use	48,138
Total Supplies	42,730
Surplus/Shortfall w/o WSCP Action	(5,408)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	5,408
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	11%
2023	**Total**
Total Water Use	53,774
Total Supplies	45,196
Surplus/Shortfall w/o WSCP Action	(8,578)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	8,578
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	16%
2024	**Total**
Total Water Use	51,660
Total Supplies	41,226
Surplus/Shortfall w/o WSCP Action	(10,434)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	10,434
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	20%
2025	**Total**
Total Water Use	47,436
Total Supplies	36,036
Surplus/Shortfall w/o WSCP Action	(11,400)
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	0
WSCP - use reduction savings benefit	11,400
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	24%

7.3.4 OPTIONAL PLANNING TOOL WORKBOOK

DWR has deemed the "Planning Tool Worksheet" as optional and the City is not required by DWR to use the tool. The City has provided sufficient water supplies to its customers, including during long-term droughts and years with historically high water demands. The City has also been able to provide water service to meet maximum day water demands for these years, including during the summer months. The City obtains the majority of its water supplies from a managed groundwater basin which is 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 the City's 2020 Plan discusses and provides the following:

- The City's Water Shortage Contingency Plan is a detailed approach which presents how the City intends to act, or respond, in the case of an actual water shortage contingency.
- Preparation of the City's "Annual Water Supply and Demand Assessment" (or Annual Assessment) is discussed. Commencing July 1, 2022, the City is required to submit the Annual Assessment. The Annual Assessment will include a review of the City's "unconstrained" water demands for the current year and for a potential upcoming single dry year. Unconstrained water demands represent the City's water demands prior to any "response actions" the City may invoke pursuant to the City's Water Shortage Contingency Plan.
- The City will manage water supplies to minimize the adverse impacts of water shortages. The City'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, the City 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 the City 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.
- The City's Emergency Response Plan is summarized. The Emergency Response Plan provides the management, procedures, and designated actions the City 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 the City's seismic risk assessment and mitigation plan is discussed. The locations of earthquake faults in the vicinity of the City's water service area are provided.
- The effectiveness of the shortage response actions for each of the City's standard water shortage levels is presented. The City 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 the City when it declares any water shortage level are presented.
- The compliance and enforcement procedures associated with City's standard water shortage levels are presented.
- The legal authorities associated with City's standard water shortage levels are presented.
- The financial consequences associated with City's standard water shortage levels are presented.
- The City 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 the City to adopt and amend its Water Shortage Contingency Plan are presented.

The following Water Shortage Contingency Plan includes references to Chapters and Sections from the City of Ontario'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.

The City's sources of supply were discussed in Section 6.2 of the 2020 UWMP and consist of groundwater pumped from the Chino Basin; treated groundwater from the Chino Basin produced by the Chino Basin Desalter Authority; treated, imported water purchased from MWD through Water Facilities Authority; groundwater and/or surface water purchased from San Antonio Water Company; and recycled water purchased from Inland Empire Utilities Agency. The City provides recycled water for irrigation instead of potable supplies. The Chino Basin is 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 Chino Basin, the City is able to produce groundwater without limitation, provided any amount produced in excess of the production rights is replenished. Imported water supplies (both treated and untreated) may be impacted in the event MWD implements its WSAP due to a water supply shortage. Finally, recycled water is locally generated and generally is not impacted by drought conditions. Section 7.2.3 summarizes the City'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 the City can meet water demands during normal years, single dry years, and a five consecutive year drought periods over the next 25 years. Consequently, it is anticipated the City will have sufficient water supplies available to meet projected demands.

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, the City 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 the City's unconstrained water demands (i.e. water demands prior to any projected response actions the City may trigger under this WSCP) for the current year and the upcoming (potential single dry) year. The City will also include information regarding anticipated shortages, triggered shortage response actions, compliance and enforcement actions, and communication actions consistent with the City's WSCP.

For each Annual Assessment, the City 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 an Annual Assessment consist of the following:

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

8.2.1 DECISION MAKING PROCESS

The City produces groundwater from the Chino 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 the City 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 the City for peer review and comment. Based on comments received, a redraft will be prepared and provided to City managers during the Spring of each year. The draft subsequently will be provided to the City Manager for final review. Subsequently, a final draft of the Annual Assessment will be provided to the City Council as necessary for review and included in the agenda as part of a City Council meeting such that it can be reviewed or 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 the City 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, adopting and implementing water rates and drought rate surcharges, and pursuing alternative water supplies when necessary. This process will help ensure adequate water supplies resources are available to the City.

8.2.2 DATA AND METHODOLOGIES

The key data inputs and methodologies which will be evaluated by the City 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 and projected for use 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 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.

(a)(3)(B) An urban water supplier with an existing water shortage contingency plan that uses different water shortage levels may comply with the requirement in subparagraph (A) by developing and indicating a cross-reference relating its existing categories to the six standardized water shortage levels.

The City has a legal responsibility to provide water utility services, including water for residential, commercial, industrial, public authority, and for public fire hydrants and private fire services. The City will manage water supplies prudently to minimize the adverse impacts of water shortages. In its 2015 Plan, the City'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, the City'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 supply 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 the City'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%	Washing of motor vehicles, trailers, boats or other types of mobile equipment shall be done only with a hand-held bucket or a hose equipped with a positive shutoff nozzle for quick rinses, except that washing may be done at the immediate premises of a commercial car wash or with reclaimed wastewater. No person shall sprinkle, water, or irrigate any landscaped or vegetated areas between the hours of 9:00 a.m. and 4:00 p.m.
2	Up to 20%	In addition to Shortage Level 1, operators of hotels and motels must provide the option of choosing not to have towels and linens laundered daily. Irrigation is prohibited during and within 48 hours of rainfall.
3	Up to 30%	In addition to Shortage Level 2, the use of fire hydrants shall be limited to fire fighting and related activities and other uses of water for municipal purposes shall be limited to activities necessary to maintain the public health, safety, and welfare. Unless written permission has been granted by the City Manager or his/her designee, the use of potable water for construction activities and grading shall be prohibited.
4	Up to 40%	In addition to Shortage Level 3, residents and CII customers will be prohibited from irrigating turf or other landscaping more than two days a week. No person shall irrigate any turf or landscaped area more than fifteen minutes (15) on watering days. No vehicles shall be washed unless it is taken to a carwash.
5	Up to 50%	In addition to Shortage Level 4, residents and CII customers will be prohibited from irrigating turf or other landscaping more than one day a week.
6	>50%	In addition to Shortage Level 5, unless otherwise permitted by a resolution of the City Council, there shall be no use of potable water for irrigation of outdoor landscape or turf. Commercial nurseries shall be prohibited from the use of potable water for irrigation of outdoor, landscape and turf except by use of a hand-held hose equipped with a positive shutoff nozzle. The following nonessential use of water shall be prohibited: the filling, cycling, filtering, or refilling of swimming pools, spas, Jacuzzis, fountains or other like devices.
NOTES:		

The 2020 Plan requires urban water suppliers to have six standardized water shortage response actions in accordance with DWR. The City's previous WSCP, originally included in the City's 2015 Plan as Ordinance No. 3027 (see Appendix M), established a voluntary stage followed by four water supply shortage levels that would be mandatory once put into effect: Stage 1 addresses a water supply shortage of up to 10 percent; Stage 2 addresses a water supply shortage of up to 20 percent; Stage 3 addresses a water supply shortage of anywhere between 20 percent to 50 percent; and Stage 4 addresses a water supply shortage of more than 50 percent.

For its 2020 Plan, the City has prepared a draft Water Conservation Plan (see Appendix N) that will address the six standard stages of action in accordance with DWR. Under this draft Water Conservation Plan, the City will continue to incorporate Ordinance No. 3027's voluntary stage

during normal water supply conditions as well as the existing Stage 1 and Stage 2 water supply shortage levels as is. However, the City has amended Stage 3 to address a water supply shortage of up to 30 percent. In addition, the City has included a Stage 4 and Stage 5 that will be used to address a water supply shortage of up to 40 percent, and 50 percent, respectively. The City's existing Stage 4 has been amended to a Stage 6 level which addresses a water supply shortage of more than 50 percent.

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.

8.4.1 DEMAND REDUCTION

Voluntary Conservation Stage

All persons are encouraged to voluntarily limit the amount of water used to the amount absolutely necessary for health and safety, business operations, and irrigation. Except as otherwise provided in this chapter where a declared water shortage stage or water shortage emergency requires mandatory or other more stringent requirements, the following elements of conservation apply at all times on a voluntary basis by all persons within the City:

1) Avoid hose washing of sidewalks, walkways, driveways, parking areas or other paved surfaces, except as required for sanitary purposes. If a person uses a hand-held hose to wash any paved surfaces, the hose shall be equipped with a positive shutoff nozzle.
2) Wash motor vehicles, trailers, boats, and other types of mobile equipment using a hand-held bucket, or a hose equipped with a positive shutoff nozzle for quick rinses, or at the immediate premises of a commercial car wash or with recycled wastewater for approved uses.
3) Avoid using water to clean, fill, or maintain levels in decorative fountains, ponds, lakes, or other similar aesthetic structures unless such water is part of a recycling system.

4) Encourage restaurants, hotels, cafes, cafeterias, or other public places where food is sold, served or offered for sale, to serve drinking water only to those customers expressly requesting water.
5) Promptly repair all leaks from indoor and outdoor plumbing fixtures.
6) Avoid watering lawn, landscape or other turf areas more often than every other day and during the hours between 6:00 a.m. and 6:00 p.m.
7) Avoid causing or allowing the water to run off landscape areas into adjoining streets, sidewalks, or other paved areas due to incorrectly directed or maintained sprinklers or excessive watering.

Stage 1 Water Supply Shortage (Up to 10%)

During a Stage 1, the following mandatory restrictions on the use of potable water shall be applicable when the City Council determines that the City's water conservation goals are not being met by voluntary water conservation measures, or that the City's water supplies are likely to be reduced by up to ten percent (10%) or it has otherwise been requested or directed by executive order or regulation of a State agency to reduce its potable water consumption or production by a specified amount.

1) Except as required for health and sanitary purposes, washing of sidewalks, driveways, parking areas or other paved surfaces is prohibited. Any hand-held hose used for such purposes shall be equipped with a positive shutoff nozzle.
2) Washing of motor vehicles, trailers, boats or other types of mobile equipment shall be done only with a hand-held bucket or a hose equipped with a positive shutoff nozzle for quick rinses, except that washing may be done at the immediate premises of a commercial car wash or with reclaimed wastewater.
3) No water shall be used to clean, fill or maintain levels in decorative fountains, ponds, lakes or other similar aesthetic structures unless such water is part of a recycling system.
4) No restaurant, hotel, café, cafeteria or other public place where food is sold, served or offered for sale, shall serve drinking water to any customer unless expressly requested.
5) All water customers of the City shall promptly repair all leaks from indoor and outdoor plumbing fixtures. Such leak shall be repaired in a timely manner after notification by the City, but in no case after notification in excess of 72 hours for the first violation and then every 72 hours thereafter for the second and third violations.
6) No person shall sprinkle, water, or irrigate any landscaped or vegetated areas between the hours of 9:00 a.m. and 4:00 p.m. In any event, such watering shall not be in excess of needs nor be of a manner that allows water flow onto streets or other paved areas. The above mentioned may be watered by a hand-held hose equipped with a positive shutoff nozzle at any time of the day. Commercial nurseries, golf courses, and other water-dependent industries are exempt.
7) No water customer of the City shall cause or allow the water to run off landscaped area into adjoining streets, sidewalks or other paved areas due to incorrectly directed or maintained sprinkler or excessive watering.

8) The use of water from fire hydrants shall be limited to fire fighting and related activities necessary to maintain the public health, safety, and welfare. An exception may be made for construction use through a proper City-Designated meter. The use of potable water for construction activities shall be restricted in areas where recycled water is available for such use.

Stage 2 Water Supply Shortage (Up to 20%)

During a Stage 2, the following mandatory restrictions on the use of potable water shall be applicable when the City Council determines that it is likely that the City will suffer a reduction of more than ten percent (10%) up to twenty percent (20%) in its water supplies or it has otherwise been requested or directed by executive order or regulation of a State Agency to reduce its potable water consumption or production by a specified amount.

1) All the prohibitions and restrictions in Stage 1 shall be in effect provided that the more restrictive measures noted in this Stage shall take precedence.
2) Filling or refilling of empty swimming pools shall not occur without the written permission of the City Manager or his/her designee.
3) All customers are prohibited from irrigating turf or ornamental landscapes during and within 48 hours following measurable rainfall.
4) Operators of hotels and motels must provide guests with the option of choosing not to have towels and linens laundered daily and prominently display notice of this option.
5) All persons, including the City, are prohibited from irrigating with potable water any ornamental turf on public street medians.
6) The use of potable water irrigation outside of newly constructed homes and buildings shall be consistent with the California Building Standards Commission and the Department of Housing & Community Development.

Stage 3 Water Supply Shortage (Up to 30%)

During a Stage 3, the following mandatory restrictions on the use of potable water shall be applicable when the City Council determines that it is likely that the City will suffer a reduction of more than twenty percent (20%) and up to thirty percent (30%) in its water supplies or it has otherwise been requested or directed by executive order or regulation of a State Agency to reduce its potable water consumption or production by a specified amount.

1) All the prohibitions and restrictions in the preceding Stages shall be in effect provided that the more restrictive measures noted in this Stage shall take precedence.
2) Residents and CII customers will be prohibited from irrigating any turf or landscape area more than four (4) days a week.
3) The use of water from fire hydrants shall be limited to fire fighting and related activities and other uses of water for municipal purposes shall be limited to activities necessary to maintain the public health, safety, and welfare. Unless written permission has been granted

by the City Manager or his/her designee, the use of potable water for construction activities and grading shall be prohibited.

Stage 4 Water Supply Shortage (Up to 40%)

During a Stage 4, the following mandatory restrictions on the use of potable water shall be applicable when the City Council determines that it is likely that the City will suffer a reduction of more than thirty percent (30%) and up to forty percent (40%) in its water supplies or it has otherwise been requested or directed by executive order or regulation of a State Agency to reduce its potable water consumption or production by a specified amount.

1) All the prohibitions and restrictions in the preceding Stages shall be in effect provided that the more restrictive measures noted in this Stage shall take precedence.
2) Residents and CII customers will be prohibited from irrigating turf or other landscaping more than two (2) days a week.
3) No person shall irrigate any turf or landscaped area more than fifteen minutes (15) on watering days.
4) No vehicles shall be washed unless it is taken to a carwash.

Stage 5 Water Supply Shortage (Up to 50%)

During a Stage 5, the following mandatory restrictions on the use of potable water shall be applicable when the City Council determines that it is likely that the City will suffer a reduction of more than forty percent (40%) and up to fifty percent (50%) in its water supplies or it has otherwise been requested or directed by executive order or regulation of a State Agency to reduce its potable water consumption or production by a specified amount.

1) All the prohibitions and restrictions in the preceding Stages shall be in effect provided that the more restrictive measures noted in this Stage shall take precedence.
2) Residents and CII customers will be prohibited from irrigating turf or other landscaping more than one (1) day a week.

Stage 6 Water Supply Shortage Emergency (More than 50%)

During Stage 6, the following mandatory restrictions on the use of potable water shall be applicable when the City Council determines that it is likely that the City will suffer a reduction of more than fifty percent (50%) in its water supplies or it has otherwise been requested or directed by executive order or regulation of a State agency to reduce its potable water consumption or production by a specified amount. A water shortage emergency may be declared whenever the City Council finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the City to the extent that there would be insufficient water for human consumption, sanitation, and fire protection. A water shortage emergency may include an immediate emergency. An immediate emergency may occur as a result of a breakage or failure

of a dam, pump, pipe line or conduit, a major earthquake, large-scale fire, or other so called “Act of God” which may have serious impacts on the City's available water supply.

The following restrictions on the use of potable water shall be applicable during a Stage 6 Water Supply Shortage Emergency:

1) All the prohibitions and restrictions in the preceding Stages shall be in effect provided that the more restrictive measures noted in this Stage shall take precedence.
2) Unless otherwise permitted by a resolution of the City Council, there shall be no use of potable water for irrigation of outdoor landscape or turf.
3) Commercial nurseries shall be prohibited from the use of potable water for irrigation of outdoor, landscape and turf except by use of a hand-held hose equipped with a positive shutoff nozzle.
4) The following nonessential use of water shall be prohibited: the filling, cycling, filtering, or refilling of swimming pools, spas, Jacuzzis, fountains or other like devices.

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	Other - Prohibit use of potable water for washing hard surfaces	Collective reduction from all Shortage Level 1 actions is up to 4,712 AF		Yes
1	Other - Require automatic shut of hoses	Collective reduction from all Shortage Level 1 actions is up to 4,712 AF		Yes
1	Water Features - Restrict water use for decorative water features, such as fountains	Collective reduction from all Shortage Level 1 actions is up to 4,712 AF		Yes
1	CII - Restaurants may only serve water upon request	Collective reduction from all Shortage Level 1 actions is up to 4,712 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 4,712 AF		Yes
1	Landscape - Limit landscape irrigation to specific times	Collective reduction from all Shortage Level 1 actions is up to 4,712 AF		Yes
1	Landscape - Restrict or prohibit runoff from landscape irrigation	Collective reduction from all Shortage Level 1 actions is up to 4,712 AF		Yes
1	Other	Collective reduction from all Shortage Level 1 actions is up to 4,712 AF	The use of water for fire hydrants shall be limited to fire fighting and related activities necessary to maintain the public health, safety, and welfare. An exception may be made for construction use through proper city-designated meter. The use of poable water for construction activities shall be restricted in areas where recycled water is available for such use.	Yes
2	Other	Collective reduction from all Shortage Level 2 actions is up to 9,424 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 9,424 AF	Filling or refilling of empty swimming pools shall not occur without the written permission of the City Manager or his/her designee.	Yes
2	Landscape - Other landscape restriction or prohibition	Collective reduction from all Shortage Level 2 actions is up to 9,424 AF	All customers are prohibited from irrigating turf or ornamental landscapes during and within 48 hours following measurable rainfall.	Yes
2	CII - Lodging establishment must offer opt out of linen service	Collective reduction from all Shortage Level 2 actions is up to 9,424 AF		Yes
2	Landscape - Prohibit all landscape irrigation	Collective reduction from all Shortage Level 2 actions is up to 9,424 AF	All persons, including the City, are prohibited from irrigating with potable water any ornamental turf on public street medians.	Yes
2	Landscape - Other landscape restriction or prohibition	Collective reduction from all Shortage Level 2 actions is up to 9,424 AF	The use of potable water for irrigation outside of newly constructed homes and buildings shall be consistent with California Building Standards Commission and Department of Housing & Community Development.	Yes
3	Other	Collective reduction from all Shortage Level 3 actions is up to 14,137 AF	includes all Stage 2 actions	Yes
3	Landscape - Limit landscape irrigation to specific days	Collective reduction from all Shortage Level 3 actions is up to 14,137 AF	Residents and CII customers will be prohibited from irrigating any turf or landscape area more than four days a week.	Yes
3	Other - Prohibit use of potable water for construction and dust control	Collective reduction from all Shortage Level 3 actions is up to 14,137 AF	The use of water from fire hydrants shall be limited to fire fighting and related activities and other uses of water for municipal purposes shall be limited to activities necessary to maintain the public health, safety and welfare. Unless written permission has been granted by the CityManager or his/her designee, the use of potable water for construction activities and grading shall be prohibited.	Yes

4	Other	Collective reduction from all Shortage Level 4 actions is up to 18,849 AF	Includes all Stage 3 actions	Yes
4	Landscape - Limit landscape irrigation to specific days	Collective reduction from all Shortage Level 4 actions is up to 18,849 AF	Residents and CII customers will be prohibited from irrigating any turf or landscape area more than two days a week.	Yes
4	Landscape - Other landscape restriction or prohibition	Collective reduction from all Shortage Level 4 actions is up to 18,849 AF	No person shall irrigate any turf or landscaped area more than fifteen minutes (15) on watering days.	Yes
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Collective reduction from all Shortage Level 4 actions is up to 18,849 AF		Yes
5	Other	Collective reduction from all Shortage Level 5 actions is up to 23,561 AF	Includes all Stage 4 actions	Yes
5	Landscape - Limit landscape irrigation to specific days	Collective reduction from all Shortage Level 5 actions is up to 23,561 AF	Residents and CII customers will be prohibited from irrigating any turf or landscape area more than one day a week.	Yes
6	Other	Collective reduction from all Shortage Level 6 actions is greater than 23,561 AF	Includes all Stage 5 actions	Yes
6	Landscape - Prohibit all landscape irrigation	Collective reduction from all Shortage Level 6 actions is greater than 23,561 AF	Commercial nurseries shall be prohibited from the use of potable water for irrigation of outdoor, landscape and turf except by use of a hand-held hose equipped with a positive shutoff nozzle.	Yes
6	Landscape - Other landscape restriction or prohibition	Collective reduction from all Shortage Level 6 actions is greater than 23,561 AF		Yes
6	Other water feature or swimming pool restriction	Collective reduction from all Shortage Level 6 actions is greater than 23,561 AF	The following nonessential uses of water shall be prohibited: the filling, cycling, filtering, or refilling swimming pools, spas, Jacuzzis, fountains or other like devices.	Yes
NOTES:				

8.4.2 SUPPLY AUGMENTATION

The City does not plan to add a new source of water supply to address customer demands, but instead will consider increased supplies from existing sources. Table 8-3 reflects this approach and does not identify any new supplies. Instead, the City will focus on demand reduction measures in the event existing sources of supply are not sufficient to meet customer demands. As discussed in Chapter 6, the City's sources of water supply include: groundwater pumped from the Chino Basin; treated groundwater from the Chino Basin produced by the Chino Basin Desalter Authority; treated, imported surface water purchased from MWD through Water Facilities Authority; groundwater and/or surface water purchased from San Antonio Water Company; and recycled water purchased from Inland Empire Utilities Agency. The City's main source of water supply is groundwater pumped from the Chino Basin. As noted in Section 8.2, beginning July 1, 2022, the City 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 the City is currently in, or considers entering into, one of the standard water shortage levels identified in Section 8.3, the City will consider the water supply augmentation actions described below.

For each water shortage level discussed in Section 8.3, the City will consider supplementing its existing water supplies through increased groundwater production instead of the purchase of additional imported water supplies. Due to previous critically dry conditions, MWD developed the Water Supply Allocation Plan whereby available supplies are equitably allocated to its member agencies, including CDA, IEUA, and WFA. 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 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.

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, the City will use up to the treated imported water supply made available from MWD through WFA in association with each of the standard water shortage levels identified in Section 8.3. Water demands will be addressed through increased use of the local groundwater supplies and implementation of demand reduction measures through the various stages of action.

The City will consider augmenting its existing water supplies through production of additional groundwater from the Chino Basin. As noted in Section 6.2.2, the Chino Basin is managed under the Chino Basin adjudication. During the period of management under the Chino Basin Judgment, significant drought events have occurred. In each drought cycle the Chino Basin has been managed to maintain water levels. Parties to the Chino Basin Judgment, including the City, are authorized to produce groundwater in excess of their rights and pay assessments for such production to the Chino Basin Watermaster. The assessments are used to purchase untreated imported water to replenish the Chino Basin. The Chino Basin Watermaster purchases untreated imported water to replenish the Chino Basin from MWD through Inland Empire Utilities Agency. Groundwater quality is carefully monitored by the Chino 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 Chino Basin is not expected to impact potable supplies or constrain supply reliability. Based on historical and on-going management practices, the City will be able to continue relying on the Chino 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: The City will consider increased production from the Chino Basin using existing facilities to address increased demands. As noted on Table 8-2, the City 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, the City will manage its water supply resources to provide sufficient water supplies capable of meeting the demands of its customers. Section 8.4.1 describes the City's standard water shortage levels and associated demand reduction measures. Section 8.4.2 describes the City's water supply sources and water supply augmentation actions available. The supply augmentation actions and demand reduction measures, when implemented, may potentially result in short-term operational changes which are necessary to allow the City to utilize all available water supply sources in response to water shortage situations.

As noted in Section 8.2, beginning July 1, 2022, the City 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 the City in determining any potential operational changes. In addition, the City's standard water shortage levels and the associated demand reduction measures, in conjunction with the City's existing Demand Management Measures (discussed in Chapter 9), will be essential to the City in reducing water demands during any water shortage period. The operational changes the City 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 the City to reduce customer demands are discussed in Section 8.4.2. There are no additional mandatory restrictions planned at this time.

8.4.5 EMERGENCY RESPONSE PLAN

Catastrophic water shortages are incorporated in the City's standard water shortage levels (identified in Section 8.3) and the associated demand reduction measures (described in Section 8.4.2). In addition to the water supply augmentation actions (Section 8.4.1) and potential operational changes (Section 8.4.3) which the City may consider in order to continue providing sufficient water supplies, the City 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 the City, 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 the United States Environment Protection Agency (USEPA), from March 31, 2020 and December 30, 2021, confirming the current RRA and ERP have been reviewed and updated.

The City's RRA, prepared in May 2020, evaluates the vulnerabilities, threats, and consequences from potential hazards to the City's water system. The City 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 the City's water facility assets. The cost-effectiveness of implementing potential countermeasures to reduce risks was also reviewed.

The City's ERP, prepared in September 2020, provides the management, procedures, and designated actions the City and its employees will implement during emergency situations (including catastrophic water shortages) resulting from natural disasters, system failures and other unforeseen circumstances. The City's ERP (which is incorporated by reference) provides 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 also incorporates the results of City'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

The City 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. The City 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.

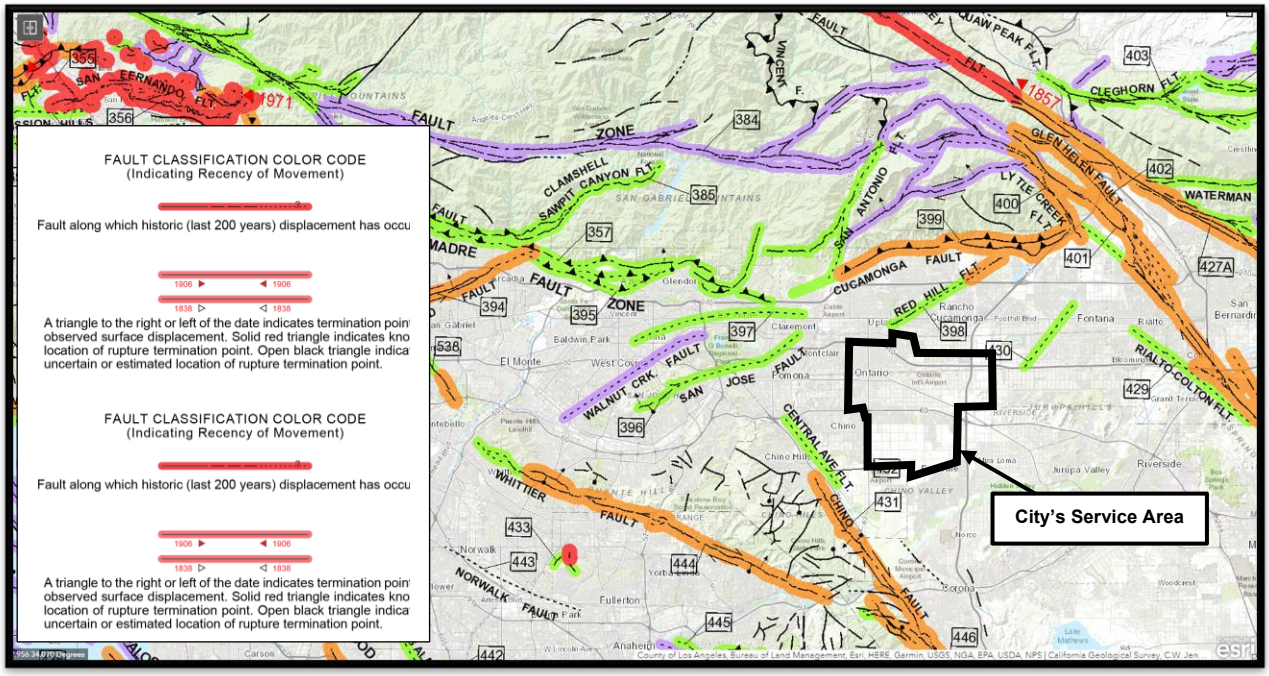
The City prepared a local "Hazard Mitigation Plan" which was approved by the Federal Emergency Management Agency (FEMA) in 2018. The Hazard Mitigation Plan identifies effective ways to assess the significant natural hazards (including earthquakes) that may affect the City and its residents. The Hazard Mitigation Plan provides resources, information, and strategies to reduce the City's vulnerability to these hazards, while providing guidance for the coordination of mitigation activities throughout the City. The Hazard Mitigation Plan includes mitigation

projects necessary to reduce seismic risk to the City's water distribution system facilities (including its distribution system pipelines, groundwater wells, booster pumps, and storage reservoirs) and potential disruptions in providing water service. The City's Hazard Mitigation Plan is provided in Appendix O.

The County of San Bernardino prepared a "Multi-Jurisdictional Hazard Mitigation Plan" which was approved by the Federal Emergency Management Agency in June 2017. The County's Multi-Jurisdictional Hazard Mitigation Plan identified methods to assess significant natural hazards (including earthquakes) affecting areas throughout San Bernardino County, and the mitigation strategies necessary to reduce risks, including seismic risk. The County's Multi-Jurisdictional Hazard Mitigation Plan is provided in Appendix P.

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 the City's water service area are provided in the Figure 6 below. The faults that are located in close proximity to and could potentially cause significant shaking in the City's water service area include the San Andreas fault, the Walnut Creek fault, the San Jose fault, the Red Hill fault, the Cucamonga fault, the Chino fault, the Rialto-Colton fault and the Central Avenue fault. As discussed in Section 6.2.2, the faults which border the Chino Basin include the Rialto-Colton fault, the Chino fault, the San Jose fault, and the Cucamonga fault.

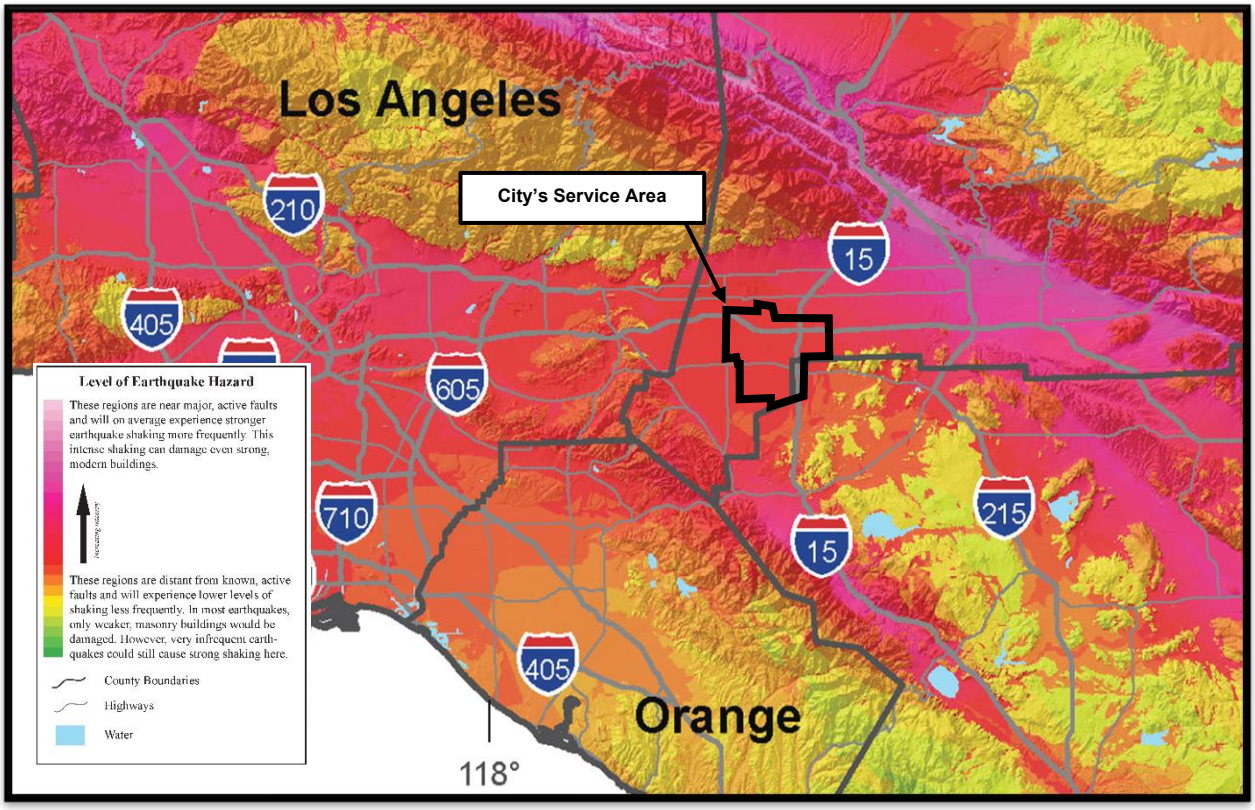
Figure 6 - Location of Earthquake Faults



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

The following Figure 7 provides the relative intensity of ground shaking in the vicinity of the City's service area from anticipated future earthquakes. The locations of relatively long-period (1.0 second) earthquake shaking, including the City'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, the City has prepared an Emergency Response Plan which provides the management, procedures, and designated actions the City 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. The City's ERP is incorporated by reference.

Figure 7 - 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 the City's historical ability to meet its customer's water demands in response to a water supply shortage. In addition, the City 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 the City'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 the City's historical annual water demands for each water supply source. During the past 10 years, the City experienced a five-year consecutive drought within its service area from FY 2011-12 to FY 2015-16. Throughout this extended dry year period, the City's annual water production ranged from 36,036 AF to 45,196 AF, with an average of approximately 41,558 AF. In addition, historical records indicate the City previously produced a maximum of up to 45,196 AF during FY 2013-14. The City 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, the City has been able to provide water service to meet maximum day water demands for these years, including during the summer months.

The City's water demands during the most recent five years (from FY 2015-16 to FY 2019-20) averaged approximately 39,374 AFY. Due to conservation efforts and demand management measures (discussed in Chapter 9), the City's recent water demands have been less than its historical water demands, including during long-term droughts. The City's projected water demands (during normal, single dry, and multiple dry years) 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 the City's projected water rates are similar to its historical water use rates, it is anticipated the City will be able to continue providing sufficient water supplies to its customers to meet projected water demands, including during long-term droughts. In addition, as discussed in Section 8.4.1, based on historical and on-going management practices, the City will be able to continue relying on its water supply source from the Chino Basin for adequate supply augmentation in response to each of the standard water shortage levels identified in Section 8.3.

Based on the City'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 long-term droughts, it is anticipated that the City 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. The City 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 the City's 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 the City's shortage response actions is based on the City's water demands prior to 2015 (unconstrained demands). The City 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. The City's actual water demand reduction during this period was used to estimate the extent of water use reductions for the City's Water Shortage Stages. The City's Water Shortage Stages 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.

Upon finding that a need to implement a Stage 1 through Stage 6 Water Supply Shortage exists, the City Council will order implementation of the appropriate water shortage response action, or other measures which it deems appropriate to address the water shortage. This order shall be made by Resolution and will be published in a daily newspaper of general circulation and will become effective immediately following publication. The appropriate regulations that fall under the Stage Level declared will take effect with the first full billing period commencing on or after the effective date of the City Council's Resolution.

In the event of an immediate emergency that causes an unplanned interruption of water supply, the City Manager or his/her designee is authorized to restrict water use and apportion the available supply of water among its customers in the most equitable manner possible to continue service fairly and without discrimination, except that preference shall be given to such service as is essential to the public interest and to the preservation of life and health.

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.

The City's WSCP includes fines and penalties that may be imposed on any customer who fails to comply with the prohibitions and restrictions of each water supply shortage stage. All fines and penalties may apply to each of the prohibitions and restrictions of each water supply shortage stage. If a customer if found to be in violation of any water supply shortage stage provision, fines begin with a written notice and subsequent violations include fines of $100, $200, and $500.

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.

The City has the legal authority to implement and enforce its water shortage contingency plan. California Constitution article X, section 2 and California Water Code section 100 provide that water must be put to beneficial use, the waste or unreasonable use or unreasonable method of use of water shall be prevented, and the conservation of water is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and the public welfare. In addition, CWC Section 375 provides the City with the statutory authority to adopt and enforce water conservation restrictions, and CWC Section 350 et seq. authorizes the City to declare a water shortage emergency and impose water conservation measures when it determines that the City may not be able to satisfy ordinary demands without depleting supplies to an insufficient level. If necessary, the City shall declare a water shortage emergency in according with CWC Chapter 3 (commencing with Section 350) of Division 1. Once having declared a water shortage, the City is provided with broad powers to implement and enforce regulations and restrictions for managing a water shortage. For example: CWC section 375(a) provides:

> Notwithstanding any other provision of the law, any public entity which supplies water at retail or wholesale for the benefit of persons within the service area or area of jurisdiction of the public entity may, by ordinance or resolution adopted by a majority of the members of the governing body after holding a public hearing upon notice and making appropriate findings of necessity for the adoption of a water conservation program, adopt and enforce a water conservation program to reduce the quantity of water used by those persons for the purpose of conserving the water supplies of the public entity.

(CWC Section 375(a).) CWC Section 375(b) grants the City with the authority to set prices to encourage water conservation.

Pursuant to these authorities, the City adopted Ordinance No. 3027. Under the City's Ordinance No. 3027, a water shortage, including a water shortage emergency but excluding an immediate emergency, shall be declared by the adoption of a resolution of the City Council, in accordance with CWC section 350. The City Council may declare a water shortage based on a determination by the MWD and the IEUA of a water shortage, the declaration of an executive order of the Governor or the adoption of voluntary or mandatory water use restrictions by any State Agency governing the use of water or based upon any interruption in water supply or delivery that the City Council determines in its sole discretion necessitates water conservation pursuant to this chapter.

Under California law, including CWC Chapters 3.3 and 3.5 of Division 1, Parts 2.55 and 2.6 of Division 6, Division 13, and Article X, Section 2 of the California Constitution, the City is authorized to implement the water shortage actions outlined in this WSCP and in the City's Ordinance No. 3027. In water shortage cases, shortage response actions to be implemented will be at the discretion of the City and will be based on an assessment of the supply shortage, customer response, and need for demand reductions as outlined in this WSCP and the City's Ordinance No. 3027.

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

The City will coordinate with the County and any other entities as necessary for possible proclamation of a local emergency as necessary under California Government Code, California Emergency Services Act (Article 2, Section 8558).

In the event of an immediate emergency that causes an unplanned interruption of water supply, the City Manager or his/her designee is authorized to restrict water use and apportion the available supply of water among its customers in the most equitable manner possible to continue service fairly and without discrimination, except that preference will be given to such service as is essential to the public interest and to the preservation of life and health.

At any time during Stage 1, 2, 3, 4, 5, or 6, if the City Council determines that additional reductions in the amount the potable water being used by water customers are necessary, it may adopt a resolution establishing water use limitations and enforce those water use limitations by the adoption and imposition of a volumetric penalty established therein.

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 expense increases associated with activated shortage response actions are regulated and tracked by the City's financial department.

During periods of water supply shortages, state-mandated water use restrictions, or emergency conditions, the City may require its customers to reduce demands below levels projected under the current water rate structure. Under any of these circumstances, the City may experience a decrease in revenues. In order to offset any decline in revenues, the City Council may adopt resolutions to make additional adjustments to the water rates based on the City's increased costs to provide water to its customers.

Projected demands, water supply reductions, water rates and cost of water cannot be known with certainty. However, even under a hypothetical scenario whereby sales are gradually reduced by up to 50 percent, certain actions are known as noted below:

Water supplies:

- CDA supplies will not be impacted from a quantity or cost standpoint.
- As demands/sales are reduced, the City will rely on its least expensive sources of supply first and sequentially reduce the most expensive sources of water supply (i.e. imported water). This action will address much of the gap between reduced revenue from water sales and the cost of the water supplies.
- As sales are reduced, distribution system losses will also be reduced on a proportional basis resulting in savings by not having to provide as much water.

Revenue from water sales:

Revenue from the monthly standby charge to each retail customer will remain constant regardless of the volume of water sold.

The City will regularly track the impacts of potentially reduced water sales on revenue and compare it to the cost of operations. In the event that the City's revenues and expenditures are severely affected by a water shortage, the following measures could be taken by the City to alleviate the financial impacts before there has been a significant draw on financial reserves:

- Rate Adjustment
- Decrease in Capital Expenditure
- Decrease in O&M Expenditure

Rate increases are not viewed positively by the customers particularly when they reduce consumption. Negative consequences that could arise from the cost-cutting actions include dissatisfaction of the customers, reduced funding for Capital Improvement Projects and system maintenance, and reduced staff availability for emergency response. Nonetheless, these tools are available to the City in a worst-case scenario to ensure a constant balance between revenue and expenses.

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 the City's Utilities Department. 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. The City 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.

The City's WSCP has been prepared as an adaptive management plan. As discussed in Section 8.9, the City will monitor and report on the implementation of the WSCP. The City will review the implementation results for any current or potential shortage gaps between water supplies and

demands. The City will evaluate the need for revising the WSCP in order to resolve any shortage gaps, as necessary. The City 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 8.4.1).
- Implementation of stricter enforcement actions and penalties (discussed in Section 8.6).
- Improvements to the water supply augmentation responses (discussed in Section 8.4.2), as well as any associated operational changes (discussed in Section 8.4.3) which may be required.
- Incorporation of additional actions recommended by City staff or other interested parties.

The City 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.

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

The City'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, the City'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.

As described in Section 8.4.1, under a Stage 1 Water Supply Shortage Level, no water shall be used to clean, fill or maintain levels in decorative fountains, ponds, lakes or other similar aesthetic structures unless such water is part of a recycling system.

8.12 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

CWC 10632.

(c) The urban water supplier shall make available the water shortage contingency plan prepared pursuant to this article to its customers and any city or county within which it provides water supplies no later than 30 days after adoption of the water shortage contingency plan.

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

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

- The City will conduct a public hearing and make the amended WSCP available for public inspection via public City Council agendas.
- The City Council will adopt the amended WSCP.
- The City 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 the City'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 the City's 2020 Plan discusses and provides the following:

- The City has implemented "Demand Management Measures" to reduce its water demands and achieve its water use targets (discussed in Chapter 5)
- The City's Demand Management Measures include adoption of an ordinance to prevent water waste.
- The City's Demand Management Measures include metering of all customer connections, including separate metering for single-family residential, commercial, industrial, large landscape and institutional/governmental facilities.
- The City's Demand Management Measures include conservation pricing. The City's current water rate structure is tiered to promote water conservation by customers.
- The City's Demand Management Measures include public education and outreach programs regarding water conservation.
- The City'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 the City has implemented over the past five (5) years is provided. The City 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.

9.1.1 METERING

The City 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. The City adopted Ordinance No. 3027 in October 2015 to establish water conservation measures, staged water supply shortage demand management measures (DMMs), and prevent water waste. The adoption of Ordinance No. 3027 was part of a comprehensive water shortage planning effort to manage the City's response to any water supply challenges it may encounter. The City will review and update as necessary when DWR publishes urban water use targets for its service area in accordance with 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.

The City meters all customer connections, including separate metering for single-family residential, commercial, industrial, large landscape and institutional/governmental facilities. Furthermore, if there is new development within the City, each facility is individually metered.

Service charges for the city are based on the customers' connection size. Further information regarding the City's service fees and conservation pricing is provided in Section 9.2.3.

9.2.3 CONSERVATION PRICING

The City has two commodity rates (Budgeted Use and Drought Surcharge) for water for customers within its service area. A Readiness-to-Serve Charge is added to the commodity rates to comprise the total water bill and is based on the size of the meter. Water bills are sent out monthly. A water rate sheet showing current rates is provided in Appendix Q.

The City's current water rate structure is tiered to promote water conservation by customers. The water rates have been developed to fund the cost of water and are related to the overall cost of water service. In the event the customer uses more than the amount of water allotted for the budgeted allocation, a Drought Surcharge rate would apply. The Drought Surcharge rate essentially penalizes the customers for over usage of water. This applies to all water-use sectors (e.g., single family residential, multifamily residential, industrial, institutional, etc.). Therefore, there is an economic benefit to conserving water.

9.2.4 PUBLIC EDUCATION AND OUTREACH

The City developed a public information program to educate the public to the benefits of water conservation. The program involves the dissemination of information through literature provided at City Hall and other City of Ontario facilities, and articles in the City of Ontario newsletter. The City includes informational flyers with the water bills periodically to address water conservation and other important matters. The City periodically holds public seminars and workshops with other local agencies to promote water conservation. The City also provides water conservation information and updates on its website. The City will continue these programs to promote water conservation.

As part of a public outreach program for water conservation, City representatives have visited schools to discuss water conservation. This discussion is usually included as part of an overall presentation on the water system and how it works. The City will continue the school education programs to promote water conservation to that sector of the community.

9.2.5 PROGRAMS TO ASSESS AND MANAGE DISTRIBUTION SYSTEM REAL LOSS

The City's system is comprised mainly of single and multi-family dwellings. The City estimates water system losses at approximately 2.9 percent, as discussed in Section 4.2. The City has water conservation literature that alerts customers to be on the lookout for water system leaks and to correct them promptly. The City is available to assist customers in answering questions regarding system leaks or higher than expected water usage.

As a part of normal operation and maintenance of the water system, City staff does preventive maintenance. 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.

The City monitors the water system for loss by comparing water production to water sales. The City will continue to monitor the water system for water loss, and if a trend develops to indicate that further analyses are required, the City will provide the necessary funds to institute another leak detection program.

The City will continue these programs to assess and manage distribution system real losses.

9.2.6 WATER CONSERVATION PROGRAM COORDINATION AND STAFFING SUPPORT

Various City departments are involved in the water conservation program. These include maintenance and operations personnel, the Utilities General Manager, the Public Works Director, and administrative staff who answer billing and usage questions and serve at the front counter at City Hall. In addition, the City employs a full time Water Resources Coordinator to oversee all water conservation activities. The Water Resources Coordinator is responsible for all matters pertaining to the City's water conservation program including implementation of DMMs. The City plans to continue to provide water conservation program coordination and staffing support.

9.2.7 OTHER DEMAND MANAGEMENT MEASURES

Large Landscape Conservation Programs

The City routinely hosts seminars and workshops in the community to promote landscape conservation. The City continues to offer a rebate program for the purchase of landscape related items to both residential and commercial customers to promote water conservation. During FY 2015-16 through FY 2019-20, the City provided rebates for this program.

Rebate Programs

The City continues to offer a rebate program for the purchase of high-efficiency washing machines, high-efficiency toilets, and weather-based irrigation controllers to customers to promote water conservation. The City currently offers rebates to qualifying customers for high-efficiency washing machines, high-efficiency toilets, and weather-based irrigation controllers. The rebate application, along with a list of qualifying appliances, are listed on the City's website. During FY 2015-16 through FY 2019-20, the City provided rebates for this program.

The City plans to continue implementation of the programs described above to promote water conservation.

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.

The City is committed to implementing water conservation programs. The highlights of DMM implementation over the past five years are described below.

As discussed in Section 9.2.1, in October 2015, the City adopted Ordinance No. 3027 to establish water conservation measures and staged water supply shortage demand management measures.

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

As discussed in Section 9.2.3, the City has two commodity rates (Budgeted Use and Drought Surcharge) for water for customers within its service area. Readiness-to-Serve Charges are added to the commodity rates to comprise the total water bill and are based on the size of the meter. Water bills are sent out monthly. A water rate sheet showing current rates is provided in Appendix Q.

As discussed in Section 9.2.4, the City developed a public information program to educate the public to the benefits of water conservation. The program involves the dissemination of information through literature provided at City Hall and other City of Ontario facilities, and articles in the City of Ontario newsletter. The City included informational flyers with the water bills periodically to address water conservation and other important matters. The City periodically held public seminars and workshops with other local agencies to promote water conservation. The City also provided water conservation information and updates on its website. As part of a public outreach program for water conservation, City representatives visited schools to discuss water conservation. The City coordinated and/or participated in public education/outreach events from FY 2015-16 through FY 2019-20.

As discussed in Section 9.2.5, the City distributed water conservation literature that alerted customers to be on the lookout for water system leaks and to correct them promptly.

As a part of normal operation and maintenance of the water system, City staff performed preventive maintenance. This included regular checks on valves and meters, and pipeline maintenance. The City monitored the water system for losses by comparing water production to water sales.

As described in Section 9.2.6, the City employed a full time Water Resources Coordinator to oversee all water conservation activities from FY 2015-16 through FY 2019-20. The Water Resources Coordinator is responsible for all matters pertaining to the City's water conservation program including implementation of DMMs. The City plans to continue to provide water conservation program coordination and staffing support.

Other DMMs employed by the City are discussed in Section 9.2.7. Highlights of other DMM implementation over the past five years are described below.

- Landscape Conservation Program – During FY 2015-16 through FY 2019-20, the City routinely hosted seminars and workshops in the community to promote landscape conservation. The City also offered a rebate program for the purchase of landscape related items to both residential and commercial customers to promote water conservation.
- High Efficiency Clothes Washing Machine Rebate Program – The City distributed high efficiency washing machine rebates from FY 2015-16 through FY 2019-20.
- High Efficiency Toilet Rebate Program – The City distributed high efficiency toilet rebates from FY 2015-16 through FY 2019-20.

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

As discussed in Section 5.5, the City's per-capita water use during FY 2019-20 was 161 GPCD. The City's confirmed 2020 Water Use Target is 196 GPCD. The City's per-capita water use during FY 2019-20 meets the 2020 Water Use Target and is in compliance. The City 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 the City in meeting water use targets and objectives.

9.4 WATER USE OBJECTIVES (FUTURE REQUIREMENTS)

The City is currently working with DWR to develop Water Use Objectives pursuant to AB 1668 and SB 606. Beginning in 2024, water agencies, including the City, 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. The City 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 the City's 2020 Plan discusses and provides the following:

- The steps the City has performed to adopt and submit its 2020 Plan are detailed.
- The steps the City has performed to adopt and submit its Water Shortage Contingency Plan are detailed.
- The City coordinated the preparation of its 2020 Plan with the Chino Basin Watermaster, CDA, County of San Bernardino, Cucamonga Valley Water District, Fontana Water Company, IEUA, Jurupa Community Services District, Monte Vista Water District, MWD, Santa Ana Watershed Project Authority, SAWCo, WFA, and the Cities of Chino, Chino Hills, Fontana, Montclair, Pomona, Rancho Cucamonga, and Upland. The City 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.
- The City provided a notice of the public hearing to the same agencies regarding the time, date, and place of the public hearing.
- The City published a newspaper notification of the public hearing, once a week for two successive weeks.
- The City conducted a public hearing to discuss and adopt the City's 2020 Plan and City's Water Shortage Contingency Plan.
- Within 30 days of adoption, the City submitted the 2020 Plan and Water Shortage Contingency Plan to the California Department of Water Resources.
- Within 30 days of adoption, the City submitted all data tables associated with the 2020 Plan to the California Department of Water Resources.
- Within 30 days of adoption, the City submitted a copy of the 2020 Plan to the State of California Library.
- Within 30 days of adoption, the City submitted a copy of the 2020 Plan (and Water Shortage Contingency Plan) to the County of San Bernardino Assessor- Recorder/ Clerk's office and the City Clerk's Office.
- Within 30 days after submittal of the 2020 Plan to the California Department of Water Resources, the City made the 2020 Plan (including the Water Shortage Contingency Plan) available at the City Clerk's Office and on the City's website.

- The steps the City 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 the City's 2020 Plan and the Water Shortage Contingency Plan is provided on a FY basis through June 30, 2020 (as discussed in Section 2.5).

10.2 NOTICE OF PUBLIC HEARING

The City'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.

CWC 10642.

…The urban water supplier shall provide notice of the time and place of a hearing to any city or county within which the supplier provides water supplies. Notices by a local public agency pursuant to this section shall be provided pursuant to Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1 of the Government Code. A privately owned water supplier shall provide an equivalent notice within its service area…

10.2.1.1 60 DAY NOTIFICATION

As discussed in Section 2.6.1 and Section 2.6.2, the City coordinated the preparation of the 2020 Plan with the Chino Basin Watermaster, CDA, Cucamonga Valley Water District, Fontana Water Company, IEUA, Monte Vista Water District, MWD, Santa Ana Watershed Project Authority, SAWCo, and WFA. The City notified these agencies, as well as the city and county within which the City 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

The City provided a notice of the public hearing to the Chino Basin Watermaster, CDA, Cucamonga Valley Water District, Fontana Water Company, IEUA, Monte Vista Water District, MWD, Santa Ana Watershed Project Authority, SAWCo, and WFA. The notice includes the time and place of the public hearing. In accordance with Government Code Section 7291, if the City's audience for the public hearing includes a substantial number that are not able to speak or understand English, the City will provide interpreters. To ensure that the draft 2020 Plan and the draft Water Shortage Contingency Plan were available for review, the City placed a copy at the City Clerk's Office located at City Hall 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 the City.

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		
Chino	Yes	Yes
Chino Hills	Yes	Yes
Fontana	Yes	Yes
Montclair	Yes	Yes
Pomona	Yes	Yes
Rancho Cucamonga	Yes	Yes
Upland	Yes	Yes
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
San Bernardino 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.

Pursuant to Section 6066 of the Government Code, the City published an English and Spanish notice of public hearing in the newspaper during the weeks of June 1, 2021 and June 8, 2021. A notice of public hearing was also provided to the City Clerk's office and was posted throughout the City of Ontario and on the City'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, the City placed a copy of the Plan at the City Clerk's Office located at City Hall 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, the City held a public hearing on June 15, 2021 which included input from the community regarding the City's draft 2020 Plan and the draft Water Shortage Contingency Plan. As part of the public hearing, the City adopted a method to determine of its water use targets through selection of Target Method 1 (see Section 5.2.1 and Appendix H). In addition, the City 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, the City adopted both the draft 2020 Plan and the draft Water Shortage Contingency Plan (included in Chapter 8). A copy of the resolutions adopting the 2020 Plan, the Water Shortage Contingency Plan, and the addendum to the 2015 Urban Water Management Plan are provided in Appendix R.

10.4 PLAN SUBMITTAL

CWC 10621.

(e) 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.

The City'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

The City Council adopted the 2020 Plan on June 15, 2021 and within 30 days of adoption and before July 1, 2021, the City submitted the adopted 2020 Plan (including the Water Shortage Contingency Plan) to DWR. The 2020 Plan and Water Shortage Contingency Plan were submitted through DWR's "Water Use Efficiency (WUE) Data Portal" website.

DWR developed a checklist which was used by the City to assist DWR with its determination that the City's 2020 Plan has addressed the requirements of the California Water Code. The City has completed the DWR checklist by indicating where the required CWC elements can be found within the City'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 and before July 1, 2021, the City submitted all data tables associated with the 2020 Plan through DWR's "Water Use Efficiency Data Portal" website.

10.4.3 SUBMITTING A UWMP, INCLUDING WSCP, TO THE CALIFORNIA STATE LIBRARY

Within 30 days of adoption of the 2020 Plan by the City Council, 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 the City'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 the City Council, a copy of the 2020 Plan was submitted to the County of San Bernardino Assessor-Recorder/ Clerk's office and the City of Ontario's City Clerk's Office. A copy of the letter to the County of San Bernardino will be maintained in the City'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, the City made the 2020 Plan (including the Water Shortage Contingency Plan) available at the City Clerk's Office located at City Hall during normal business hours and on the City'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.

The City is not regulated by the California Public Utilities Commission (CPUC).

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.

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

10.7.1 AMENDING A UWMP

If the City amends the adopted 2020 Plan, the amended Plan will undergo adoption by the City's governing board. Within 30 days of adoption, the amended Plan will then be submitted to DWR, the State of California Library, the County of San Bernardino Assessor- Recorder/ Clerk's office, and the City of Ontario's City Clerk's 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 the City amends the adopted 2020 Plan (including the Water Shortage Contingency Plan), the amended Plan (and Water Shortage Contingency Plan) will undergo adoption by the City's governing board. Within 30 days of adoption, the amended Plan (and Water Shortage Contingency Plan) will then be submitted to DWR through the WUE portal, the State of California Library, the County of San Bernardino Assessor- Recorder/ Clerk's office, and the City of Ontario's City Clerk's Office.