ALBERT A. WEBB ASSOCIATES

2020 URBAN WATER MANAGEMENT PLAN

Prepared For

jurupa COMMUNITY SERVICES DISTRICT

Adopted June 28, 2021

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2020 URBAN WATER MANAGEMENT PLAN

ADOPTED JUNE 28, 2021

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ACRONYMS

AB	(California) Assembly Bill
AMR	Automatic meter reading
AWE	Alliance for Water Efficiency
AWWA	American Water Works Association
BMP	Best Management Practice
CalWEP	California Water Efficiency Partnership
CASGEM	California Statewide Groundwater Elevation Monitoring
CDA	Chino Basin Desalter Authority
CCR	California Code of Regulations
CDP	Census Designated Place
CFD	Community Facilities District
CII	Commercial, Industrial, and Institutional
CIMIS	California Irrigation Management Information System
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
CWSRF	Clean Water State Revolving Fund
DAC	Disadvantaged Community
DDW	Division of Drinking Water
DMM	Demand Management Measure
DRA	Drought Risk Assessment
DWR	Department of Water Resources
DYY	Dry Year Yield
EPA	Environmental Protection Agency
ERP	Emergency Response Plan
GIS	Geographic Information System
HMP	Hazard Mitigation Plan
ICS	Incident Command System
IEBL	Inland Empire Brine Line
IEUA	Inland Empire Utilities Agency
ILI	Infrastructure Leaking Index
ITP	Independent Technical Panel
JCSD	Jurupa Community Services District
JPA	Joint Powers Authority
MCL	Maximum Contaminant Level
MHI	Median Household Income
MOU	Memorandum of Understanding
MWD or Metropolitan	The Metropolitan Water District of Southern California
MZ	Management Zone
N/A	Not Applicable
NPDES	National Pollutant Discharge Elimination System

ACRONYMS

OBMP	Optimum Basin Management Plan
PFAS	Per- and polyfluoroalkyl substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctanesulfonic acid
PWS	Public Water System
PWSS	Public Water System Statistics
RCFC	Riverside County Flood Control and Water Conservation District
RCP	Representative concentration pathway
RCSD	Rubidoux Community Services District
RHNA	Regional Housing Needs Assessment
RPU	Riverside Public Utilities
RWQCP	City of Riverside Regional Water Quality Control Plant
SARWC	Santa Ana River Water Company
SAWPA	Santa Ana Watershed Project Authority
SB	(California) Senate Bill
SBCFCD	San Bernardino County Flood Control District
SCAG	Southern California Association of Governments
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
TVMWD	Three Valleys Metropolitan Water District
UCR	University of California, Riverside
UWMP	Urban Water Management Plan
WDR	Waste Discharge Requirement
WEBB	Albert A. Webb Associates
WET	Water Education for Teachers
WMWD or Western	Western Municipal Water District
WRCRWA	Western Riverside County Regional Wastewater Authority
WSCP	Water Shortage Contingency Plan
WUE	Water Use Efficiency

Units of Measurement

AF	Acre Feet
AFY	Acre Feet per Year
°C	Celsius
CY	Calendar Year
EDU	Equivalent Dwelling Unit
ET	Evapotranspiration
°F	Fahrenheit
FY	Fiscal Year

Units of Measurement

GPCD	Gallons per Capita per Day
GPM	Gallons per Minute
HCF	Hundred Cubic Feet
MEU	Meter Equivalent Unit
MGD	Million Gallons per Day
mg/L	Milligrams per Liter (same as parts per million [PPM])
µg/L	Micrograms per liter (same as parts per billion [PPB])

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CHAPTER 1 INTRODUCTION AND LAY DESCRIPTION

1.1 REGULATORY BACKGROUND

In 1983, the California Legislature enacted the Urban Water Management Planning Act (Act). The Act is codified in California Water Code (CWC or "Water Code") Sections 10610 - 10657. The Act requires an urban water supplier (Supplier) that is 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 to adopt an Urban Water Management Plan (UWMP) and update it every five years for the purpose of demonstrating water supply reliability in normal, single dry, and multiple dry years. The Act requires each Supplier to submit their UWMP to the California Department of Water Resources (DWR). DWR staff then reviews the submitted plans to make sure they have satisfied the requirements identified in the Act, including subsequent revisions. DWR will then submit a report to the State Legislature summarizing the status of the UWMPs.

In order for an urban water supplier to be eligible for any water grant or loan administered by DWR, the supplier must have a current UWMP on file that DWR has determined met the current Act requirements. A current UWMP must also be maintained by the supplier throughout the term of any grant or loan administered by DWR. Depending on the conditions that are specified in the funding guidelines, a current UWMP may also be required in order to be eligible for other State funding sources.

With the adoption of the Water Conservation Act of 2009, also known as SB X7-7 (Senate Bill 7 of the Senate's 7th Extraordinary Session), the State is required to reduce urban per person water use by 20 percent by the year 2020. SB X7-7 is codified in CWC sections 10608 – 10608.64. To achieve this goal, each Supplier that prepares an UWMP to also develop an urban water use target to help the state collectively achieve a 20-percent reduction in water use.

Since 2015, the Act has been expanded and revised significantly in response to prolonged drought, groundwater overdraft, regulatory revisions, and changing climatic conditions. Although the exact changes in the Water Code are too numerous to list here, the significant new requirements for the 2020 UWMPs are:

- Water reliability assessment for a drought lasting five consecutive years;
- Drought risk assessment for a five-year period from 2021 to 2025;
- Seismic risk assessment of water system facilities and a mitigation plan;
- Water Shortage Contingency Plan with action items for a drought or catastrophic supply interruption;
- Consistency with Groundwater Sustainability Plans that are currently being prepared in certain groundwater basins; and
- A lay description of the fundamental conclusions of the UWMP, especially regarding water service reliability, challenges ahead, and strategies for managing reliability risks.

DISTRICT MISSION

The mission of JCSD is to provide water, sewer, parks and recreation, graffiti abatement and other essential services to our community.

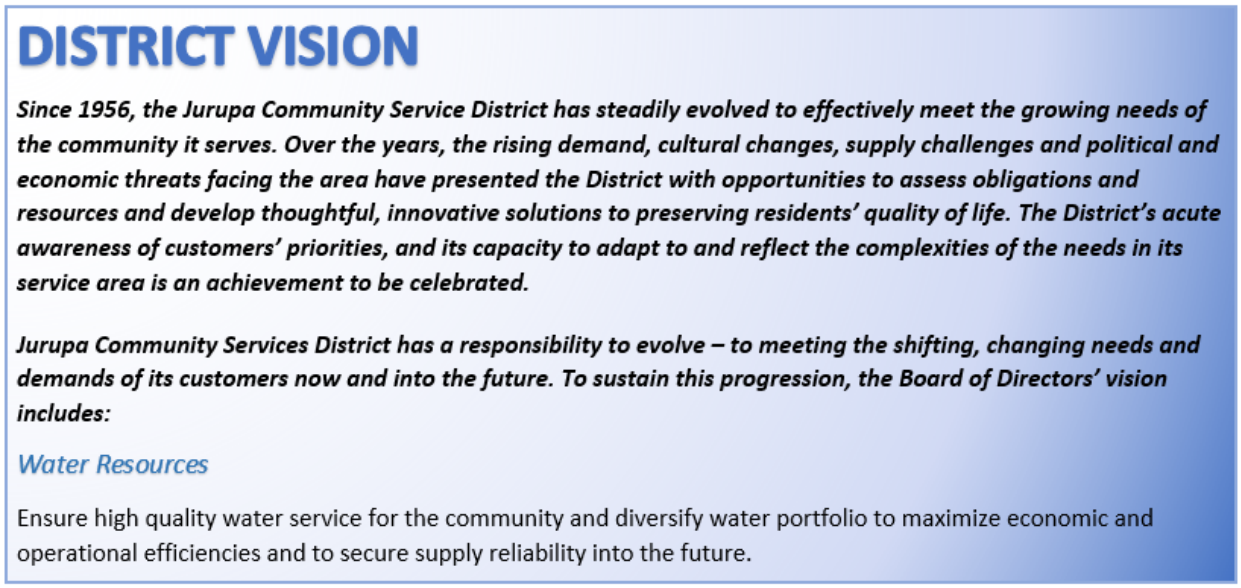
The Jurupa Community Services District (JCSD or "District") is a public retail urban water supplier. It is the stated goal of JCSD to deliver a reliable and high-quality water supply for their customers, even during dry periods. The purpose of the 2020 UWMP is to outline progress toward conservation and supply reliability goals since the District's 2015 UWMP was prepared, as well to outline future long-term opportunities to meet projected water demands while also assessing the impact of long-term drought and climate change. The identification of future opportunities for water supplies in the UWMP neither commits JCSD to any stated endeavor, nor precludes them from exploring a different project that is not identified in the UWMP.

Another purpose of this document is to inform the local wholesale water providers about JCSD's projected population and projected need for water supplies. JCSD is within the service area of the following wholesale water suppliers: Western Municipal Water District (WMWD) and Chino Basin Desalter Authority (CDA).

This document also intends to communicate forecasted growth to the wastewater treatment agencies that provide wastewater treatment services for the District. This includes the City of Riverside at the Regional Water Quality Control Plant (RWQCP), Western Riverside County

Regional Wastewater Authority (WRCRWA) treatment plant, and Santa Ana Watershed Project Authority (SAWPA) for the Inland Empire Brine Line (IEBL).

Albert A. Webb Associates (WEBB) is the District Engineer for JCSD and has prepared this document on their behalf under their advisement and approval. The JCSD Board of Directors held a public hearing on June 28, 2021 to hear public comment on the UWMP and its Water Shortage Contingency Plan. The UWMP and Water Shortage Contingency Plan were adopted by the Board of Directors on June 28, 2021 as recorded in JCSD Resolution Nos. 3133 and 3134 which are provided in **Appendix A**.



From JCSD Strategic Plan, June 2018.

1.2 LAY DESCRIPTION OF 2020 UWMP FINDINGS

JCSD's 2020 Urban Water Management Plan (UWMP) has been prepared in compliance with the California Water Code. This simple description of the report's findings satisfies the requirement in Water Code Section 10630.5 to include a simple lay description of water service reliability and the reasonably foreseeable challenges and corresponding solutions anticipated for the next 20-years.

Jurupa Community Services District (JCSD or District) was founded in 1956 and its service area currently covers 40.8 square miles. Water supplies come entirely from local groundwater. JCSD has always been able to provide its customers with the water they need and fully expects that it will continue to do so for the foreseeable future based on the analysis herein.

Since the adoption of the 2015 Urban Water Management Plan, JCSD has been successful in meeting the goals and intent of the Urban Water Management Planning Act of 1983 and the Water Conservation Act of 2009. The District has accomplished the following items which are discussed further in this document:

- Prepared updates to the JCSD Strategic Plan, Hazard Mitigation Plan, Emergency Response Plan, Water Master Plan, and Wastewater Master Plan.
- Prepared a Water and Wastewater Rate Study, Geohydrologic Analysis of Future Groundwater Production, Water Quality Evaluation Study, and four annual validated water loss audits.
- Participated in the Drought Task Force Workshops conducted by Western Municipal Water District.
- Supplied as of calendar year (CY) 2020 a total of 29,272 acre-feet (AF) of water including 28,505 AF of potable (drinking) water to 33,146 service connections and 767 AF of non-potable water to 30 service connections used for irrigation purposes.
- Initiated several projects to bring new water supplies to the District and conducted many construction projects to repair and improve the existing distribution system.

- Met the 2020 water use target pursuant to the Water Conservation Act of 2009 (or, SB X7-7).

- Coordinated with each city in its service area, Eastvale and Jurupa Valley, to discuss land use matters that may be pertinent to this document.

- Tested the accuracy of approximately 100 customer meters each year and repaired 339 service connection leaks and six main pipeline leaks.

- Installed "flume" devices on more than 500 customer meters in 2018 to provide real-time water use data through a smart phone app, which has reduced water use and identified potential leaks.

- Removed 442,858 square feet of turf between 2016 and 2020 through the turf replacement program. This equates to approximately 17,714,320 gallons of water saved annually.

- Provided rebates to 1,516 residential customers and 25 non-residential customers for installing high efficiency devices. Rebates for customers to offset the cost of drip irrigation continue to be available.

- Monitored high water use customers in the commercial, industrial, and institutional sectors, then contacted each company to review findings and provide conservation advice. Beginning in 2020, staff began providing customized landscaping information to high water-using non-residential customers.

- Participated in approximately 18 public outreach and educational events each year, except for 2020 when in-person activities were postponed due to the COVID-19 pandemic. However, during 2020 JCSD was able to host virtual classes and post videos on the District's YouTube channel, social media, and Web site to continue educating the importance of water conservation and benefits of drought-tolerant landscaping.

- Responded to an annual average of 340 reports of water waste with the "E-Citizen" smart phone application (app) beginning in 2016.

- Participated in the California Water Efficiency Partnership and the nationwide Alliance for Water Efficiency.

Water Supplies

The District's current water supply comes almost entirely from the Chino Groundwater Basin, which is 230 square miles and lies under the greater Chino Valley including the JCSD service area. A very small amount of non-potable irrigation water is pumped from District wells in an adjacent groundwater basin called the Riverside South Basin. The Chino Basin is one of the largest groundwater basins in Southern California and has an estimated 12 million acre-feet of water in storage. The Chino Basin has always been a reliable supply of water to the District and unresponsive to short and long-term drought periods. Rights to the groundwater were established by the California Superior Court in 1975 when individual allocations were set for each individual, company, or water district and a safe yield (basically, a limit) was established in order for the groundwater to continue meeting pumping needs but in a controlled way to avoid undesirable results. In a water shortage situation, the District can access its groundwater held in storage in the Chino Basin and/or pump up to and exceeding, if necessary, the District's allocated share of the safe yield. The District can also access emergency supplies via connections with neighboring water suppliers.

Over the past couple of years, the discovery of a new family of contaminants (PFAS) that is measured in concentrations of parts-per-trillion and turning up in the water at concentrations higher than the current notification level, along with elevated levels of total dissolved solids (TDS) and nitrate has made 40 percent of the District's pumping capacity unavailable until treatment systems are installed over the next couple of years. Nonetheless, the drinking water provided by JCSD continues to meet all drinking water standards set by the U.S. Environmental Protection Agency and California Drinking Water Health Standards, and the remaining wells and purchased water supplies have been able to make up the temporary pumping shortfall. The District is pursuing several projects to drill new wells and install additional treatment systems to bring wells back online. In addition, the District is securing funding to distribute recycled water for the first time to irrigate several parks, school yards, and road medians in Eastvale and southwestern Jurupa Valley. Using recycled water in this way will decrease the use of potable water for irrigation purposes. The District is also pursuing two

projects to make imported water available for use through the year 2045 and beyond. Imported water supplies are assumed for planning purposes to be reliable regardless of drought conditions based on the determination made by the supplying agency (The Metropolitan Water District of Southern California) in their current draft of the 2020 UWMP Drought Risk Assessment, (November 2020).

Customer Demands

The District serves many different types of customers such as industrial, commercial, and landscape irrigation but the majority has consistently been residential. The District also provides water to the City of Norco, Swan Lake Mobile Home Park, and Santa Ana River Water Company. According to DWR's Population Tool developed specifically for UWMPs, the District service area population is 130,546 persons for CY 2020. According to the JCSD *2020 Water Master Plan*, the District's population is predicted to increase to approximately 171,300 persons by 2040 when the District's service area will be "built-out" at a medium (mid-range) residential density (WEBB(a), p. ES-1). Because the population of the District is expected to continue increasing for about the next 20 years as vacant properties are developed and underdeveloped properties are redeveloped, water demands are also expected to increase. The *2020 Water Master Plan* estimates ultimate water demand at buildout will be 36,495 AF per year. The District can monitor water use to identify and help customers that may have a leak, or meter malfunction, or using a significant amount of water that could be reduced with assistance. JCSD customers demonstrated significant water conservation when asked during the statewide drought emergency of 2013-2017. The District has a menu of actions with increasing severity to encourage customers to reduce water use when needed in the event of a water shortage or catastrophic event. These actions can be triggered during a supply shortfall (i.e., when demand exceeds supply) and responded to according to the Water Shortage Contingency Plan located in Chapter 8.

The rate of increasing demand for water and the degree of change from current conditions is contingent on variables like water efficiency standards and the potential effects of climate change. Rainfall measurements taken near the District from the past 57 years show a decreasing trend and similarly, temperature measurements and evapotranspiration rates from the past 20 years show an increasing trend (Chapter 3). According to many widely accepted

models, climate change may cause outdoor water usage to increase gradually over the next 20 years to make up for generally less rainfall and higher temperatures. Based on best information available to date, this report attempts to estimate what those changes may look like in "normal" or average rainfall years, single-dry years (i.e., one year of drought), and five-consecutive drought years over the next 20 years, as well as a five-year drought hypothetically starting in 2021 (the "Drought Risk Assessment" in Chapter 7).

Fundamental Determinations

The groundwater supplies that are currently available to the District are projected to remain a reliable source of water to meet the demands of customers regardless of foreseeable potential constraints. Additional water supplies will be brought online to meet the projected demands of future residents through buildout of the service area. The projections of reliability considered recorded groundwater elevations, the potential effects of climate change, impacted water quality, water shortage, the effectiveness of water conservation and emergency water supplies, and the effects of five-consecutive-year drought periods. The District is continually monitoring customer use and improving the water distribution system to address infrastructure and water quality constraints. The District will continue to evaluate preparedness to respond to the effects of long-term drought and lessen the impacts of catastrophic events to the distribution system and supply sources.

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CHAPTER 2 PLAN PREPARATION

2.1 PLAN PREPARATION

This chapter provides information on the report organization, basic metrics used throughout the entire UWMP, and coordination and outreach conducted by the District.

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. This Plan follows the report organization outlined in the State UWMP Guidebook (Final March 2021). DWR has provided tables that are required to be completed by the District as part of the UWMP. Because JCSD is an urban retail water supplier and not a "wholesale" water supplier, the tables and information provided in the UWMP follow the requirements for "retail" water suppliers. The required UWMP tables provided by DWR are in shades of blue and titled "Submittal Table 2-1," for example. The additional tables created during the writing of this report that are not required for DWR are numbered using the chapter number in alphabetical order such as "Table 2A," for example. A checklist to ensure compliance of this Plan with the UWMP Act requirements is provided in **Appendix B**.

During calendar year 2020 (CY 2020), JCSD supplied 28,505 acre-feet (AF) of potable water to 33,146 potable meters and 767 AF of non-potable water to 30 non-potable meters, as shown in **Submittal Table 2-1.**[1] JCSD has just one public water system (PWS). Each PWS is assigned a number and they are regulated by the State Water Resources Control Board (SWRCB or State Water Board), Division of Drinking Water.

[1] One acre-foot (AF) equals 43,560 cubic feet or 325,851.43 gallons.

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			
CA3310021	Jurupa Community Services District	33,146	28,505
	TOTAL	33,146	28,505
**** Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: CY 2020, volume in ACRE-FEET (AF). Potable water only, includes fire service and hydrant meters. JCSD supplied 767 AF of non-potable irrigation water to 30 meters.			

DWR suggests water suppliers engage in *regional* planning to reduce inefficiencies when many agencies are sharing the same water supply source. Although the Water Code provides mechanisms for participating in regional urban water management planning, JCSD has chosen "Individual Reporting" for its UWMP, as identified in **Submittal Table 2-2**.

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:			

Water suppliers must report their water data in the same units consistently throughout the UWMP. The Water Code requires that the water use and planning data for the entire year of 2020 is used, and because JCSD reports on a CY basis, data included in this UWMP is through December 31, 2020. **Submittal Table 2-3** confirms that JCSD is a retailer with the

data provided herein on a CY basis unless otherwise noted, and all units of measure in this UWMP are in acre-feet.

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
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:	

2.2 PLAN COORDINATION

Retail water suppliers that receive a water supply from one or more wholesale water suppliers are required to provide their wholesaler(s) with projected water demand information. In CY 2020, JCSD received water supplies from the following wholesale agencies: Chino Basin Desalter Authority (CDA) and Western Municipal Water District (via CDA) as listed in **Submittal Table 2-4**. The potential for future partnerships with wholesalers is discussed in Chapter 6.

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
Western Municipal Water District
Chino Basin Desalter Authority
NOTES:

JCSD received a request from Western Municipal Water District on March 23, 2021 for the District's projected imported water needs, local supplies, and total District water demand. This information was provided to Western on May 11, 2021. JCSD subsequently received information from Western Municipal Water District on their water supply projections on May 18, 2021.

JCSD provided CDA copies of Submittal Table 4-2: Use for Potable and Non-Potable Water-Projected and Submittal Table 6-9: Water Supplies-Projected from the public draft UWMP on June 7, 2021. Copies of coordination efforts are provided in **Appendix C.**

The Water Code also requires Suppliers to coordinate the preparation of the UWMP 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 section 10620(d)(3)). Further, the Water Code requires notices to be sent at least 60 days prior to the public hearing to any city or county within the District's service area (CWC section 10621(b)). There are two cities within the District service area: City of Eastvale and City of Jurupa Valley. JCSD notified and solicited input from the following agencies for preparation of this Plan:

- Chino Basin Desalter Authority;
- Chino Basin Watermaster;
- City of Eastvale (*required*);
- City of Jurupa Valley (*required*);
- City of Norco;
- City of Ontario;
- City of Riverside Public Utilities Department;
- Corona-Norco Unified School District;
- County of Riverside (*required*);
- Cucamonga Valley Water District;
- Inland Empire Utilities Agency;
- Jurupa Unified School District;
- Rubidoux Community Services District;
- Santa Ana River Water Company; and
- Western Municipal Water District.

JCSD sent a notice to the entities listed above on March 4, 2021 notifying them that the District was reviewing and considering updates to the UWMP and Water Shortage Contingency Plan (located in Chapter 8). A second notice to confirm the details of the public hearing was sent to the same agencies on May 13, 2021.

JCSD also posted a public announcement informing customers the UWMP update was underway in the District's Spring 2021 "JCSD Community News" newsletter, which is posted on the District's Web site and mailed to each customer. Lastly, the public draft UWMP including the Water Shortage Contingency Plan was posted to the District Web site and provided in hard copy at the JCSD headquarters beginning June 1, 2021 Chapter 10 includes detailed information on notifications and Plan adoption proceedings. Copies of all notices are provided in **Appendix D.** .

2.2.1 Land Use Agency Coordination

As described in further detail in Chapter 3, JCSD and WEBB met with Planning Department staff from the City of Eastvale on February 11, 2020 and the City of Jurupa Valley on March 2, 2021 pursuant to CWC Section 10631(a). Copies of the meeting request letters are located in Appendix C. These meetings were held for the specific purpose of coordinating on the most appropriate land use data to use for the 2020 UWMP. Further, current information was provided by City staff on demographics, land use plan updates, and accessory dwelling unit applications.

The City of Jurupa Valley submitted a comment letter about the UWMP to JCSD dated June 7, 2021; a copy of which is located in Appendix C and addressed in Chapter 3.5.3 (Vernola Ranch).

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CHAPTER 3 SYSTEM DESCRIPTION

3.1 GENERAL DESCRIPTION

JCSD was formed in 1956 for the purpose of providing a sewer system to the community of Jurupa. Water service with JCSD began in 1966 with the consolidation of three mutual water companies: Jurupa Heights Water Company, La Bonita Mutual Water Company, and the Monte Rue Acres Mutual Water Company. Through the years, JCSD's area expanded along with their services, which include the following:

- Treatment, production, and distribution of safe and reliable water;
- Collecting, transporting, and treating residential, commercial, and industrial wastewater;
- Removing graffiti from public areas;
- Administering the street lighting maintenance program;
- Providing parks and recreation programs in the parks service area of the City of Eastvale; and
- Maintaining landscaping in public areas.

JCSD is a public agency with an elected five-person Board of Directors overseeing the five divisions of the service area. The Board of Directors is the legislative governing body for JCSD and is responsible for developing and implementing laws that govern the services provided within the jurisdiction of its community services. Each of the five Board Members is elected to four-year terms by registered voters who reside within the JCSD service territory. The Board of Directors conducts public meetings on the 2nd and 4th Monday of each month. The Board President appoints each member to serve on Board Committees.

3.2 SERVICE AREA BOUNDARY

The JCSD service area covers 40.8 square miles of northwest Riverside County and includes all of the City of Eastvale, approximately 65 percent of the City of Jurupa Valley, and small portions of the City of Norco and unincorporated Riverside County. The District service area and surrounding cities are shown in **Figure 3-1 – JCSD Service Area** (figures are located at the end of the chapter). The District's service area is demarcated along the northern and western boundaries by the Riverside/San Bernardino County line, beyond which lie parts of the Cities of Chino, Ontario, and Fontana. JCSD is bounded to the east by Rubidoux Community

Services District (RCSD) which is within the City of Jurupa Valley. To the south, JCSD is bounded partially by the City of Norco, the Santa Ana River Water Company, the Santa Ana River, and City of Riverside. The District provides water service to the Jurupa Valley communities of Glen Avon, Jurupa Hills, Indian Hills, Mira Loma, Pedley, and Sunnyslope. The neighboring water suppliers are shown in **Figure 3-2 – Surrounding Water Suppliers.** The portion of Jurupa Valley that is outside of the District boundary is supplied potable water by RCSD and the Santa Ana River Water Company, a mutual water company. Approximately 0.20-acre of the 40.8-acre JCSD service area consists of the Swan Lake Mobile Home Park, which is a master contract water customer that is not within the JCSD service area.

Approximately 110 acres of land designated for parks within the City of Norco is within the District's boundary. There are also approximately 30 acres of land designated for open space in an unincorporated area of Riverside County that is also within the JCSD service area (Figure 3-1). Because the District is not providing water service to these areas, these areas have been excluded from the planning assumptions and water projections of this UWMP.

3.2.1 Annexations

Changes to the JCSD service area since the 2015 UWMP include the following adjustments, which resulted in a net decrease of approximately eight vacant acres to the water service area:

- Tract 31894 in Jurupa Valley
    - Annexation No. 2018-5-2 to JCSD of ±1.21 vacant acres near intersection of Rubidoux Blvd. and Market Street.
    - Detachment No. 2018-5-2 from JCSD of ±1.44 vacant acres along Sierra Avenue.
- Tract 37470 in Jurupa Valley
    - Detachment No. 2018-5-2 from JCSD of ±8 vacant acres southwest corner of 30th Street and Sierra Avenue.

Potential future annexations to JCSD's service area include:

- Paradise Knolls: 30 acres (of the total 113 acres) of residential development, with a small area for commercial development, located along Limonite Avenue between Van Buren Boulevard and Etiwanda Avenue.

3.2.2 Potable Water System Pressure Zones

JCSD's water supply distribution system is made up of seven pressure zones (PZs), as shown in **Figure 3-3 – Water System Pressure Zones**. As shown in Figure 3-3, not all of the District is within a water pressure zone, primarily because of the natural topography of the Jurupa Mountains. As shown in **Table 3A**, the area of the District that is currently within a PZ is 21,476 acres, with the 870 PZ being the largest in size. Eight booster stations pump water into the various zones. The District also has 16 water storage tanks with a total capacity of 58 million gallons, and approximately 460 miles of water transmission and distribution pipelines.

Table 3A Potable Water System Pressure Zone Summary

Pressure Zone	Pressure Zone Area (acres)	Percent of Total
870	12,218	57%
900	220	1%
980	1,946	9%
1100	2,727	13%
1110	3,200	15%
1200	690	3%
1350	475	2%
Total	**21,476**	**100%**

JCSD has 18 active groundwater wells; 9 of which are potable wells and 9 are raw water wells. JCSD operates two ion-exchange plants to treat the raw water wells: Roger D. Teagarden Ion Exchange Facility (Teagarden) and the Well 17/18 Ion Exchange Facility.

Detailed information on the District's water distribution facilities is available in the *2020 JCSD Water Master Plan* (WEBB(a)), which is located on the JCSD Web site, www.jcsd.us.

3.2.3 Non-Potable Water System

JCSD currently maintains seven non-potable wells and short segments of non-potable water main lines that are used for irrigation at parks and two high schools within its service area. The parks served by these non-potable wells are all maintained by JCSD. The following are the District's active non-potable wells:

- Well 21 (with Well 5 as its back-up) for Oak Quarry Golf Club and Nueva Vista High School;
- "High School" Well for Jurupa Valley High School and Big League Dreams Sports Park;
- Well 42 for Limonite Meadows Park and street frontage;
- Well 41 for Providence Ranch Park and street frontage; and
- Well 40 for McCune Family Park, Clara Barton Elementary, and street frontage.

JCSD also obtains non-potable water from the CDA's Chino II-1 Well to irrigate Orchard Park in Eastvale. Pursuant to an agreement, the District and CDA share the well such that JCSD can irrigate Orchard Park and the remainder goes to CDA's treatment facilities.

A short segment of non-potable water main line was installed by the District within the Van Buren Blvd. Bridge crossing of the Santa Ana River. The District installed this segment for a future potential connection with the City of Riverside Regional Water Reclamation Plant to distribute recycled water. This segment could be used instead for potable water. This segment is unconnected and unused at this time.

In 2012, the District installed the "Area B Non-Potable System" with the intention of supplying non-potable water to the area around it; however, the pipelines are currently used to distribute potable water because non-potable was unavailable. The Area B Non-Potable System is located generally along Bellegrave Ave. between Etiwanda Ave. and Hamner Ave., along Pats Ranch Rd. between Bellegrave Ave. and Limonite Ave., and along Goodman Ave. between Bellegrave Ave. and Ontario Ranch Rd. (Cantu-Galleano Ranch Rd.) At such time when non-potable water supplies can reach the Area B Non-Potable System, then the lines will be converted from potable to the original purpose of non-potable water distribution.

3.3 SERVICE AREA CLIMATE

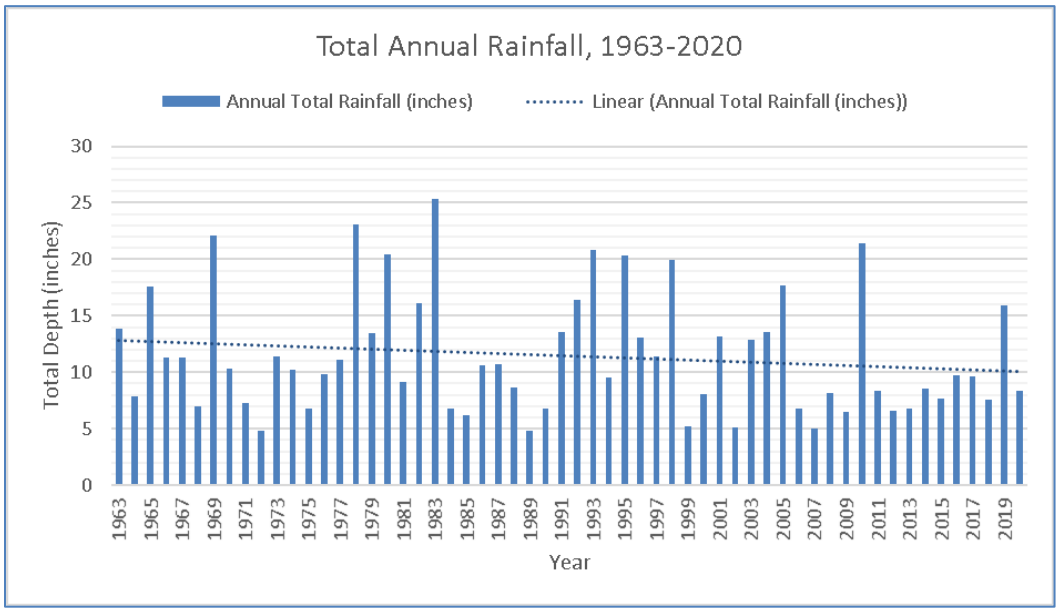
The District contains a variety of topographic features with elevations ranging from 560 feet to 2,230 feet above mean sea level (amsl). Within the District's service area are the Jurupa Mountains in the northern portion of the District and the Pedley Hills, which are located in the eastern portion of the District. The balance of the JCSD service area consists of an alluvial plain, which slopes southwesterly to the Santa Ana River. More than 80 percent of the District

is comprised of land with a natural slope of less than 12 percent; the remainder is divided between the categories of 12-25 percent and above 25 percent. (WEBB(a), p. ES-1)

3.3.1 Rainfall

Rain in the District occurs between fall and spring, primarily in the winter months. Total annual rainfall depths recorded at the Riverside Station No. 178 from 1963 to 2020 (57 years) are shown in **Chart 3-1**. This station is operated by and located at the Riverside County Flood Control and Water Conservation District offices at 1995 Market Street in the City of Riverside, which is located approximately 10 miles east of JCSD headquarters.

Chart 3-1: Total Annual Rainfall 1963-2020 (inches) at Riverside Stn. 178 (Source: RCFC(a))

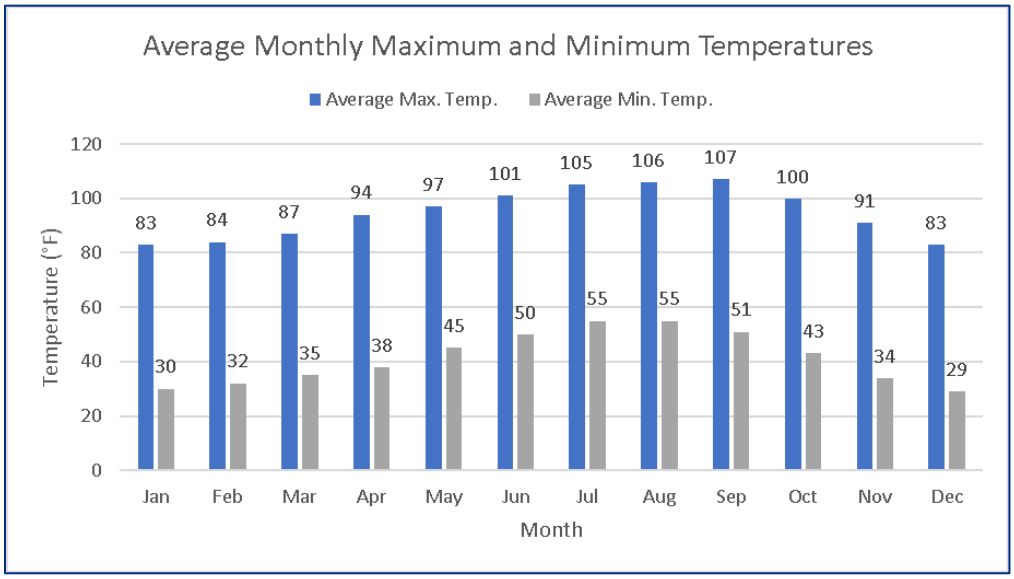


The average annual depth over this 58-year period is 11.4 inches per year. The maximum recorded rainfall was 25.3 inches in 1983 and the lowest was 4.8 inches in 1972. The linear trendline shows a decrease in total annual rainfall depth over the time period.

3.3.2 Temperature

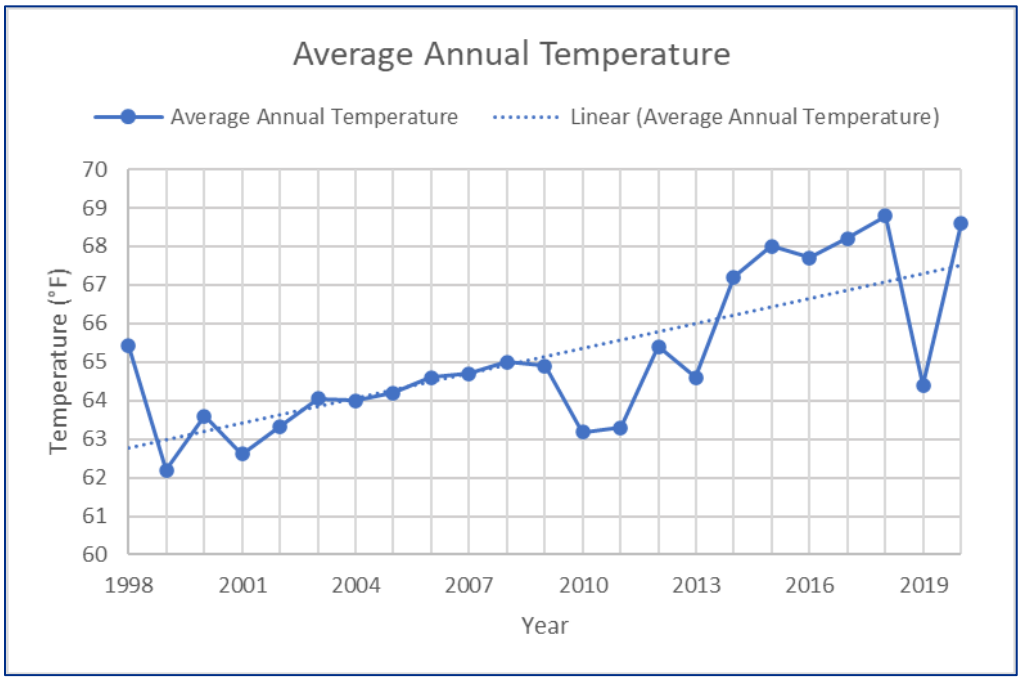
Temperatures in the District are typically mild, with cool winters and hot summers. Maximum temperatures in the District typically occur in summer, consistently exceeding 100ºF on average, as shown in **Chart 3-2** based on monthly data from 1998-2020 recorded at the Chino Airport, located just west of the City of Eastvale.

Chart 3-2: Monthly Average Maximum And Minimum Temperatures from 1998-2020 at Chino Airport Station (Source: AgACIS).



The average annual temperatures from 1998 to 2020 are shown in **Chart 3-3**. The linear trendline suggests a general increase in average temperatures over the time period.

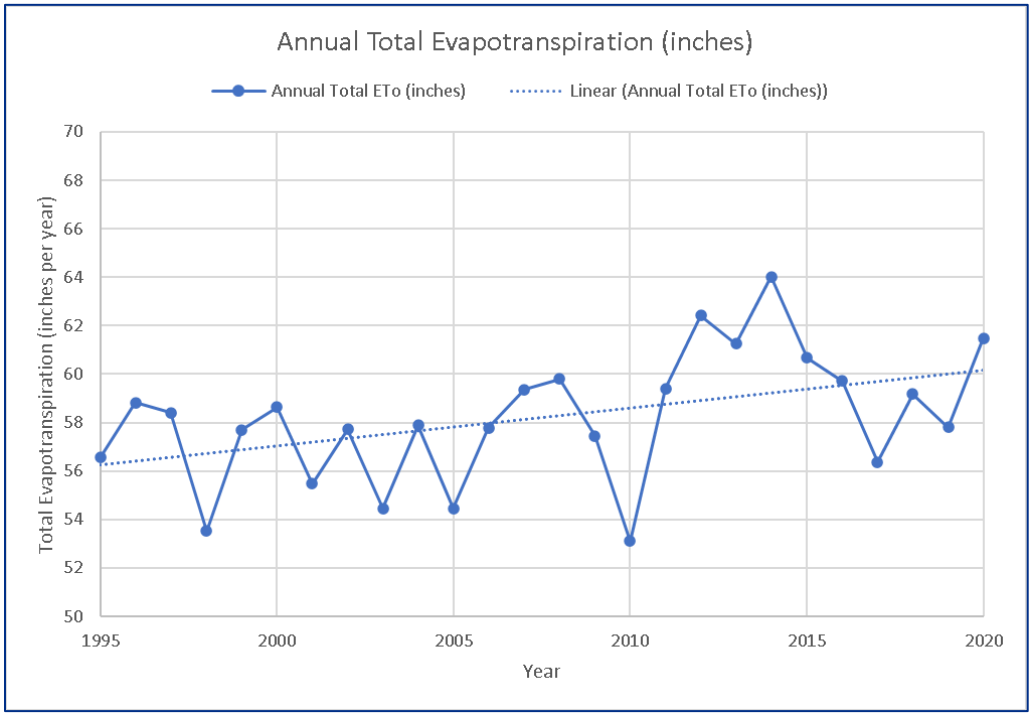
Chart 3-3: Average Annual Temperature (°F) 1998-2020 at Chino Airport Station (Source: AgACIS)



3.3.3 Evapotranspiration

Evapotranspiration (ET) is the combination of two separate processes: water lost from the soil surface by evaporation and lost from plants by transpiration. The evaporation power of the atmosphere is expressed by the reference crop evapotranspiration (ET_o) in units of depth of water over time (e.g., inches/day). Higher ET_o rates result in more water needed for irrigation to maintain soil moisture. Total annual ET_o values from1995 to 2020 measured in proximity to the JCSD service area are shown in **Chart 3-4**.

Chart 3-3 Total Annual Evapotranspiration (inches) in JCSD service area, 1995-2020 (Source: Valley Soil)



The annual average ET_o rate for this time period is 58.2 inches per year. The highest total annual ET_o was measured in 2014 at 64 inches and the lowest total ET_o was in 2010 at 53.1 inches. The linear trendline suggests an increase over the time period.

3.3.4 Summary of Potential Climate Changes

Several sections of the Water Code have been revised since the 2015 UWMP cycle to require that water suppliers account for the impacts of climate change on water supplies and supply reliability in their 2020 UWMPs. Although the Water Code does not specify the technical nor general methods for how to consider climate change in UWMPs, DWR provides guidance on

common approaches that can be used. Detailed discussions of the potential effects of climate change on District water demands, water supplies, and water reliability are provided herein Chapter 4 – Water Use Characterization, Chapter 6 – Water Supply Characterization, and Chapter 7 – Water Service Reliability Assessment. The following is a summary of the anticipated climate changes or scenarios that are discussed in the proceeding chapters.

This discussion is guided by the "Urban Water Management Plan Guidebook 2020" and relies, in part, on the tools and resources available on the Cal-Adapt Website (https://cal-adapt.org/), which synthesizes volumes of downscaled climate change projections and climate impact research from California's scientific community. The default visualizations in the Cal-Adapt projections shown herein are based on the average values from a variety of models and are projections of future climate. They are not weather predictions and should not be treated as such.[1]

Climate projections cannot tell us what will happen on a given date in the future. But they can tell us what to expect from our future climate in general and how much more often (or less often) extreme events such as heat waves and heavy rainfall are likely to occur in the future. However, they cannot predict when those events will actually occur.

The climate models presented here make predictions for the period of 2006 to 2100 and recreate the historical climate for the period 1950 to 2005. Two future climate projections using medium and high greenhouse gas and aerosol emissions scenarios are presented here. These scenarios are known as Representative Concentration Pathways (RCP). Each RCP represents a standardized set of assumptions of humanity's trajectory in the coming years.

The Medium Emissions Scenario (RCP 4.5) represents a mitigation scenario where global carbon dioxide (CO_2) emissions peak by 2040 and then decline. Statewide, temperature is projected to increase 2-4 Celsius (°C) for this scenario by the end of this century.

[1] Weather is the behavior of the atmosphere over short periods, such as days and weeks. Climate is the long-term behavior of the atmosphere, and it is almost always expressed in averages—for example, average annual temperature, average monthly rainfall, or average water equivalent of mountain snowpack at a given time of year. In other words, climate is the statistics of weather.

The High Emissions Scenario (RCP 8.5) represents a scenario where CO_2 emissions continue to rise throughout the 21st century. Statewide, temperature is projected to 4-7 °C by the end of this century. Cal-Adapt does not provide projections for a low emissions scenario.

Cal-Adapt's "Local Climate Change Snapshot" tool provides the following climate projections for temperature, precipitation, and wildfire for the District's service area. The City of Jurupa Valley was selected as the representative location of the District's service area.

Western Municipal Water District (WMWD or Western) conducted an analysis of climate change data as part of Western's 2020 UWMP and provided the results of which to its member agencies, including JCSD on April 22, 2021 (WMWD(a), located in **Appendix E**). The source data were climate models gathered by DWR for water resources planning. Because Western's analysis does not provide a summary of anticipated climate changes for the service area, the following projections of temperature and precipitation trends from Cal-Adapt for the Jurupa Valley are included herein for reference. Said trends from Cal-Adapt of increasing temperatures and decreasing rainfall do not conflict with Western's analysis.

Cal-Adapt Temperature Projections

Overall temperatures are projected to rise in California during the 21st century. While the entire state will experience temperature increases, the local impacts will vary greatly.

Four separate climate indicators are reported by Cal-Adapt for temperature changes: 1) Annual Average Maximum Temperature, 2) Annual Average Minimum Temperature, 3) Extreme Heat Days, and 4) Warm Nights.

Annual Average Maximum Temperature reports the average of all the hottest daily temperatures in a year, shown on **Chart 3-5**, is the most likely outcome and range of future projections of Annual Average Maximum Temperature.

Chart 3-4 – Cal-Adapt Projections for Annual Average Maximum Temperature (°F) (Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley)

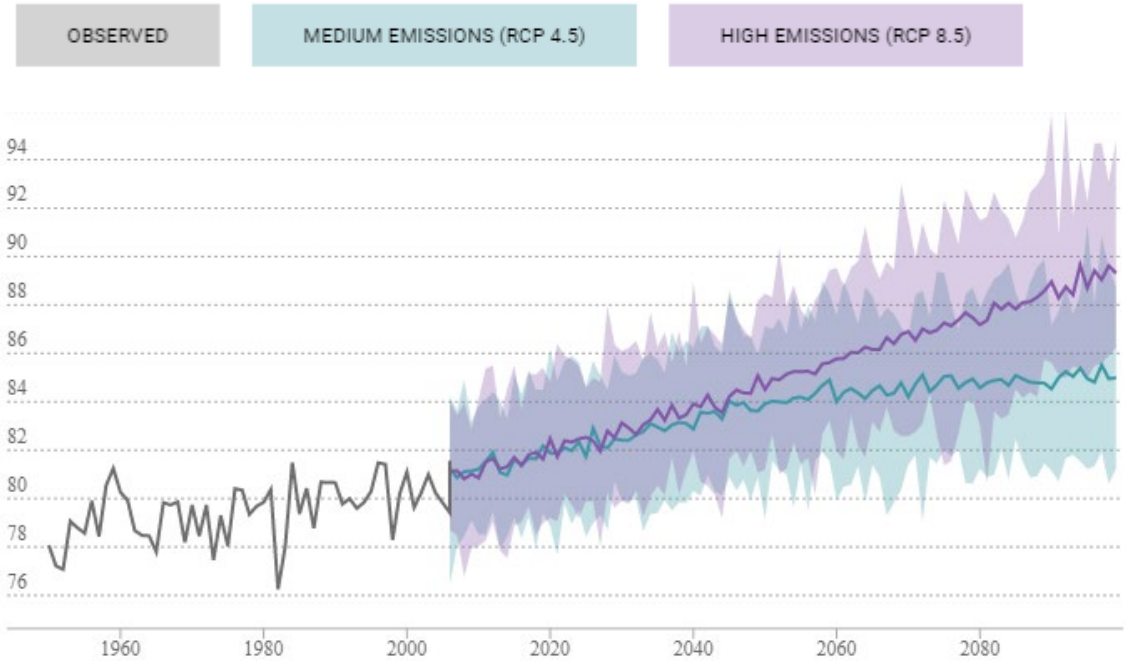


Table 3B below provides a summary of Cal-Adapt's projections for Annual Average Maximum Temperature for baseline (1961-1990) and mid-century (2035-2064) time periods.

Table 3B Cal-Adapt Projections for Annual Average Maximum Temperature

Time Period	Change from Baseline	30-year Average	30-year Range
Baseline (1961-1990)	--	79.3 °F	78.9 - 79.7 °F
Mid-century (2035-2064)			
RCP 4.5	+4.5 °F	83.8 °F	81.6 - 86.3 °F
RCP 8.5	+5.4 °F	84.7 °F	82.1 - 87.0 °F

Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley.
RCP: representative concentration pathway; 4.5: medium emissions scenario; 8.5: high emissions scenario.

Annual Average Minimum Temperature reports the average of all the coldest daily temperatures in a year, shown on **Chart 3-6**, is the most likely outcome and range of future projections of Annual Average Minimum Temperature in the Jurupa Valley area.

Chart 3-5 – Cal-Adapt Projections for Annual Average Minimum Temperature (°F) (Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley)

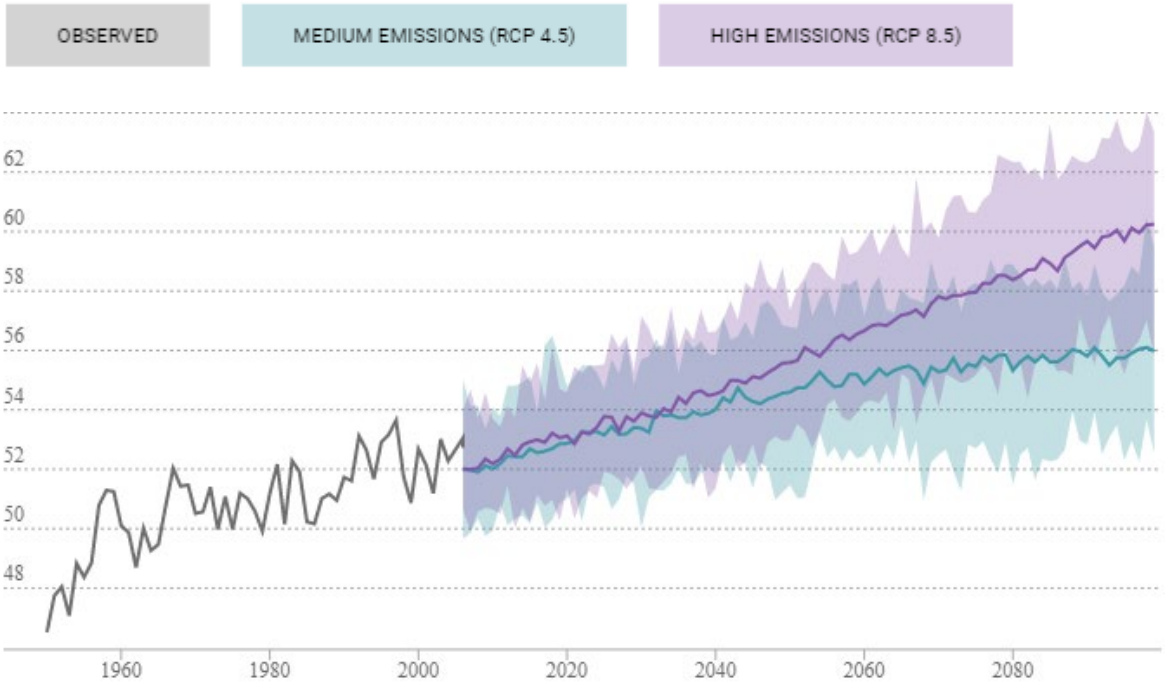


Table 3C below provides a summary of Cal-Adapt's projections for Annual Average Minimum Temperature for baseline (1961-1990) and mid-century (2035-2064) time periods.

Table 3C Cal-Adapt Projections for Annual Average Minimum Temperature

Time Period	Change from Baseline	30-year Average	30-year Range
Baseline (1961-1990)	--	50.7 °F	50.4 – 50.9 °F
Mid-century (2035-2064)			
RCP 4.5	+3.9 °F	54.6 °F	52.9 – 56.0 °F
RCP 8.5	+4.9 °F	55.6 °F	53.9 – 57.2 °F

Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley
RCP: representative concentration pathway; 4.5: medium emissions scenario; 8.5: high emissions scenario.

Extreme Heat Days reports the number of days in a year when daily maximum temperature is above a threshold temperature of 104.1 °F [2], shown on **Chart 3-7**, is the most likely outcome and range of future projections of Extreme Heat Days.

Chart 3-6 – Cal-Adapt Projections for Number of Extreme Heat Days (Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley)

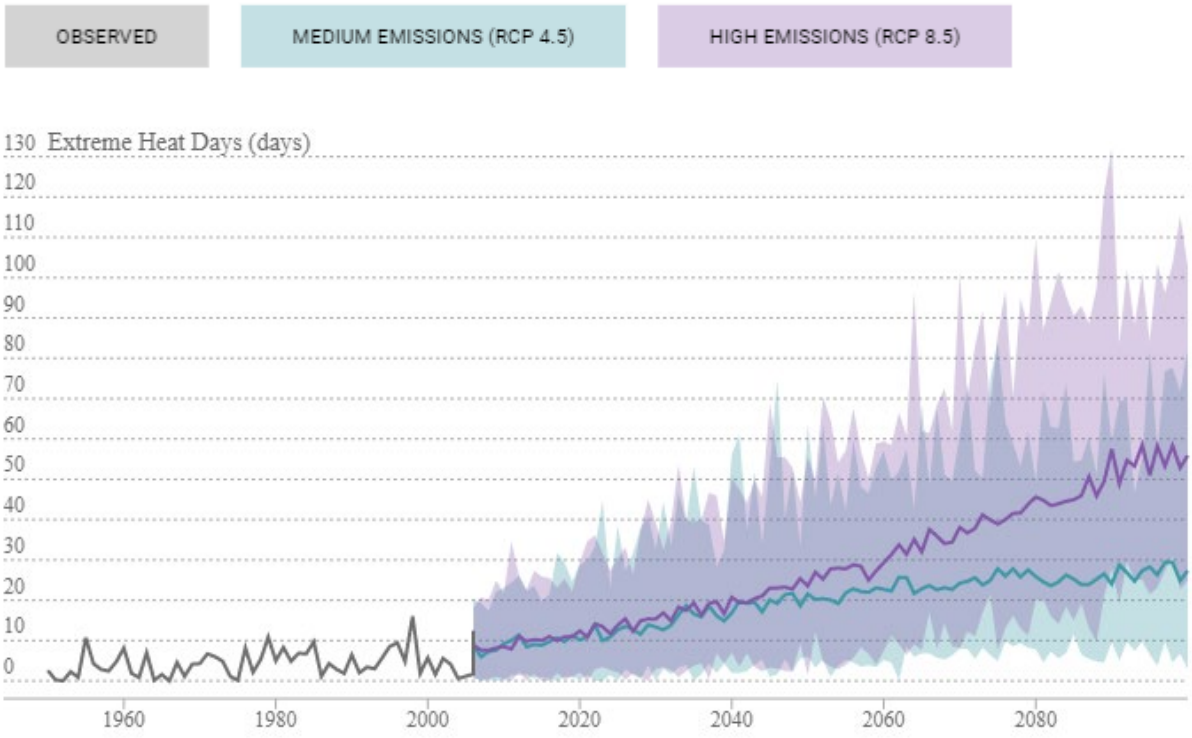


Table 3D below provides a summary of Cal-Adapt's projections for Extreme Heat Days for baseline (1961-1990) and mid-century (2035-2064) time periods.

[2] Note the threshold temperature used in Cal-Adapt is location specific. It is defined as the 98th percentile value recorded daily maximum/minimum temperatures (from 1961–1990, between April and October) observed at a location.

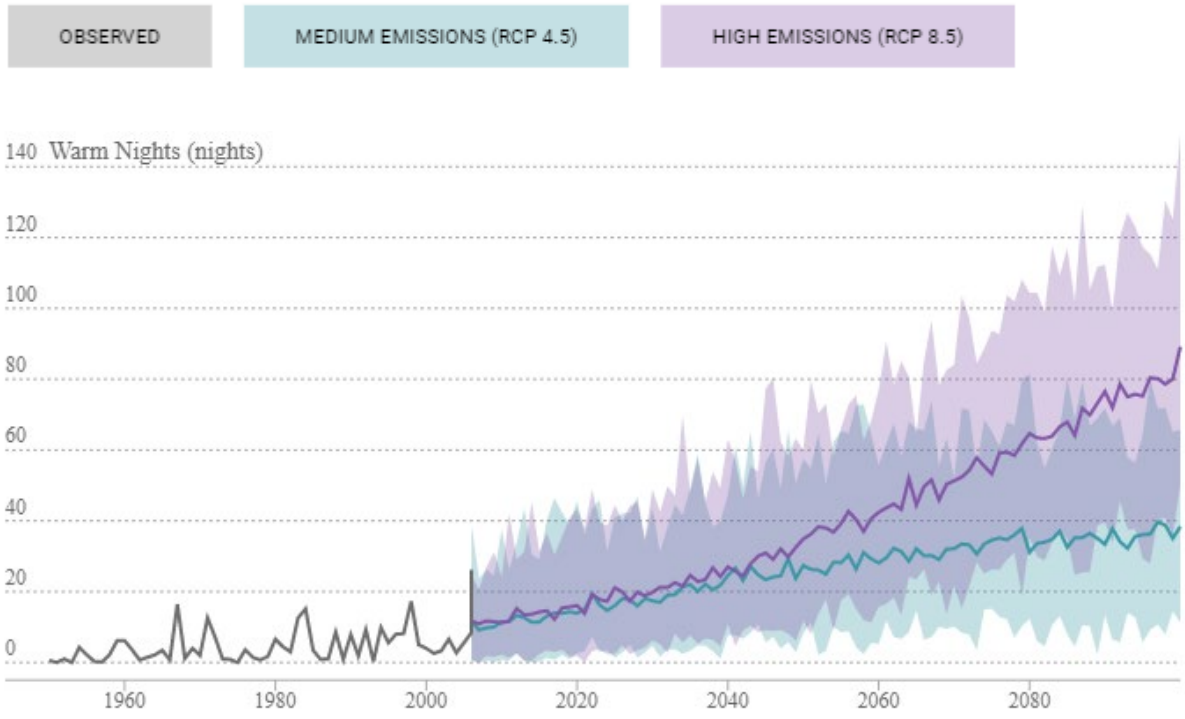
Table 3D Cal-Adapt Projections for Number of Extreme Heat Days

Time Period	Change from Baseline	30-year Average	30-year Range
Baseline (1961-1990)	--	4 days	2 – 5 days
Mid-century (2035-2064)			
RCP 4.5	+16 days	20 days	13 – 45 days
RCP 8.5	+21 days	25 days	14 – 60 days

Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley
RCP: representative concentration pathway; 4.5: medium emissions scenario; 8.5: high emissions scenario.

Warm Nights reports the number of days in a year when daily minimum temperature is above a threshold temperature of 68.7 °F [3], shown on **Chart 3-8**, is the most likely outcome and range of future projections of Warm Nights.

Chart 3-7 – Cal-Adapt Projections for Number of Warm Nights (Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley)



[3] Note the threshold temperature used in Cal-Adapt is location specific. It is defined as the 98th percentile value of historical daily maximum/minimum temperatures (from 1961–1990, between April and October) observed at a location.

Table 3E below provides a summary of Cal-Adapt's projections for Warm Nights for baseline (1961-1990) and mid-century (2035-2064) time periods.

Table 3E Cal-Adapt Projections for Number of Warm Nights

Time Period	Change from Baseline	30-year Average	30-year Range
Baseline (1961-1990)	--	5 days	1 – 11 days
Mid-century (2035-2064)			
RCP 4.5	+21 days	26 days	14 – 46 days
RCP 8.5	+29 days	34 days	20 – 55 days

Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley
RCP: representative concentration pathway; 4.5: medium emissions scenario; 8.5: high emissions scenario.

Cal-Adapt Precipitation Projections

California's climate varies between wet and dry years. Research suggests that for much of the state, wet years will become wetter, and the dry years will become drier. Dry years are also likely to be followed by dry years, increasing the risk of drought. While California does not see the average annual precipitation changing significantly in the next 50-75 years, precipitation will likely be delivered in more intense storms and within a shorter wet season.

Three separate climate indicators are reported for precipitation changes: 1) Maximum 1-day Precipitation, 2) Maximum Length of Dry Spell, and 3) Annual Precipitation.

The maximum daily precipitation amount for each year is the greatest amount of daily rain or snow (over a 24-hour period) for each year, shown on **Chart 3-9** is the most likely outcome and range of future projections of Maximum 1-day Precipitation.

Chart 3-8 – Cal-Adapt Projections for Maximum 1-day Precipitation (Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley)

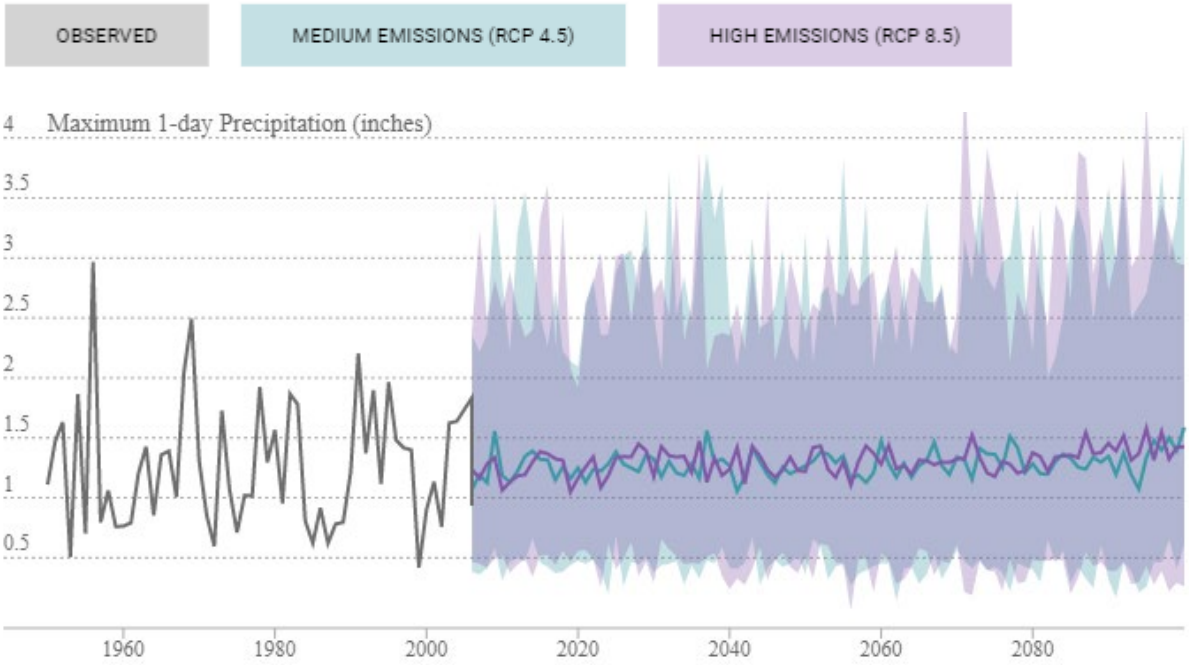


Table 3F, below provides a summary of Cal-Adapt's projections for Maximum 1-day Precipitation for baseline (1961-1990) and mid-century (2035-2064) time periods.

Table 3F Cal-Adapt Projections for Maximum 1-Day Precipitation

Time Period	Change from Baseline	30-year Average	30-year Range
Baseline (1961-1990)	--	1.205 inches	1.014 – 1.359 inches
Mid-century (2035-2064)			
RCP 4.5	+0.058 inches	1.263 inches	1.038 – 1.426 inches
RCP 8.5	+0.079 inches	1.284 inches	1.063 – 1.516 inches

Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley
RCP: representative concentration pathway; 4.5: medium emissions scenario; 8.5: high emissions scenario.

Maximum Length of Dry Spell is the maximum length of dry spell for each year. In other words, the maximum number of consecutive days with precipitation less than one millimeter for each year, shown on **Chart 3-10**, is the most likely outcome and range of future projections of Maximum Length of Dry Spell.

Chart 3-9– Cal-Adapt Projections for Maximum Length of Dry Spell (Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley)

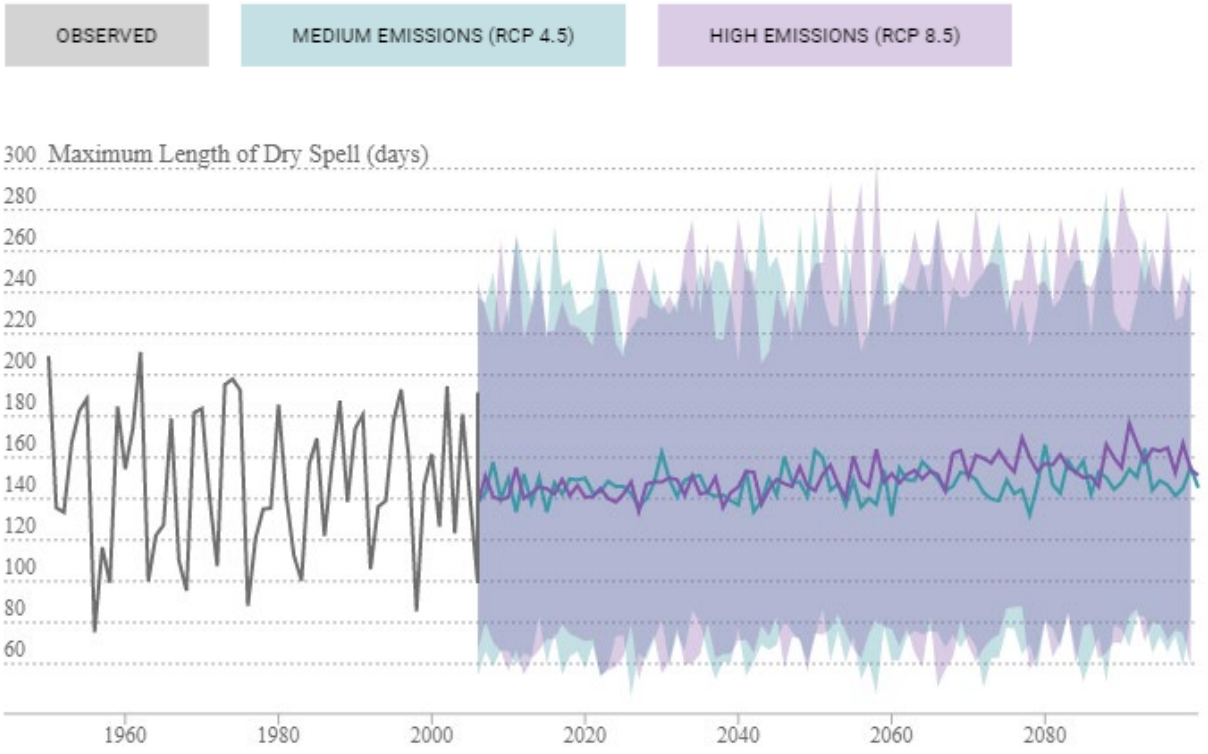


Table 3G, below provides a summary of Cal-Adapt's projections for Maximum Length of Dry Spell for baseline (1961-1990) and mid-century (2035-2064) time periods.

Table 3G Cal-Adapt Projections for Maximum Length of Dry Spell

Time Period	Change from Baseline	30-year Average	30-year Range
Baseline (1961-1990)	--	138 days	123 – 156 days
Mid-century (2035-2064)			
RCP 4.5	+8 days	146 days	125 – 171 days
RCP 8.5	+10 days	148 days	117 – 181 days

Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley
RCP: representative concentration pathway; 4.5: medium emissions scenario; 8.5: high emissions scenario.

Annual Precipitation is the total precipitation projected for a year, shown on **Chart 3-11**, is the most likely outcome and range of future projections of Annual Precipitation.

Chart 3-10– Cal-Adapt Projections for Annual Precipitation (Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley)

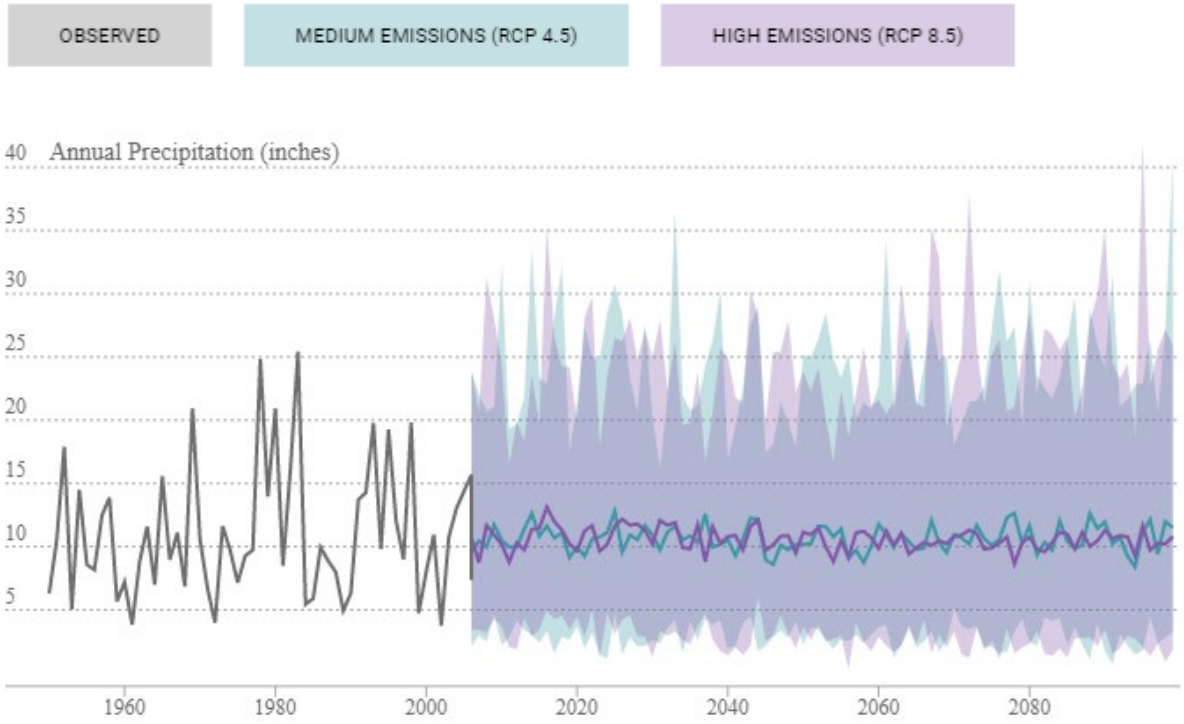


Table 3H, below provides a summary of Cal-Adapt's projections for Annual Precipitation for baseline (1961-1990) and mid-century (2035-2064) time periods.

Table 3H Cal-Adapt Projections for Annual Precipitation

Time Period	Change from Baseline	30-year Average	30-year Range
Baseline (1961-1990)	--	10.9 inches	9.4 – 12.0 inches
Mid-century (2035-2064)			
RCP 4.5	-0.4 inches	10.5 inches	8.1 – 13.8 inches
RCP 8.5	-0.4 inches	10.5 inches	7.9 – 14.2 inches

Source: Cal-Adapt, Local Climate Snapshot for Jurupa Valley
RCP: representative concentration pathway; 4.5: medium emissions scenario; 8.5: high emissions scenario.

Cal-Adapt Wildfire Projections

The frequency, severity and impacts of wildfire are sensitive to climate change as well as many other factors, including development patterns, temperature increases, wind patterns,

precipitation change and pest infestations. Therefore, it is more difficult to predict exactly where and how fires will burn. Instead, climate models estimate increased risk to wildfires.

The Cal-Adapt information presented here (Annual Average Area Burned) can help inform at a high level if wildfire activity is likely to increase. However, this information is not complete - many regions across the state have no projections (such as regions outside combined fire state and federal protection responsibility areas), and more detailed analyses and projections are needed for local decision-making. These projections are most robust for the Sierra Nevada given model inputs. However, as we have seen in recent years, much of California can expect an increased risk of wildfire, with a wildfire season that starts earlier, runs longer, and features more extreme fire events.

The Cal-Adapt average of the area projected to be at risk to burning in a year for the modeled baseline (1961-1990) time period for the City of Jurupa Valley and Eastvale is approximately 42 acres. By the mid-century (2035-2064) time period, the annual average risk of wildfire is projected to decrease to 8.5 and 24 acres in the City of Jurupa Valley and Eastvale, respectively. The areas of the District most at risk of wildfire are the Jurupa Mountains and Pedley Hills. Also, small brush fires have taken place along the Santa Ana Riverbed which borders the entire southern boundary of the District (HMP, p. 52).

Uncertainty of Cal-Adapt Projections

Climate projections provided by Cal-Adapt are approximations of future climate, but as with any statement about the future, there is no way to be certain they are accurate. One source of uncertainty in future climate projections is human greenhouse gas emissions. Projected climate data may not prove to be accurate if the actual emissions pathway differs from the scenarios used to make the projections.

Another source of uncertainty in climate projections is the fact that different climate models—the tools used to simulate the climate system and produce future climate data—may produce different outcomes. There are more than 30 global climate models developed by climate modeling centers around the world, and they have different ways of representing aspects of the climate system. In addition, some aspects of the climate system are less well understood than others. Climate scientists are constantly working to improve the theories of the climate system and its representation in climate models. In the meantime, one way to account for

model differences is to look at projections from as many different models as possible to get a range of possible outcomes. An average of the values can be taken across the different models, and this average value is a more likely outcome than the value from any single model.

It is important to note that here the term "uncertainty" is being used in the scientific sense, to acknowledge that there is a range in possible future outcomes. That climate change is occurring and is caused by human activity is the consensus of the overwhelming majority of scientists engaged with the issue. What is less certain is the extent to which the climate will change in the future, and precisely how the changes will affect natural and human systems.

3.4 SERVICE AREA POPULATION AND DEMOGRAPHICS

3.4.1 Service Area Population

The District's service area includes approximately 65 percent of the City of Jurupa Valley (28 square miles) and all of the City of Eastvale (13 square miles). Eastvale is in the western portion of the District and makes up approximately 30 percent of the JCSD service area.

The DWR Population Tool was used for this UWMP to estimate the District's current (2020) population with DWR's acceptable modification. The acceptable modification allows the District to use the 2015 persons-per-connection calculated by the Population Tool if the 2020 persons-per-connection seems inaccurate. Because the population estimate using a 2020 persons-per-connection of 4.10 was less than expected, the 2015 persons-per-connection of 4.18 was used to generate a current 2020 population of 130,546 persons. Current (2020) and projected population estimates for the service area are shown in **Submittal Table 3-1.** The DWR Population Tool output results from 2020 with the acceptable modification and the 2015 Population Tool output results are included in **Appendix F.**

Submittal Table 3-1 Retail: Population - Current and Projected

Population Served	2020	2025	2030	2035	2040	2045*(opt)*
	130,546	140,735	150,923	161,112	171,300	171,300

NOTES: 2020 population from Population Tool with DWR acceptable modification to use 2015 persons-per-connection. Mid-range density buildout of District at 171,300 persons is assumed in 2040.

The Population Tool uses U.S. Census year data (1990, 2000, 2010) with the number of residential meters (combined single-family and multi-family residential) from the JCSD Annual Reports to the State Water Board to calculate a persons-per-connection ratio for each year. The 2020 U.S. Census data was not incorporated into the Population Tool; therefore the 2020 population is an extrapolation from prior census years.

The Water Code does not require a specific method for projecting future population in the UWMP, but it does require that the estimates of future population be based upon data from state, regional, or local service agency population projections. The JCSD service area population projection in Submittal Table 3-1 for District buildout at approximately 171,300 persons is based on buildout of the General Plan Land Use Plans for the Cities of Eastvale and Jurupa Valley (portion within the District) at a medium or "mid-range" density. The buildout projection includes the area of Swan Lake Mobile Home Park at medium-high density residential (MHDR) and the Leal Property tentatively envisioned with 660 dwelling units (see Section 3.5.2 for more information on the Leal Property). The growth projections assume buildout of the City of Eastvale will occur by 2031 and buildout of the City of Jurupa Valley is assumed by 2036, which is consistent with the District's *2020 Water Master Plan.*

3.4.2 Accessory Dwelling Units

Accessory dwelling units (ADUs) are also known as "granny flats," second units, or in-law units. They can be for one or more people and can be detached, attached, existing space converted into an independent living unit, or a Junior ADU contained entirely within an existing or proposed single-family residence. ADUs are being encouraged by the State to increase residential infill and help meet the increasing statewide demand for affordable housing. Because the ADU laws (Gov. Code 65852.2) change each year, readers should refer to the California Department of Housing and Community Development (www.hcd.ca.gov) for the latest changes to the law.

An increase in ADUs in existing residential areas may densify them more than what had been planned for previously by the District. Particularly in areas that are considered currently "built-out" with infrastructure that is already sized at "ultimate" design capacity, an increase in ADUs

may trigger capital projects to upsize existing pipes or replace degrading infrastructure earlier than expected.

JCSD and WEBB met with the Cities of Eastvale and Jurupa Valley for the purposes of this UWMP. As a result, Eastvale shared that they have approved 12 ADU applications between 2019 and 2020, consisting of three applications in 2019 and nine applications in 2020. No applications were approved from 2016 to 2018 (Personal Communication, G. Gonzalez, 02/12/21). The City of Jurupa Valley shared that between 2017 and 2020, they received 23 building permit applications for attached and detached ADUs within the District's boundary: four in 2017, 13 in 2018, one in 2019, and five applications in 2020. Different types of ADUs were proposed, including converted garages and modular homes (Personal Communication, A. Tam, 4/13/21).

Each city has adopted an ordinance to amend their Municipal Codes regulating ADUs consistent with State law; Jurupa Valley City Council adopted Ordinance No. 2020-18 on November 5, 2020 and Eastvale City Council adopted Ordinance No. 2020-03 on April 22, 2020. It is hard to gauge how the ADU laws will play out in the JCSD service area. For example, most residential lots in Eastvale have limited space for attached or detached ADUs. However, the high median household income for Eastvale suggests a greater ability may exist to fund the development of ADUs there. On the other hand, residential properties in Jurupa Valley tend to have the space needed for attached and detached ADUs. However, several census block groups within Jurupa Valley have median household incomes that meet the threshold for "disadvantaged" and "severely disadvantaged" communities.

For the planning purposes of this UWMP and consistent with the *2020 JCSD Water Master Plan*, the impact of ADU's in residential areas is expected to be minimal, with limited impact on the District's ability to meet the water service needs of its customers. In response to the continuing evolution of the ADU laws and the recent City ordinances, the JCSD Board of Directors adopted Resolution No. 3116 (*Resolution of the Board of Directors of Jurupa Community Services District Addressing the Issue of Separate Water and Sewer Service Connections and Providing for the Collection of Capacity Charges for the Provision of Water and Sewer Services to Accessory Dwelling Units in Accordance with State Law*) on April 26, 2021 that incorporates, by reference, the requirements and fee calculation set forth in State statute. Resolution No. 3116 creates the ADU new connection and capacity charge in

accordance with state laws to correctly assess and collect appropriate connection fees and capacity charges related to the construction of new ADUs. Resolution No. 3116 also provides consistency throughout the District's service area and serves as an essential mechanism to ensure that new water (and wastewater) service demands from proposed ADUs can be met and funded in accordance with state law. (JCSD(b), p. 4)

3.4.3 Other Social, Economic, and Demographic Factors

The City of Eastvale is a recently incorporated City with relatively new housing, infrastructure, and residents. Eastvale is expected to buildout within the next 10 years. The City provided the following infographic to the District as part of the coordination conducted for this UWMP (next page).

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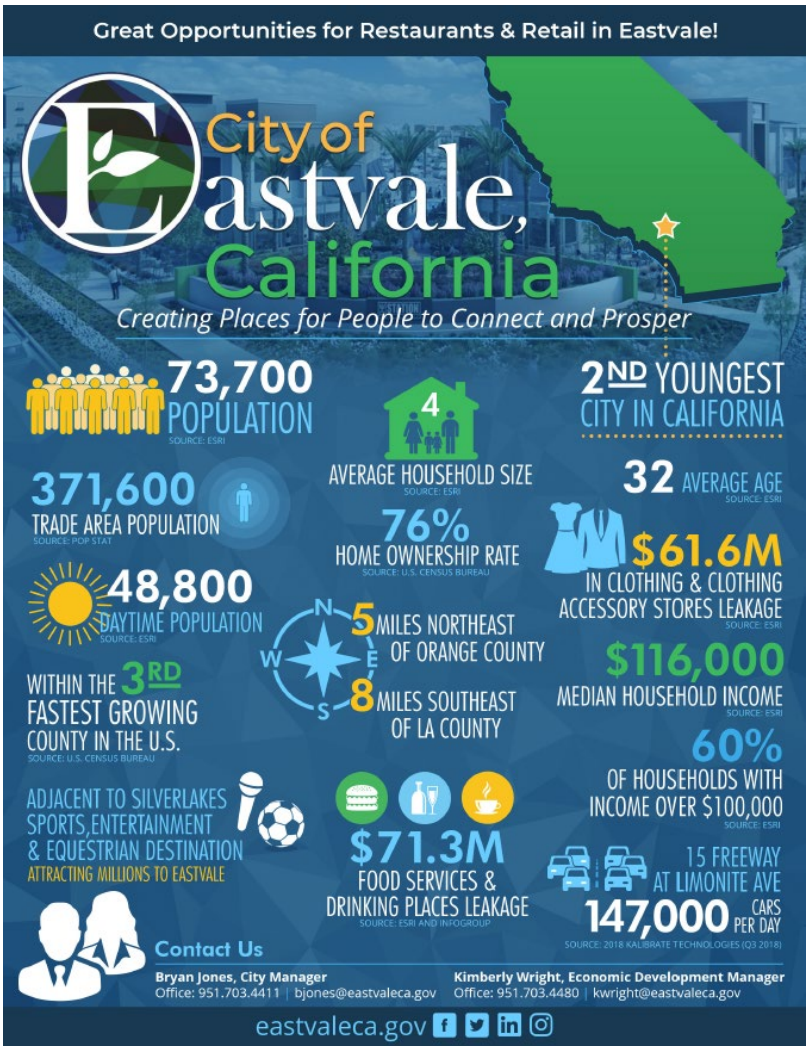

City of Eastvale Demographic Information (available at https://www.eastvaleca.gov/government/community-development/economic-development)

The City of Jurupa Valley also recently incorporated in 2011 but contains an older housing stock for a larger population and area as compared to Eastvale. According to U.S. Census Bureau data "Quickfacts", the MHI for the City of Jurupa Valley is $70,642 (in 2019 dollars, [USCB]). The City of Jurupa Valley provided the Housing Element of the 2017 General Plan to describe demographic trends for this plan. According to that source, population growth and households continue at a moderate pace similar to the Statewide average but slower than Riverside County averages (HE, pp. 5-32, 5-36). Jurupa Valley is currently experiencing significant residential and industrial growth with a mix of medium- and low-density residential development, equestrian and agricultural activities, and a mix of commercial, office, and

industrial uses. There is significant development interest for more industrial warehousing in Jurupa Valley.

Disadvantaged Communities

U.S. Census data is gathered at three levels of precision: Census Designated Place (CDP), Census Tracts, and Census Block Groups. CDPs are at the broadest level for unincorporated areas followed by Census Tracts that are made up of Block Groups. According to U.S. Census data collected from 2014 to 2018 by the Disadvantaged Communities (DAC) Mapping Tool at DWR, some Community Tracts and Block Groups within the JCSD service area qualify as "disadvantaged" and "severely disadvantaged" as shown in **Figure 3-4 – Disadvantaged Community by Census Block**.

California Code of Regulations Section 596.1(b)(2) defines a "disadvantaged community (DAC)" as: "A community with an annual median household income (MHI) that is less than 80 percent of the statewide annual MHI." The statewide MHI according to the Census American Community Survey (ACS) 2014-2018 dataset is $71,228; thus, 80 percent and 60 percent of that value represents the DAC and Severely DAC (SDAC) thresholds, respectively. Therefore, a community where the MHI is less than $56,982 meets the DAC threshold and a MHI less than $42,737 meets the SDAC threshold (ACS).

The information contained in Figure 3-4 is taken directly from the DWR Web site and DAC Mapping Tool, which is an online reference to assist local agencies to evaluate DAC status, using the definition provided by Proposition 84 Guidelines. Having areas that qualify as a DAC opens the District to the possibility of applying for State grant funding to assist with the implementation, planning, and disadvantaged community involvement efforts through Proposition 1 (Water Quality, Supply, and Infrastructure Improvement Act of 2014), and potentially grant funding through Proposition 84, Chapter 2 (Integrated Regional Water Management). In the event JCSD proceeds with either grant application process, additional research per the grant requirements may be necessary.

3.5 LAND USES WITHIN SERVICE AREA

The District does not have land use authority within its service area. That authority rests with the cities of Eastvale, Jurupa Valley, Norco, and the County of Riverside since the District's

service area encompasses land within each of these agencies. The best guide for future land use within any city or county is that jurisdiction's General Plan Land Use Element; thus, the basis for land use and population projections used in this UWMP are the current General Plan land use plans.

JCSD first met with Planning Department Staff from both the City of Eastvale and the City of Jurupa Valley in 2019 as part of the District's recent *2020 Water Master Plan* effort. The District did not meet with the City of Norco or the County of Riverside for the Water Master Plan because the District does not provide water service to those jurisdictions that are within the District boundary. Meetings were held on April 8, 2019 with Jurupa Valley and April 18, 2019 with Eastvale. Each City provided the District their current land use plan for use in the District's modeling associated with the Water Master Plan. Information related to current and future populations, build-out rates, accessory dwelling units, and upcoming large projects was also shared with the District at that time.

Pursuant to Water Code Section 10631(a), JCSD also met with the Cities of Eastvale and Jurupa Valley to determine the most appropriate land use information to use for water resources planning in the UWMP. As such, JCSD sent formal letters to the City Planning Departments of Jurupa Valley and Eastvale on February 4, 2021 requesting a meeting to coordinate specifically pursuant to Water Code Section 10631(a). The District did not meet with the City of Norco or the County of Riverside for this UWMP because the District does not provide water service to those jurisdictions that are within the District boundary. A summary of said coordination meetings conducted with local land use authorities for the purpose of the UWMP is below and copies of meeting request letters are located in Appendix C.

- JCSD and WEBB met via teleconference with the City of Eastvale on February 11, 2021. Attendees included: Gustavo Gonzalez, Planning Manager, Jimmy Chung, City Engineer, and Bill Hemsley, Contract City Engineer from the City of Eastvale; Keith Backus, Engineering Services Supervisor from JCSD; and Autumn DeWoody, Senior Environmental Analyst from WEBB. As a result of the meeting, the City provided recent changes to the land use plan, statistics on the number of applications received for ADUs, and City socioeconomic data (see Section 3.4.2 herein).
- JCSD and WEBB met via teleconference with the City of Jurupa Valley on March 2, 2021. Attendees included: Annette Tam, Principal Planner from the City of Jurupa

Valley; Keith Backus, Engineering Services Supervisor and Seungwon Won, Ph.D., P.E., Development Engineer from JCSD; and Autumn DeWoody, Senior Environmental Analyst from WEBB. As a result of the meeting, the City provided a current land use plan, data on ADU applications, and information on large projects planned within the District.

3.5.1 Development Status Map

JCSD actively tracks development projects within its service area through a Development Status Map (DS Map), which has been updated and current as of March 29, 2021 (**Figure 3-5 – Development Status Map**). The DS Map reflects active development information on properties that have received water/sewer availability letters from JCSD, undergoing discretionary review by JCSD, going through JCSD plan check, or under construction. The DS Map also identifies vacant parcels with potential for growth. This tracking system helps the District keep an accounting of current and future water demands within each city and pressure zone.

As of March 29, 2021, residential properties with an active approved water/sewer availability letter from the District, were in plan check preparing to construct, or under construction totaled approximately 846 acres. There were approximately 1,452 acres of residential properties with an expired water/sewer availability letter or simply undeveloped. Non-residential properties with an active approved water/sewer availability letter from the District, were in plan check preparing to construct, or under construction totaled approximately 497 acres. There were approximately 1,313 acres of non-residential properties with an expired water/sewer availability letter or simply undeveloped. Because the DS Map is constantly being updated, the information herein is a snapshot in time and current information should be obtained directly from the District.

3.5.2 City of Eastvale

Eastvale was once part of the larger Chino Dairy area, a world-famous concentration of dairies that at its height contained some 400 dairies and 176,000 equivalent dairy cows (WEBB(c), p. 12). In the late 1990s, new residential communities began replacing the dairies and other agricultural-related uses in Eastvale. The City of Eastvale incorporated on October 1, 2010 and adopted its first locally prepared General Plan on June 13, 2012. Eastvale is now predominantly urban area consisting primarily of residential, commercial retail, and industrial

uses. It is approximately 85 percent developed and buildout is estimated to be reached by about 2030 (WEBB(a), p. 2-5). Eastvale can be characterized as a generally modern, dense, and wealthy community with relatively new homes, businesses, and infrastructure. Eastvale is currently undertaking a General Plan Update that is expected to be completed by Winter 2021. The City of Eastvale land use plan on which the District's demand projections herein are based is shown in **Figure 3-6 – City of Eastvale Land Use Map**.

During aforementioned meeting held in 2021 for this UWMP, the City of Eastvale made the District aware of three general plan amendments that occurred after the District's water demand projections were calculated. They are (1) 31.58 acres of Light Industrial changed to Business Park and 16.44 acres of Light Industrial to Commercial Retail; (2) 4.09 acres of Low Density Residential to Commercial Retail; and (3) 13.4 acres of Medium Density Residential to High Density Residential. These changes are not shown on Figure 3-6 since they were not approved at the time the projections were made. Based on the District's most recent water duty factors from the *2020 Water Master Plan*, these changes would result in an increase in overall water demand of 57.3 AF per year, or an increase of 0.16 percent to ultimate buildout water demand. Because this is within the margin of error of the buildout projections for water demand, the effect of these three land use designation changes to future demands is considered negligible.

There are two underdeveloped or undeveloped areas in the City of Eastvale for which the City prepared planning documents that supplement the 2012 Eastvale General Plan: *Chandler Area Community Vision Plan* (178 acres) and *Leal Master Plan* (161 acres). These plans do not identify specific land uses for specific parcels; instead, they set forth the vision and development potential for these areas.

Chandler Area Community Vision Plan

The Chandler Area is one of the oldest parts of Eastvale and contains a mix of uses that reflect the community's agricultural heritage. This area has a mix of large-lot residential, commercial, agricultural, and semi-industrial uses that reflects the area's original use as a place where dairy workers and their families lived, shopped, ate, and worked. To guide the future development of the Chandler Area, Eastvale prepared the *Chandler Area Community Vision Plan* (*Vision Plan*) in May 2015.

The *Vision Plan* covers an area of 178 acres and does not change the Eastvale General Plan land use designations for the Chandler Area that are shown in **Figure 3-7 – Eastvale Future Development Areas**; rather, it identifies "Considerations for Future Decisions" the level of change from current land uses that could occur with implementation of the vision (i.e., major, moderate, some, or no change) as shown in **Table 3I**.

Table 3I Chandler Area Community Vision Plan

Vision Plan **Considerations for Future Development** (1)	**General Plan Land Use Designation**	**Rationale**
Red – Major Change from Current Land Uses (Approx. 30 ac)	Commercial Retail (CR)	The vision for this area is retail, civic, and religious uses or somewhat higher density residential consistent with the surrounding tracts.
Yellow with Cross Hatching – Moderate Change from Current Land Uses (Approx. 33 ac)	Medium Density Residential (MDR)	The vision for this area is to allow for more urban improvement, such as curb and cutter and somewhat higher density residential consistent with surrounding tracts.
Yellow – Some Change from Current Land Uses (Approx. 79 ac)	Low Density Residential (LDR)	This is one of the last areas of Eastvale in which large lot residential uses can occur.
Green – Public Land (Open Space) - No Change from Current Land Uses (Approx. 36 ac)	Open Space Conservation (OS-C)	These parcels are owned by Orange County Flood Control District and are prohibited from including any habitable structure because of flooding potential.

(1) As shown in Figure 3-7.

Sources: *Chandler Area Community Vision Plan*, pp. 4.6-4.11.

Leal Master Plan

The Leal Property is a square-shaped area of approximately 161 acres of vacant, developable land within Eastvale (Figure 3-7). It is centrally located at the northwest corner of Limonite Avenue and Hamner Avenue and represents a significant development opportunity for Eastvale. To guide the long-range planning of this property, the *Leal Master Plan* was adopted by the City of Eastvale on December 13, 2017, which allows for the future development of commercial, office, hotel, civic, and residential uses.

The *Leal Master Plan* does not include a land use map that dictates or directs the location of specific uses on the Leal property. Instead, the *Leal Master Plan* sets forth a land use program that establishes the minimum and maximum amount and type of development allowed but with

no acreages assigned to any of the land use types. It is expected that acreages for specific land use types will be developed as part of future development proposals. Because no land use plan has been developed for the Leal Property, this UWMP assumes for that half of the site is High-Density Residential (HDR), and the other half is Commercial-Retail (CR), which are consistent with surrounding land uses.

3.5.3 City of Jurupa Valley

The City of Jurupa Valley incorporated on July 1, 2011 and adopted its first locally prepared General Plan on September 7, 2017. Jurupa Valley is comprised of nine distinct communities; six of these communities (Glen Avon, Jurupa Hills, Indian Hills, Mira Loma, Pedley, and Sunnyslope) are in the District's service area. Jurupa Hills and Indian Hills have predominantly suburban land uses. Glen Avon, Mira Loma, Pedley, and Sunnyslope, are more semi-rural and low density in character. From an existing land use perspective, Pedley is considered the most diverse community with a combination of old-style, small-town neighborhoods and large lots with animal keeping.

Jurupa Valley is currently experiencing significant residential and industrial growth with a mix of medium- and low-density residential development, equestrian and agricultural activities, and a mix of commercial, office, and industrial uses. There is significant development interest for more industrial warehousing in Jurupa Valley. The City of Jurupa Valley 2017 General Plan assumes build-out will be reached by 2035.

The City is currently implementing its 5th-Cycle Housing Element Housing Program, which addresses the City's regional housing needs from 2013 to 2021. On June 4, 2019, the City's 5th-Cycle Housing Element was certified by the State. The certification was contingent upon the City's inclusion of a Housing Program that established a zoning implementation plan to rezone at least 16 acres with minimum densities of 25 dwelling units per acre anywhere suitable within the City (JV Staff Report). The General Plan Land Use Plan used for the water demand projections in this UWMP is shown in **Figure 3-8 – City of Jurupa Valley Land Use Plan**.

During aforementioned meeting with the City of Jurupa Valley for this UWMP in 2021, the City made the District aware of general plan amendments that had been approved after the District completed its water demand projections. They are (1) 7.25 acres from Low-Density Residential to Medium Density Residential; (2) 9.64 acres from Business Park to Commercial Retail; (3) 6.1

acres from Low Density Residential to Highest Density Residential; (4) 3.2 acres from Medium Density Residential to Highest Density Residential; and (5) 9.77 acres from Business Park to Highest Density Residential. These changes are not shown on Figure 3-8 since they were not approved at the time the projections were made. Based on the District's most recent water duty factors in the *2020 Water Master Plan*, these land use changes would result in an increase in overall water demand of 98.6 AF per year, or an increase of 0.44 percent to ultimate buildout water demand. Because this is within the margin of error of the buildout projections for water demand, the effect to water demand projections from these land use designation changes is considered negligible.

The combined effect of the general plan amendments that have occurred to the City of Eastvale land use plan and City of Jurupa Valley land use plan since the JCSD demand projections were made is a 0.59 percent increase to ultimate buildout water demands, and therefore within the margin of error and considered negligible.

Vernola Ranch Project

The draft UWMP was made publicly available beginning June 1, 2021. Subsequently, a letter dated June 7, 2021 was received by JCSD from the City of Jurupa Valley requesting the inclusion of the proposed Vernola Ranch Project in the land use and water demand assumptions in this UWMP. A copy of said letter is located in Appendix C. At the time this UWMP is adopted, the Vernola Ranch Project site is located east of Interstate 15 and north of Limonite Avenue within the City of Jurupa Valley and encompasses approximately 190 acres. Because the project is not yet approved by the City, the current approved land use designations for the site include 61 acres of Commercial-Retail (CR), 16 acres of Business Park (BP), and 113 acres of Medium Density Residential (MDR). The project proposes to have 36 acres of CR, 24 acres of Highest Density Residential (HHDR) with a 550-unit apartment complex, and 129 acres of Medium-High Density Residential (MHDR) with 1,026 dwelling units.

In response to the City's request, the change in ultimate water demand for the subject property from the current to the proposed land use types was calculated using the water duty factors from the 2020 Water Master Plan. As a result, the proposed project would increase the projected ultimate water demand for the subject property by 155 AF per year to a total demand of 732 AF per year. Therefore, the City's request resulted in the following modifications to this

UWMP: (1) Figure 3-8 shows the Vernola Ranch Project's proposed land use designations; and (2) the water use projections in Table 4-2 (Chapter 4) had a net increase of 155 AF per year beginning in 2025 by increasing Single Family Residential demand by 208 AF, increasing Multi-Family Residential demand by 102 AF, and decreasing Commercial by 155 AF.

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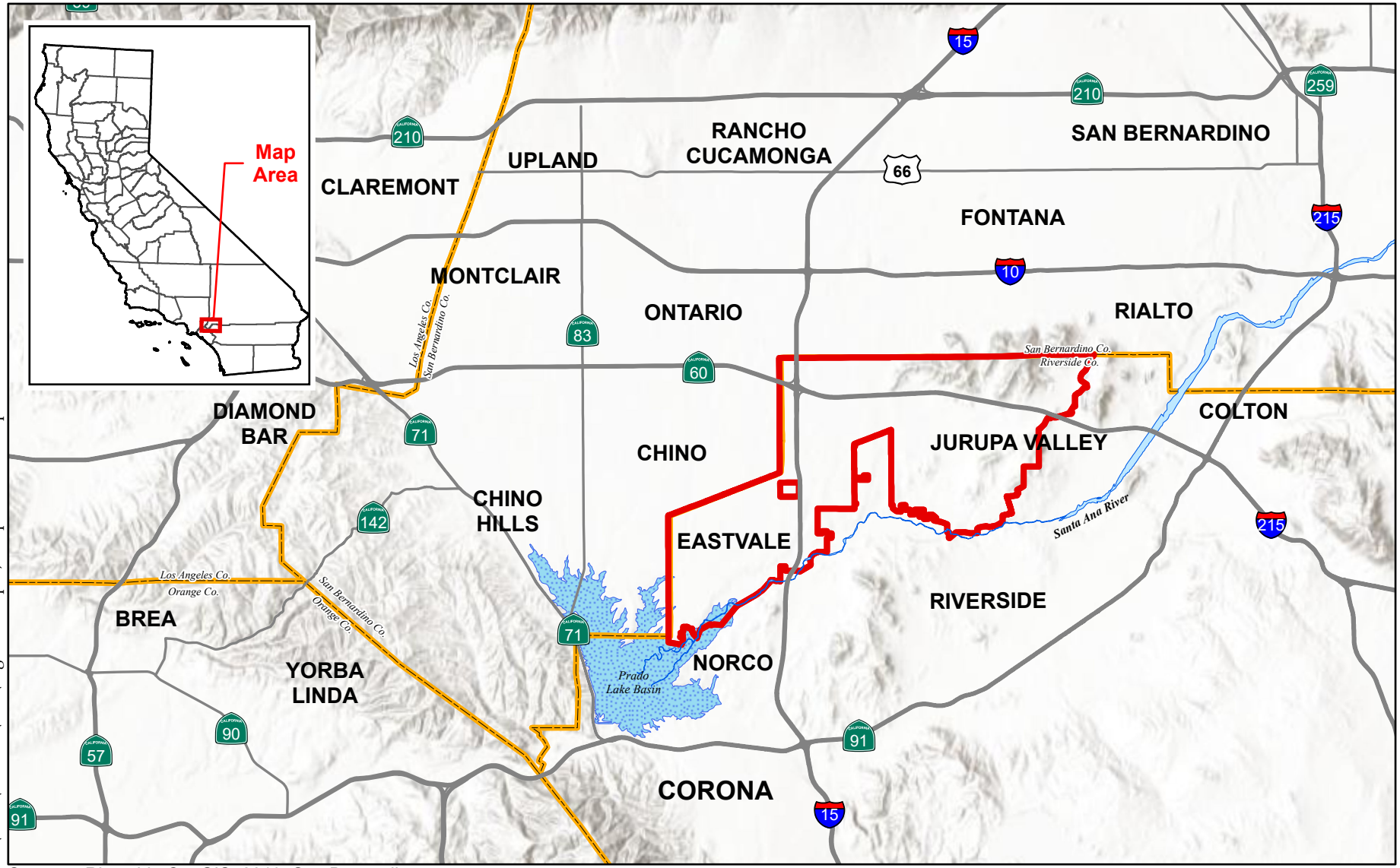


H:\2020\20-0248\GIS\Figure 3-1.aprx; Map created 16 Apr 2021

Sources: Riverside Co. GIS, 2019; San Bernardino
USDA NAIP, 2020

0 5 10 Miles

Figure 3-1 Service Area

JCSD Urban Water Management Plan 2020

jurupa COMMUNITY SERVICES DISTRICT

ALBERT A. WEBB ASSOCIATES

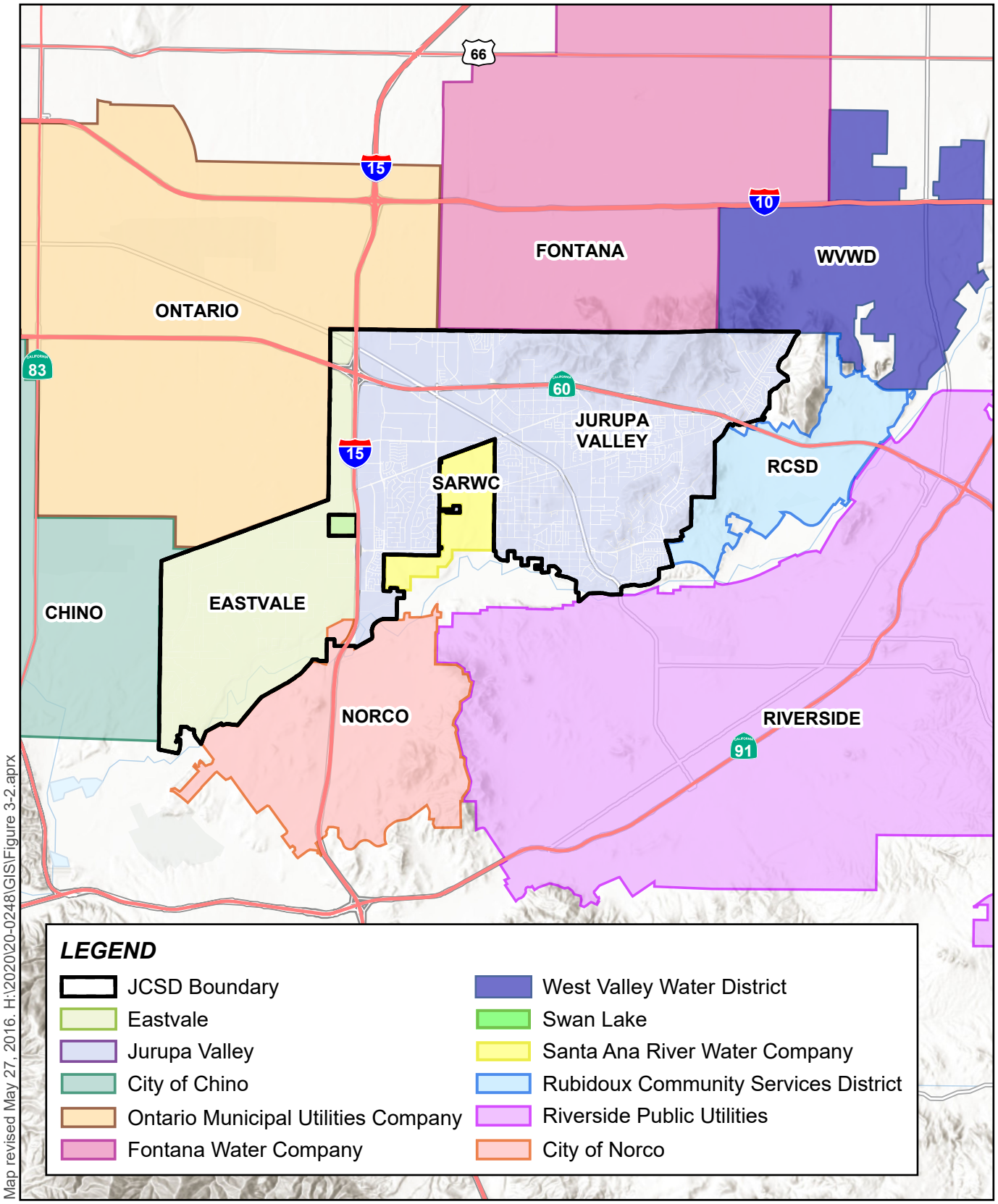
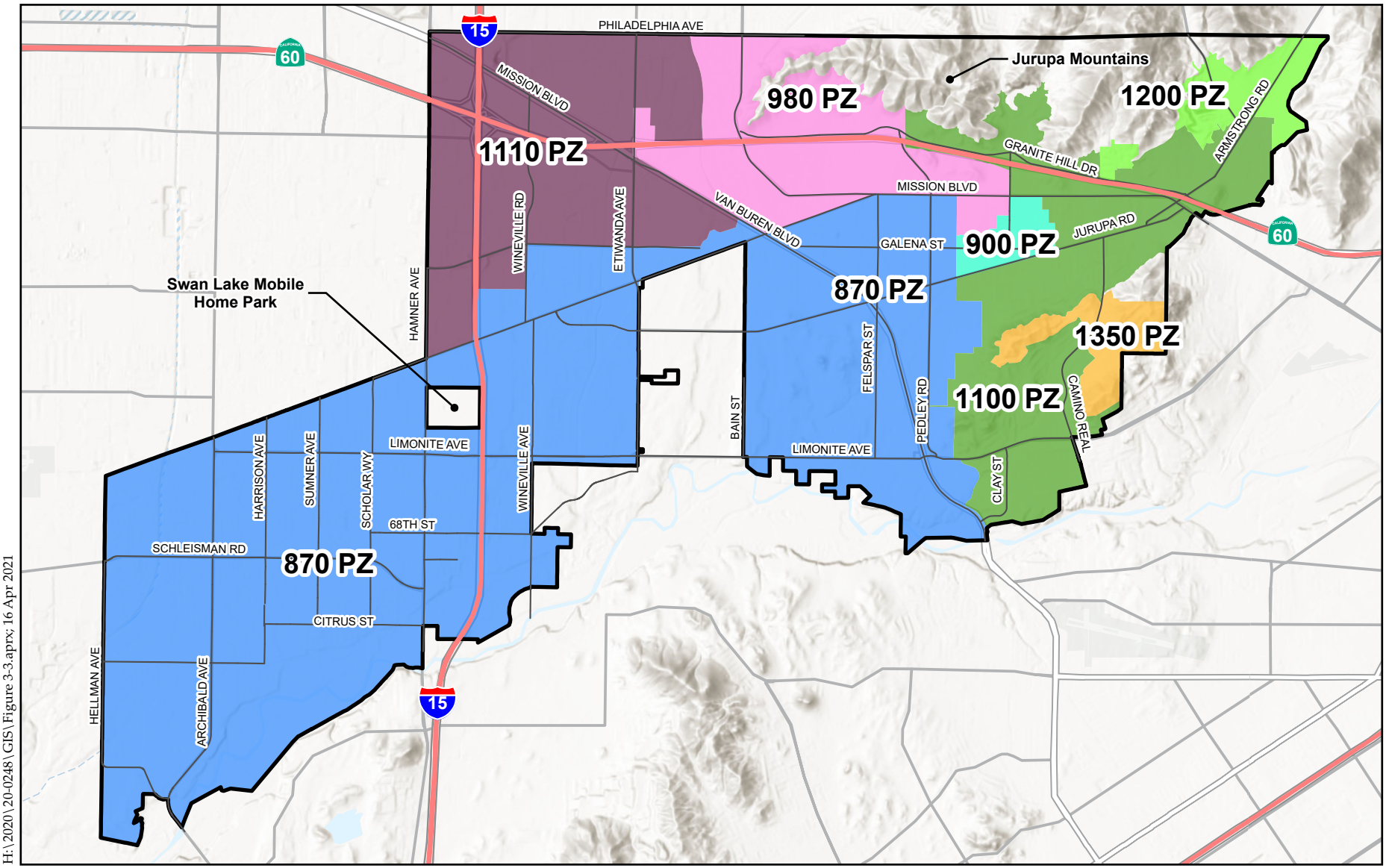


Figure 3-2 Surrounding Water Providers

JCSD Urban Water Management Plan 2020

Jurupa Community Services District

Albert A. Webb Associates



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Sources: JCSD, 2019;
Riverside Co. GIS, 2020.

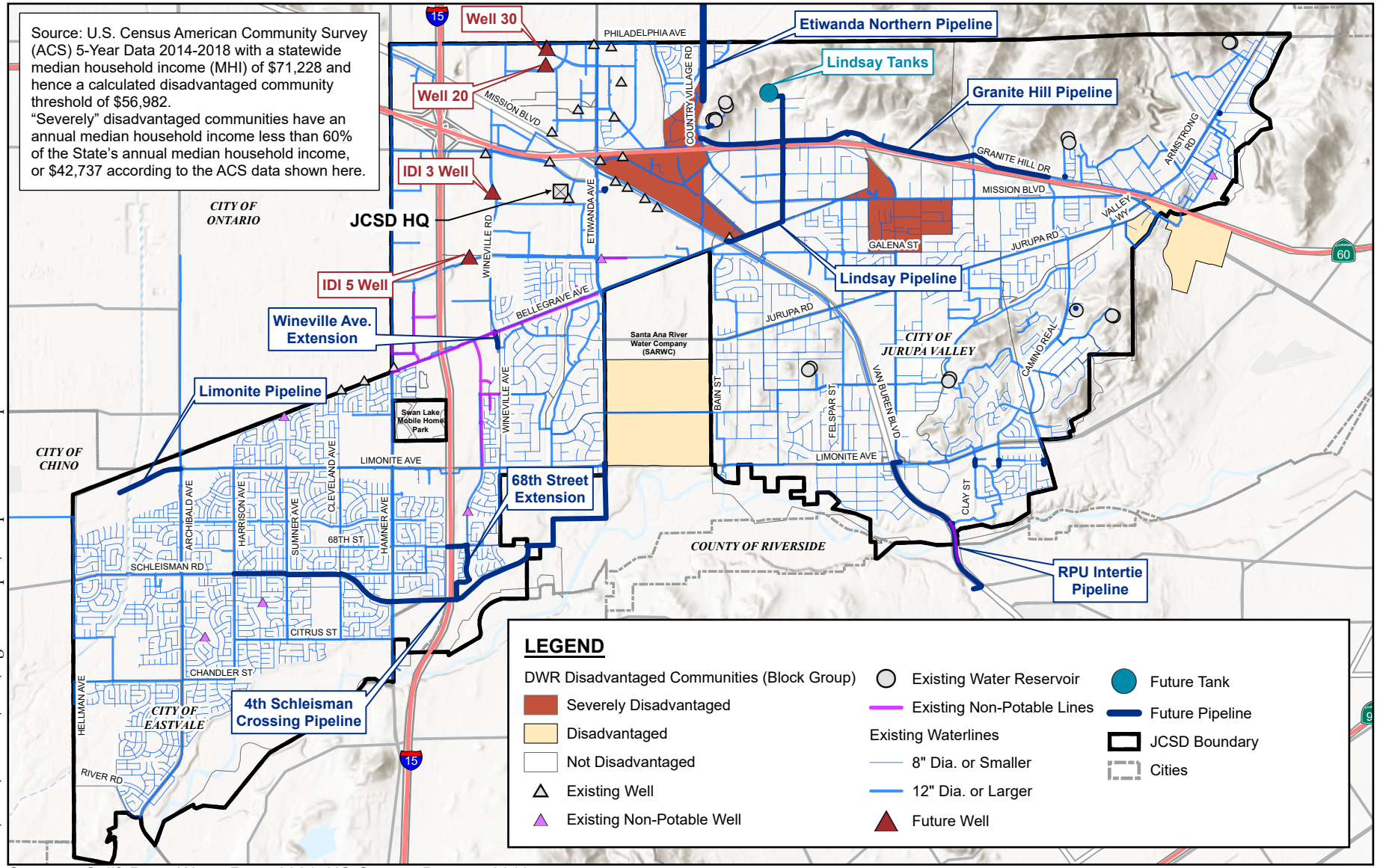
0 0.5 1 1.5 2 Miles

Figure 3-3 Water System Pressure Zones

JCSD Urban Water Management Plan 2020

Jurupa Community Services District

Albert A. Webb Associates



H:\2020\20-0248\GIS\Figure 3-4.aprx; Map created 19 Apr 2021

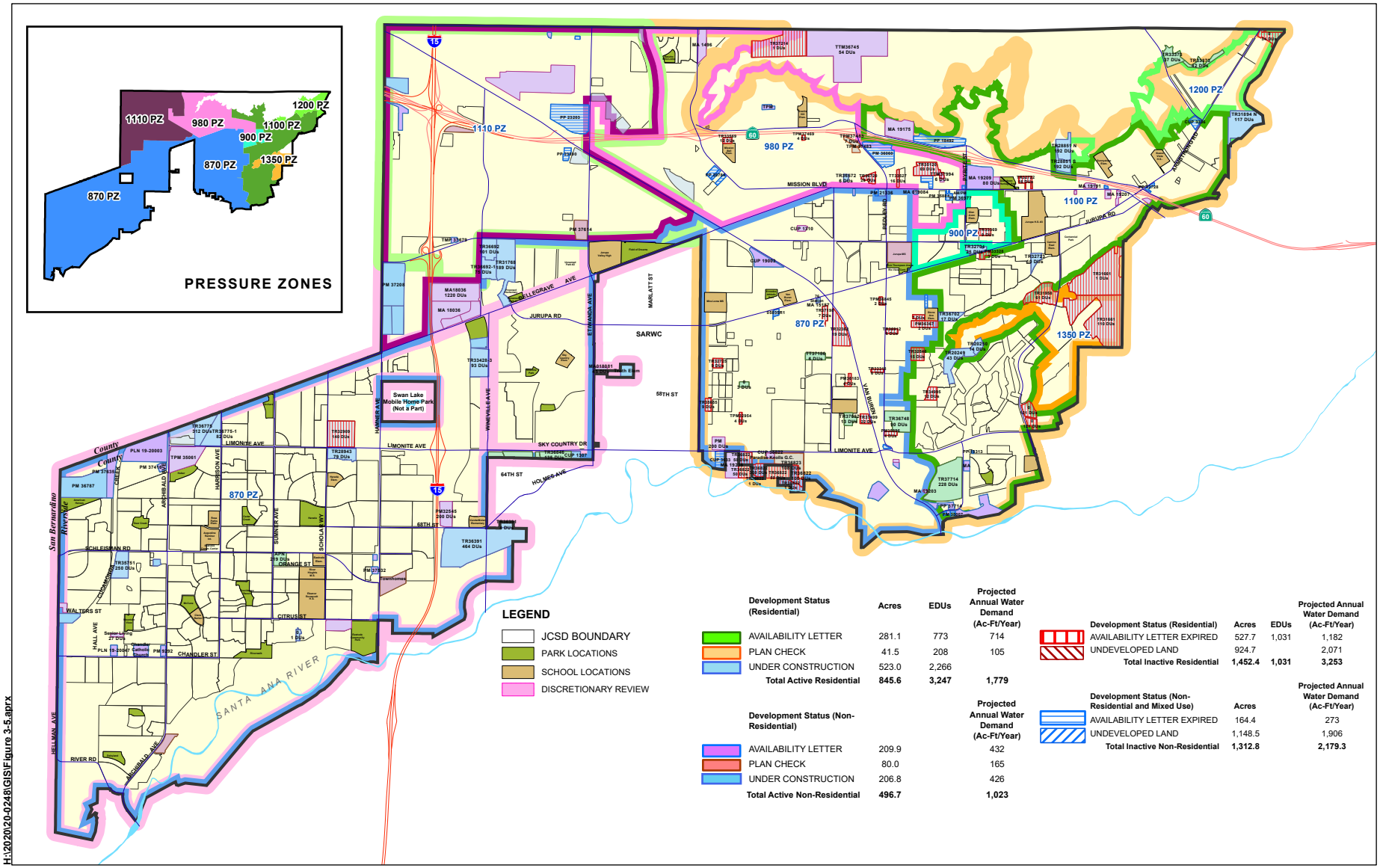
Sources: Calif. Dept. Water Res., 2021; US Census Bureau, 2018; JCSD, 2019; Riverside Co. GIS, 2021; ESRI.

Figure 3-4 Disadvantaged Communities

JCSD Urban Water Management Plan 2020

jurupa COMMUNITY SERVICES DISTRICT

ALBERT A. WEBB ASSOCIATES



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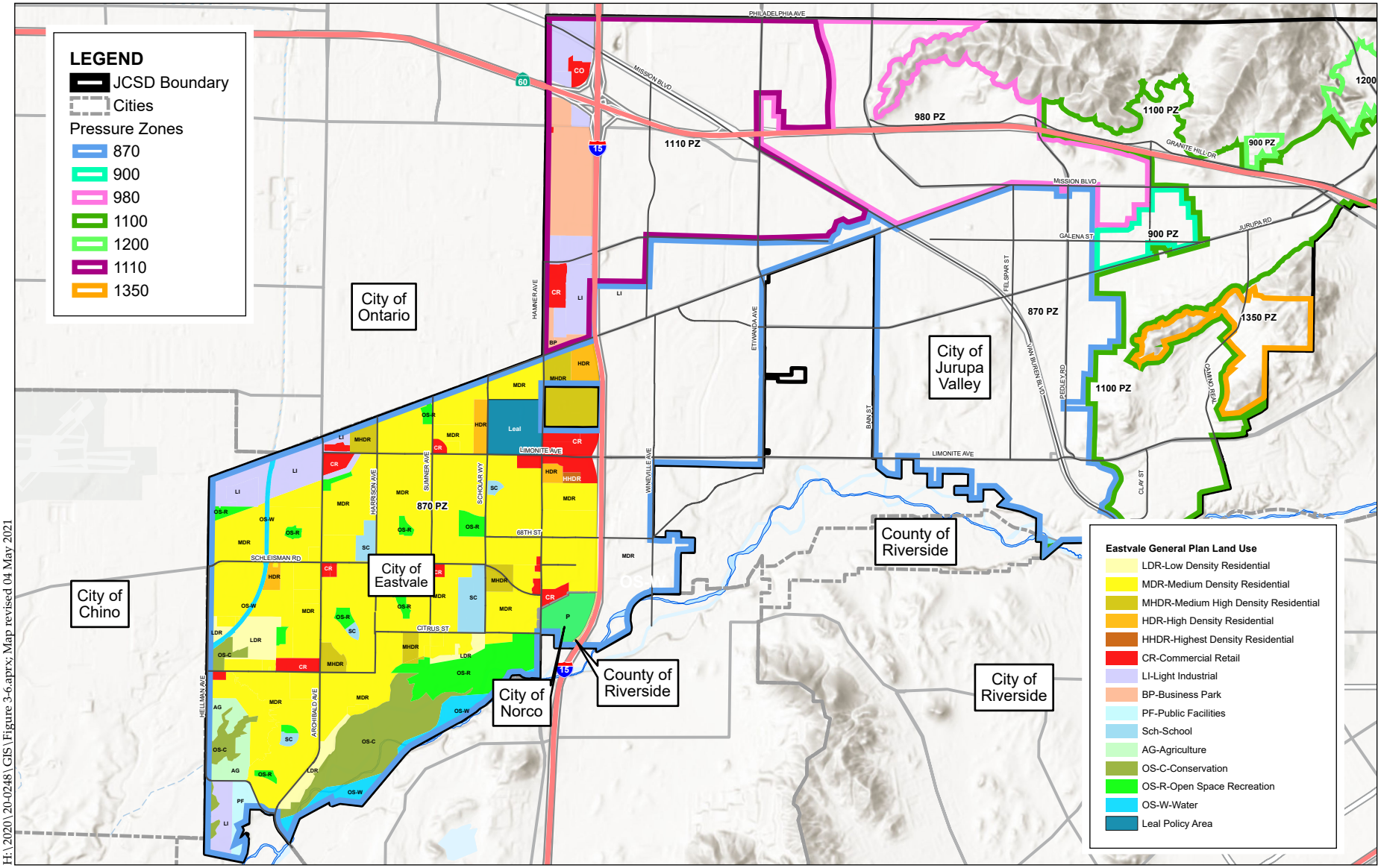
Sources: City of Eastvale, 2019; City of Jurupa Valley, 2019; City of Norco, 2012; JCSD, 2019; Riverside Co. GIS, 2019.

Figure 3-5 Development Status Map (as of March 29th, 2021)

JCSD Urban Water Management Plan 2020

Jurupa COMMUNITY SERVICES DISTRICT

ALBERT A. WEBB ASSOCIATES



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Sources: City of Eastvale, 2021; City of Jurupa Valley, 2021; City of Norco, 2012; JCSD, 2021; Riverside Co. GIS, 2021.

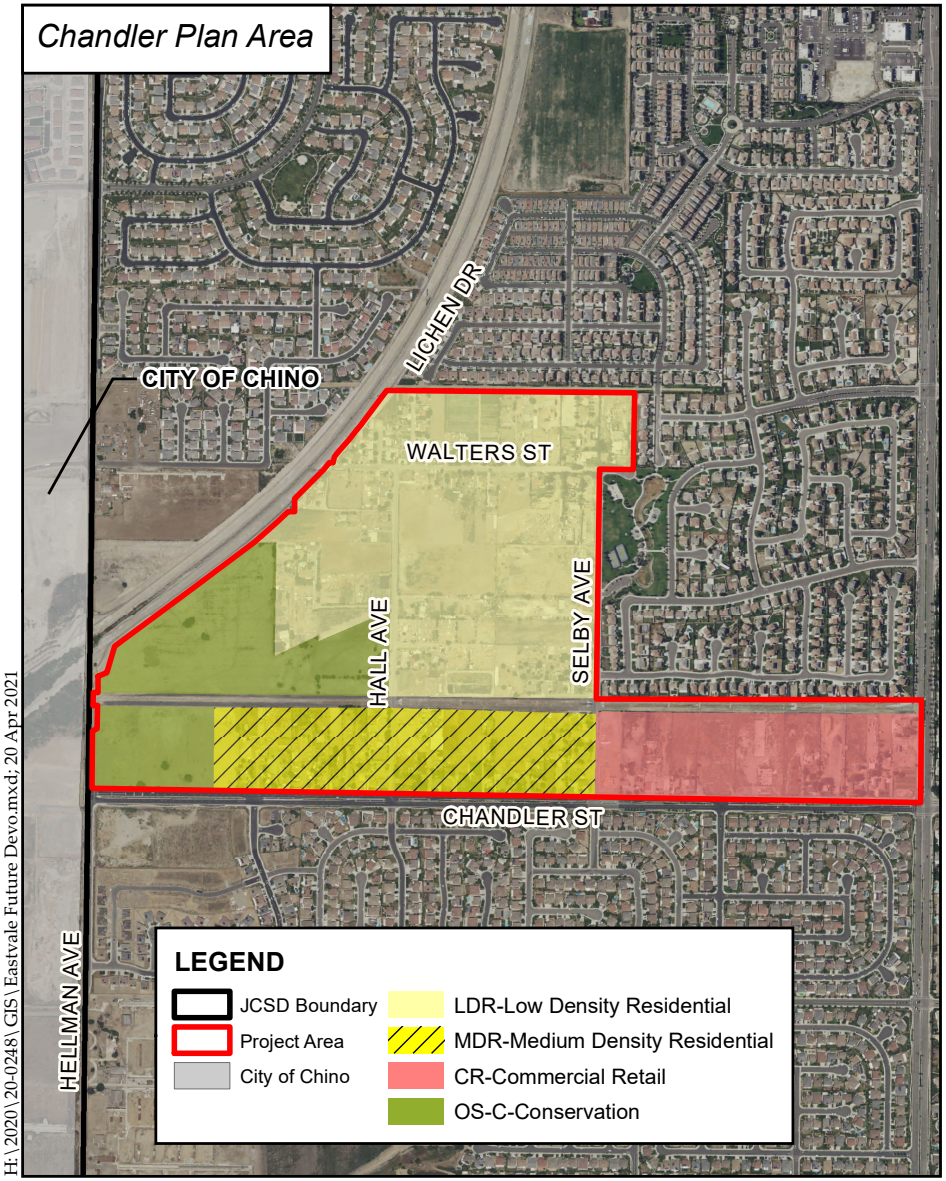
0 0.5 1 1.5 2 Miles

Figure 3-6 City of Eastvale Land Use Map

JCSD Urban Water Management Plan 2020

Jurupa Community Services District

Albert A. Webb Associates



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Sources: City of Eastvale, 2019; City of Jurupa Valley, 2019; JCSD, 2019; Riverside Co. GIS, 2019.

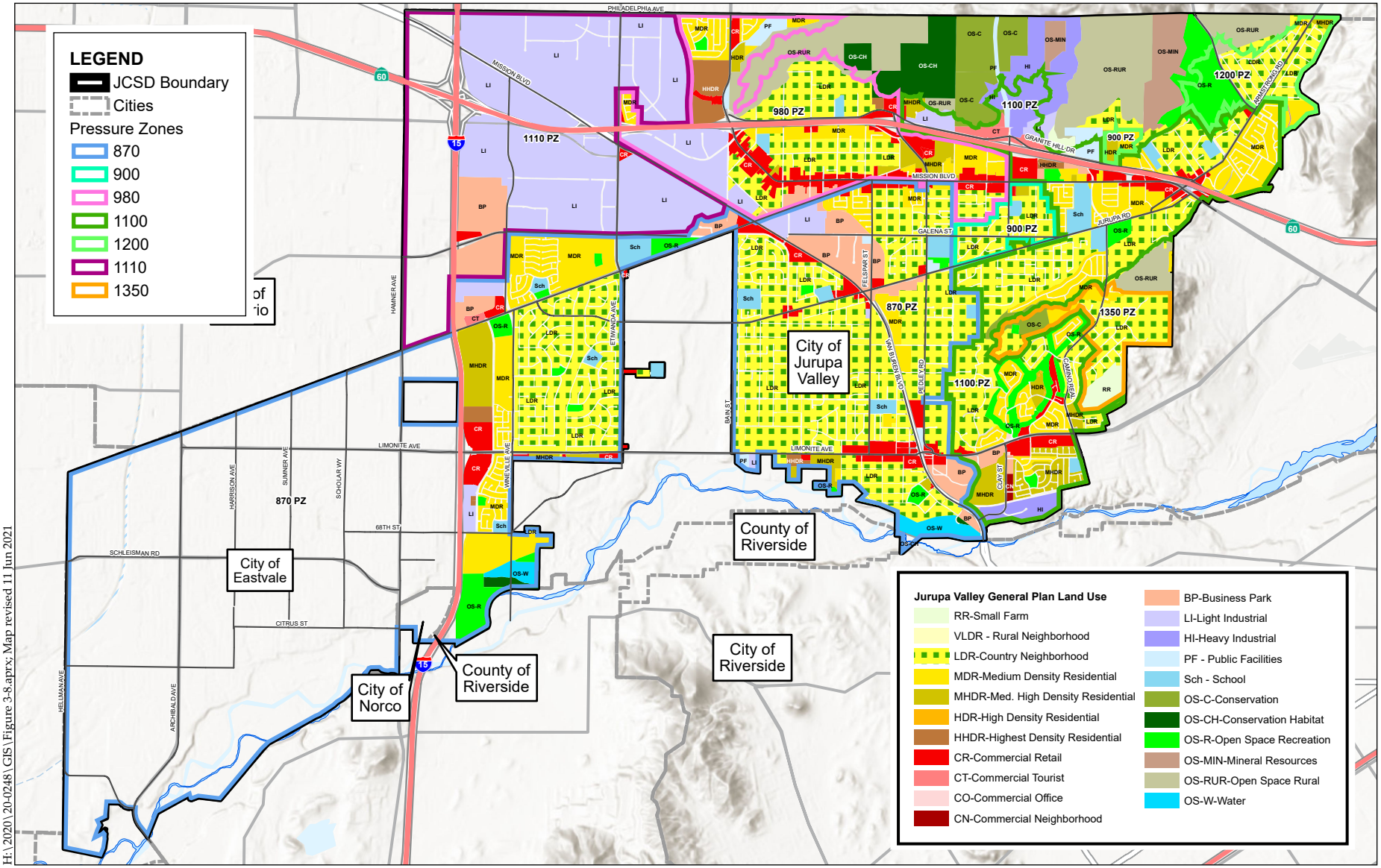
0 600 1,200 1,800 Feet

Figure 3-7 Future Development Areas in Eastvale

JCSD Urban Water Management Plan 2020

Jurupa COMMUNITY SERVICES DISTRICT

ALBERT A. WEBB ASSOCIATES



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Sources: City of Eastvale, 2021; City of Jurupa Valley, 2021; City of Norco, 2012; JCSD, 2021; Riverside Co. GIS, 2021.

0 0.5 1 1.5 2 Miles

Figure 3-8 City of Jurupa Valley Land Use Map

JCSD Urban Water Management Plan 2020

Jurupa Community Services District

Albert A. Webb Associates

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CHAPTER 4 WATER USE CHARACTERIZATION

This chapter describes how the water that is produced, purchased, and sold within the District is then used, and how water is projected to be used through the year 2045.[1] Demands for potable water and non-potable water within the District are accounted for separately.

4.1 PAST WATER USE

JCSD provides potable water to its urban retail customers, non-potable irrigation water for selected parks and school fields, and potable water to neighboring agencies. Through this process, some water is lost between the point of production and the customer meter due to leaks, metering inaccuracies, and theft (i.e., "Distribution System Losses"). The recorded water use over the four-year period since 2015 is listed in **Table 4A** (next page). These values are reported each year by JCSD to the State Water Resources Control Board. Although sales and transfers to other agencies are considered wholesale demands, JCSD is not considered a wholesale supplier because the amount sold is less than 3,000 AF per year.

[1] For purposes of the UWMP, the terms "water use" and "water demand" will be used interchangeably.

Table 4A - JCSD Metered Water Deliveries (AF), 2016-2019

Water Use Sectors	2016	2017	2018	2019
Single-Family Residential	15,173.19	15,736.8	16,868.85	15,279.76
Multi-Family Residential	1,236.89	1,311.01	1,400.44	1,374.69
Commercial/Institutional	2,173.91	2,288.59	2,505.44	2,253.32
Industrial	630.62	648.57	630.77	607.28
Potable Landscape Irrigation	2,202.75	2,390.46	2,812.2	2,469.98
Other[1]	296.84	279.98	271.7	251.06
Total Urban Retail Customers (AF)	**21,714.2**	**22,655.41**	**24,489.4**	**22,236.09**
Non-Potable Irrigation	653.65	692.61	814.99	876.18
Potable Distribution System Losses[2]	900.722	2,063.867	1,228.989	1,530.08
Water Sold to Other Systems (potable)[3]	264.8	316.715	324.887	302.074
Transfer to Santa Ana River Water Company (potable)	1,088	1,170	1,192	1,166

Source: JCSD *Large Water System Annual Report to the Drinking Water Program [Section 116530 Health & Safety Code]* for years ending December 31, 2016-2019, and JCSD records.

[1] Hydrants or construction water may be included in the "other" category.

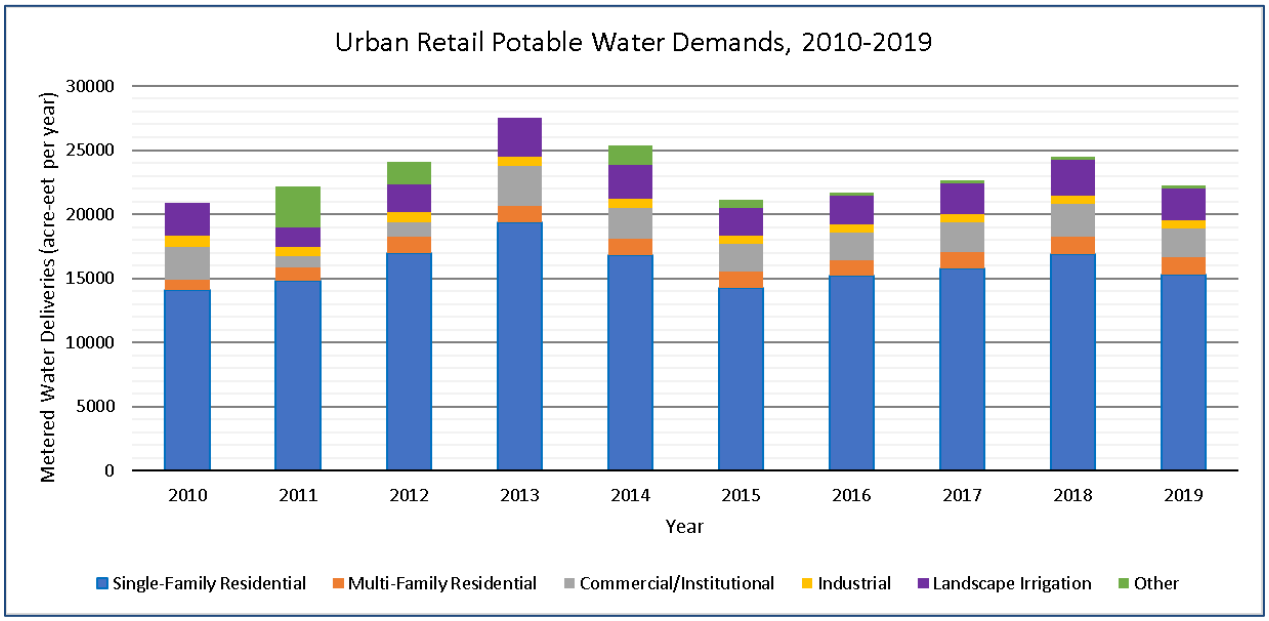
[2] Source: JCSD *Water Audit Report* for CY) 2016-2019; however, 2019 potable system loss is based on revision of 2019 Validated Loss Audit. Original audit reported 507 AF of total loss but omitted 1,074 AF of supply from CDA-Western deliveries. Non-potable system losses are not shown.

[3] Water was sold each year to Swan Lake Mobile Home Park, a JCSD master contract customer. In 2019, water was also sold to City of Norco..

AF = acre-feet

Shown on **Chart 4-1** is the change in total urban retail potable water demand by JCSD customers from 2010 through 2019. Average percent consumption by each customer type over this time period is single family residential, 69%, multi-family residential, 5%, commercial/institutional, 9%, industrial, 3%, landscape irrigation, 10%, and other, 4%.

Chart 4-1 - JCSD Urban Retail Potable Water Demands (2010-2019). "Other" includes hydrants, construction water, or line breaks. (Source: Table 4A herein; 2015 UWMP p. 4-2; 2010 UWMP p. 15)



The number of potable water meters from 2010 to 2019 are shown in **Table 4B.** Residential meters account for 95% of meters on average over this time period, while multi-family residential meters are 1%, and commercial/institutional and landscape irrigation meters are 2% of the total, respectively. Industrial meters and non-potable agricultural irrigation meters account on average for 0.4% and 0.05% of the total, respectively.

Table 4B - Number of Connections, 2010-2019

Customer Meter	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Single-Family Residential [1]	25,523	26,035	26,586	26,815	27,522	28,410	28,990	29,659	30,215	30,672
Multi-Family Residential				251	250	311	278	282	282	284
Commercial / Institutional	636	511	670	686	756	981	914	587	616	627
Industrial	107	106	101	99	101	107	105	113	115	120
Landscape Irrigation [2]	325	519	369	380	409	435	460	486	535	554
Non-Potable Irrigation [3]				10	9	10	28	29	30	30
Total Active Connections	**26,591**	**27,171**	**27,726**	**28,241**	**29,047**	**30,254**	**30,775**	**31,156**	**31,793**	**32,287**
Other – Fire Service	--	--	--	--	--	--	128	377	394	406
Other – Hydrant Meters	--	--	--	--	--	--	--	152	155	159

Source: JCSD *Large Water System Annual Report to the Drinking Water Program [Section 116530 Health & Safety Code]* for years ending December 31, 2010-2017. Counts for 2017-2019 from JCSD Finance Dept. (2021).

(1) Prior to 2013, total number of residential meters was reported.

(2) Prior to 2013, total number of irrigation meters was reported, which presumably included non-potable connections. Excludes non-billing EDU meters.

(3) All non-potable meters.

The number of residential meters grew on average 2.5% each year according to the data in Table 4B, with the largest single year increase between 2016 and 2017 of nearly 5%**.** Further, the number of Commercial/Institutional and Industrial meters grew by an annual average of 2.2% and 1.0%, respectively.

4.2 CURRENT WATER USE

As of December 31, 2020, JCSD served water to 33,146 potable service connections and 30 non-potable service connections as shown in **Table 4C**.

Table 4C - Number of Connections, 2020

Customer Meter	2020
Single-Family Residential [1]	30,947
Multi-Family Residential	284
Commercial / Institutional	636
Industrial	125
Potable Landscape Irrigation[2]	572
Other-Fire Service	422
Other- Hydrant Meter	160
Total Potable	**33,146**
Non-Potable Irrigation	30

Source: JCSD Customer Service Dept.

(1) Includes "no sewer" accounts.

(2) Non-billing EDU meters excluded from irrigation meters.

During CY 2020, JCSD metered water deliveries including loses consisted of 28,505 AF of potable water and 767 AF of non-potable irrigation water for a total of 29,272 AF, as shown in **Submittal Table 4-1**. For reference, the 2015 UWMP estimated a total demand volume of 24,977 AF for CY 2020.

Submittal Table 4-1 Retail: Demands for Potable and Non-Potable 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*
Add additional rows as needed			
Single Family	Includes "no sewer" acounts	Drinking Water	17,300
Multi-Family		Drinking Water	1,323
Commercial	Includes institutional and fire service meters	Drinking Water	2,282
Industrial		Drinking Water	675
Landscape		Drinking Water	2,945
Other Potable	Includes hydrant meters	Drinking Water	190
Sales/Transfers/Exchanges to other Suppliers	Sold to Swan Lake	Drinking Water	325
Sales/Transfers/Exchanges to other Suppliers	Sold to City of Norco	Drinking Water	8
Sales/Transfers/Exchanges to other Suppliers	Transfer and Sale to Santa Ana River Water Company	Drinking Water	1,325
Losses	Potable Losses	Drinking Water	2,133
Landscape	Non-Potable Irrigation	Raw Water	627
Losses	Non-Potable Losses	Raw Water	140
		TOTAL	29,272
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Units in acre-feet(AF). CY 2020 data. Potable demand is 28,505 AF, which differs from the 2020 Water Master Plan which used 2018 consumption data. Total non-potable demand is 767 AF. These amounts match the 2020 Annual Drinking Water Report adjusted for pro-rata used in Dec. 2019 and Dec. 2020. Losses are estimated as the difference between total 2020 potable water supply and total 2020 deliveries.			

The non-potable irrigation demand is satisfied with non-potable well water and is listed separately in the District's Annual Reports to the Drinking Water Program. The system losses that are shown in Submittal Table 4-1 are calculated by subtracting metered deliveries from

total production sources for both potable and non-potable sources separately. The District's distribution system also includes a meter to track pass-through water delivered to the Santa Ana River Water Company consisting of their allotted portion from the Chino Desalter Authority (CDA). When the demand from Santa Ana River Water Company is greater than its CDA allocation, then that becomes a sale of water from JCSD.

4.3 PROJECTED USE

Estimating future water demand allows water agencies to manage their water supply and appropriately plan their infrastructure investments. Factors to consider are current and future land uses, number of occupants or dwelling units, typical water demand generation factors, and climate change effects.

The *2020 Water Master Plan* uses actual water use records from CY 2018 from all of the various land use types to develop updated water duty factors for each land use type in the City of Eastvale and the City of Jurupa Valley portion within the District. Water duty factors (or "unit water demand factors") reflect a typical rate of water consumption (e.g., gallons per day per acre or gallons per day per dwelling unit) that has been observed from actual meter records. Different rates from different land use types were calculated. Using the updated water duty factors and the City General Plan land use plans for ultimate buildout as of April 2019, including the potable water demand from meters located in road rights-of-way, potable irrigation meters for medians, potable water deliveries to Santa Ana River Water Company and Swan Lake Mobile Home Park, the ultimate average day potable demand is approximately 36,495 AFY (WEBB(a), p. 3-8).

This Plan will assume buildout of the City of Eastvale will occur in the next 10 years by 2030, and buildout of the City of Jurupa Valley will occur in 20 years by 2040 based on the remaining vacant and developable land. Because the District's CY 2020 potable water demand was 28,505 AF as shown in Submittal Table 4-1, the ultimate buildout potable water demand of 36,495 AF per year according to the 2020 Water Master Plan would be an increase of 7,990 AF, or 28 percent. As shown in **Submittal Table 4-2**, the rate of increase in projected water demand slows in 2030 with the buildout of Eastvale, and then becomes stable with the buildout of Jurupa Valley in 2040.

Submittal Table 4-2 Retail: Use for Potable and Non-Potable Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use* *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		18,551	20,082	21,174	22,375	22,375
Multi-Family		1,606	1,731	1,821	1,919	1,919
Commercial	Includes Institutional & governmental	2,251	2,451	2,595	2,752	2,752
Industrial		722	782	825	872	872
Landscape	Includes ROW irrigation	3,007	3,258	3,437	3,634	3,634
Other Potable	Hydrant meters	210	228	241	254	254
Sales/Transfers/Exchanges to other Suppliers	Santa Ana River Water Company	1,200	1,200	1,200	1,200	1,200
Sales/Transfers/Exchanges to other Suppliers	Swan Lake Mobile Home Park	328	328	328	328	328
Sales/Transfers/Exchanges to other Suppliers	Other	96	231	328	434	434
Losses	Potable Losses (7.5%)	2,255	2,444	2,578	2,726	2,726
Other Non-Potable	Parks & school yard irrigation with Riverside South Basin groundwater.	500	500	500	500	500
Losses	Non-Potable Losses	140	140	140	140	140
	TOTAL	30,865	33,375	35,165	37,135	37,135
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Units in acre-feet (AF). Assumes buildout by 2040. Ultimate potable water demand is 36,495 AF; equivalent to 2020 Water Master Plan estimate. Total non-potable water demand not including recycled water is 640 AF. "Other" sales/transfers could include sales to City of Norco and additional demand by Santa Ana River Water Company.						

The total potable water demands in Submittal Table 4-2 are equivalent to the projections made in the *2020 Water Master Plan* (i.e., 30,225 AF in 2025, 32,735 AF in 2030, 34,525 AF in 2035, 36,495 AF in 2040 and 2045). To project individual uses over time, the proportions of total 2020 use (i.e. 28,505 AF) that are not held constant through time (i.e., single family residential, multifamily residential, commercial, industrial, landscape, hydrant meters, and losses) were

calculated as follows: 61% for single-family residential, 5% multifamily residential, 8% commercial, 2% industrial, 10% landscape irrigation, and 1% hydrant meters. As described in Chapter 3.5.3, the water demand projections for Single-Family, Multi-Family and Commercial were also modified to reflect a net increase of 155 AF per year to account for the increase in water demand expected from the proposed Vernola Ranch Project. Estimates for the annual transfer to Santa Ana River Water Company and the annual sale to Swan Lake Mobile Home Park are held constant which is consistent with the *2020 Water Master Plan* approach. Potable losses are calculated as 7.5% of total potable annual demand. "Other" sales/transfers/exchanges capture sales to neighboring agencies such as City of Norco and additional demand that may be needed by Santa Ana River Water Company that is more than the annual allotment from CDA (i.e., 1,200 AF).

The non-potable water demand projections in Submittal Table 4-2 are held constant and do not include recycled water demand, which is shown in **Submittal Table 4-3**, below. The total water demand projections in Submittal Table 4-3 begin with 2020 actual water use and the projections planned for future water demand based on a "normal" or non-drought condition with the addition of the recycled water in 2025. Non-potable irrigation demand is based on actual production in the Riverside South Basin and held constant, and non-potable system losses stay constant compared to 2020. Although some non-potable demand was met by Chino Basin non-potable wells in 2020, it is assumed for the future that will be replaced with the use of recycled water beginning by 2025.

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*	29,272	30,865	33,375	35,165	37,135	37,135
Recycled Water Demand[1] *From Table 6-4*	0	660	660	660	660	660
Optional Deduction of Recycled Water Put Into Long-Term Storage[2]						
TOTAL WATER USE	29,272	31,525	34,035	35,825	37,795	37,795
[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: Units in acre-feet (AF).						

The District's potable demand projections in Submittal Table 4-2 have conservatively assumed no reductions in future water use from codes, ordinances, or other water conservation policies. Water demands across all customer sectors are projected to increase over the 20-year period. Further, the projections in Submittal Table 4-2 have accounted for decreasing water duty factors across all land use types (e.g., gallons per person or gallons per acre) during a non-drought time. Notably, this is occurring while overall water demand is increasing due to growth. The cost of water and tiered pricing, widespread public education on water conservation, and restrictions placed by the land use authorities on plant palettes and required water efficiency standards for new- and re-development are believed to all be factors as to why unit water use is decreasing in the District.

4.3.1 Climate Change Considerations

Beginning in the 2020 UWMP, the Water Code requires the District to consider the impacts of climate change in its water use projections, which are shown in Submittal Table 4-2. Considerations for climate change impacts began with using the *Climate Change Vulnerability Screening Form for Urban Water Management Planning* located in Appendix I of the DWR

Guidebook for 2020 UWMPs. Pursuant to Water Code, the District's planning for climate change impacts was commensurate with the number of customers served and the volume of water supplied. The type and degree to which climate change impacts were considered in the District's water use projections, and the basis for those assumptions are described below.

Western prepared a Technical Memorandum dated April 22, 2021 describing an analysis performed as part of their Drought Contingency Plan and Climate Change Vulnerability Assessment and made the results available for use by the District and other retail agencies within Western's service area to use in their UWMPs (WMWD(a)). A copy of said memo is located in Appendix E. The results of the analysis included factors that its retail agencies can apply to water demand and supply projections to represent the projected effects of climate change within Western's service area. JCSD has used these factors herein where noted (**Table 4D**). The results of the analysis that pertain to water demands are provided below:

> *The impacts of climate change on outdoor water demand are projected to be similar during normal and drought years over the next two decades. This is because climate change datasets show that temperatures are projected to increase over time, regardless of hydrologic conditions. These projected increases in temperature are estimated to increase ET rates for landscaping, irrigated agriculture, and native vegetation. For all year types, outdoor water use is projected to increase by about 3 percent during the next two decades. The water demand change factors are applied to outdoor water uses, which have been adjusted for future population growth and conservation measures. Indoor water uses are assumed to respond to future population growth and conservation as well but are not sensitive to climate change.* (WMWD(a), p. 13)

Table 4D - Water Demand Climate Change Factors for Outdoor Water Uses[1]

Beginning Year	Normal Year	Single-Dry Year	Five-Year Dry Period
2020	100.0%	100.0%	100.0%
2025	100.6%	100.6%	99.8%
2030	101.2%	101.3%	101.2%
2035	101.8%	101.9%	101.8%
2040	102.4%	102.5%	102.4%
2045	103.1%	103.2%	103.0%

Source: Western Municipal Water District, *Technical Memorandum: Western Drought Contingency Plan – Climate Change Vulnerability Assessment*, April 22, 2021 (WMWD(a), p. 13).

(1) 2020 is baseline year. Because the District is unable to tease out indoor from outdoor water use for most of its customers at this time, the factors will be applied to all water demands.

To account for the potential effects of climate change to water demands, and the uncertainty therein, JCSD has conservatively applied the normal year factors from Western's analysis in Table 4C to the total demand projections of Submittal Table 4-2 beginning in 2025 through 2045, even though some of that demand is indoor use that is not sensitive to climate change. The results are shown below in **Table 4E**.

Table 4E - Potential Effect of Climate Change to Projected Demands

	2025	2030	2035	2040	2045
TOTAL DEMANDS From Table 4-3 (AF)[1]	31,525	34,035	35,825	37,795	37,795
Water Demand Climate Change Factor[2]	100.6%	101.2%	101.8%	102.4%	103.1%
TOTAL DEMANDS with Climate Change Factor (AF)	31,714	34,443	36,470	38,702	38,966
Potential Increase in Water Demand from Climate Change (AF)	189	408	645	907	1,172

Notes: Units in acre-feet (AF).

(1) Total demands from Submittal Table 4-3. Includes non-potable water and recycled water.

(2) Climate change factors from Table 4D (WMWD(a)).

According to Cal-Adapt and Western's technical memorandum and climate change analysis, higher temperatures and less rainfall are anticipated to occur as a result of climate change, and

these are the factors that may affect water demand the most. Customer demands increase in summer; therefore, an increase in average annual temperatures and the frequency and duration of heat waves as the result of climate change is expected to increase existing customer demands for water, particularly outdoor use. Based on past events, the District anticipates additional restrictions on outdoor water use will occur through Water Code changes and County, City, or District ordinance changes. Because JCSD primarily serves urban water demand and does not have an agricultural customer base, such restrictions are expected to result in changes to the urban environment, such as improvements to indoor water use (i.e., replacing inefficient appliances/fixtures), or changes in public and private landscaping that incorporates more drought tolerant plant species and/or zero-irrigation. Considering that the District's individual water duty factors have decreased due to the cost of water and tiered pricing, widespread public education on water conservation, and regulatory restrictions placed for new development to conserve, the estimated increases in water demand due to climate change are expected to be partially offset but by how much is uncertain.

4.4 DISTRIBUTION SYSTEM WATER LOSSES

Distribution system water loss is the water lost between the point of production and the point of customer delivery. This is a component of the District's overall water demand, as shown previously in Table 4A and Submittal Tables 4-1 and 4-2. System water losses can occur because of leaking or broken pipes, system flushing, theft, metering inaccuracies, or unbilled but authorized consumption.

California Senate Bill No. 1420 (SB 1420) requires water utilities that submit UWMPs to calculate annual system water losses using the water audit methodology developed by the American Water Works Association (AWWA). SB 1420 also requires that utilities submit these audits every five years as part of their respective UWMP. To facilitate user-friendly and consistent water auditing practices, AWWA has developed the AWWA Free Water Audit Software, which is based on the principles of the AWWA M36 Water Audit methodology. Per DWR guidelines, JCSD uses this software for its water loss audits. **Submittal Table 4-4** summarizes the District's reported water losses from 2016 to 2019. Because the 2020 water loss report is not yet due to the state, this is an estimated value. Copies of the 2016-2019

water loss audits are located in **Appendix G**. The steps taken by the District to reduce water loss are described in Chapter 9 – Demand Management Measures.

Submittal Table 4-4 Retail: Last Five Years of Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss [1,2]
01/2016	900.7
01/2017	2063.9
01/2018	1229.0
01/2019	1530.1
01/2020	2133.07
[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: Units in acre-feet (AF). 2016-2019 data from District validated water loss audits; however, 2019 loss shown here is based on revision of the 2019 audit that reported 507 AF of loss but omitted 1,074 AF of supply from CDA-Western deliveries. 2020 data estimated as the difference between total potable production and total potable consumption.	

4.4.1 Future Water Loss Performance Standard

Water Code Section 10608.34, subdivision (i) (Senate Bill 555, 2015) requires the State Water Resources Control Board to adopt volumetric performance standards for water loss for urban retail water suppliers. Pursuant to this law, urban retail water suppliers have been annually submitting water loss audits to the Department of Water Resources since October 2017. Copies of JCSD validated water audits are located in Appendix G.

Additionally, 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 water loss by 2024 (AB 1668 and SB 606, 2018). These standards are still in the pre-rulemaking process and have not been adopted to-date. However, the Water Code requires

data to be included in this 2020 UWMP that suggests whether the District will meet its water loss performance standard, even though it has yet to be determined.

JCSD is expected to be able to meet its forthcoming water loss performance standard based on the District's aggressive efforts to replace old pipelines and repair leaks, and to dedicate more staff effort towards calibrating and testing meters. Chapter 9 (Metering) discusses these efforts in more detail. According to the proposed regulation, suppliers that have already achieved low levels of real loss (under 16 gallons per connection per day) would not be required to submit responses to the state questionnaires on water loss-specific information or further reduce water loss. These suppliers would be required to maintain losses at or below 16 gallons per connection per day (SWRCB Fact Sheet, pp. 1-2).

4.5 WATER USE FOR LOWER INCOME HOUSEHOLDS

California Senate Bill No. 1087 (SB 1087) requires the water use projections of an UWMP to include the water demands for affordable housing as identified in the housing element of any city, county, or city and county in the service area of the supplier. SB 1087 builds on an existing statutory priority for providing water and sewer services to affordable housing developments.

The Cities of Eastvale and Jurupa Valley have approved Housing Elements and corresponding land use plans that provide various zoning designations to accommodate residential developments for all income levels and densities, including low-income (see Figures 3-6 and 3-8 in Chapter 3).

JCSD will not deny nor condition approval of water services or reduce the number of services applied for by a proposed development that includes housing units affordable to low-income households. Because the demand projections made herein are based on the City land use plans that include residential designations of all types including those that allow for low-income housing, they include the water use for housing needed for lower income households as verified in **Submittal Table 4-5.** Future water conservation (or "Passive Savings") from codes, standards, ordinances, or transportation and land use plans are not included in the District's water demand 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)*	No
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.	
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes

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CHAPTER 5 SB X7-7 BASELINES AND TARGETS

With the adoption of the Water Conservation Act of 2009, also known as Senate Bill (SB) X7-7, the State of California is required to reduce urban per capita water use by 20 percent by the year 2020. To help the State reach this legislative requirement, each retail urban water supplier (Supplier), including JCSD, is required to also reduce their respective urban per capita (per person) water use by 20 percent. SB X7-7 required each Supplier to determine their baseline water use (Water Use Baseline) during the baseline period and their target water use for the years 2015 (Interim Water Use Target) and 2020 (2020 Water Use Target). The cumulative efforts of each Supplier to meet their respective target water use would result in the State achieving the legislative water reduction requirement by 2020.

In the 2010 UWMP, JCSD calculated the Water Use Baseline, the Interim Water Use Target, and the 2020 Water Use Target using the 2000 U.S. Census. In the 2015 UWMP, the baselines and targets were updated and recalculated using DWR's Population Tool which included the 2010 U.S. Census. The 2015 Interim Water Use Target was 234 gallons per capita per day (GPCD)[1] and the 2020 Water Use Target was 208 GPCD. Because the District's actual water use was 168 GPCD in 2015, the 2015 UWMP determined that JCSD met the Interim Water Use Target and was on track to meet the 2020 Water Use Target by year end 2020. Compliance was verified by DWR reviewing the SB X7-7 Verification Forms submitted with the 2015 UWMP. The complete set of SB X7-7 Verification Forms from 2015 are provided in **Appendix H.**

In this UWMP, JCSD must demonstrate that they met their 2020 Water Use Target by completing the SB X7-7 2020 Compliance Forms which will be verified by DWR. The complete SB X7-7 2020 Compliance Forms are also provided in Appendix H.

[1] Two terms are often used interchangeably; "Daily per Capita Water Use" and "Gallons per Capita per Day" (GPCD). Daily per Capita Water Use is the amount of water used per person per day. In the UWMP, this is total water use within a service area, divided by population and is measured in gallons. GPCD is Daily per Capita Water Use measured in gallons. These are different from R-GPCD, which is solely the residential water use divided by population and is used in drought reporting to the SWRCB.

5.1 RECALCULATION OF BASELINES AND TARGETS

There are some situations where the baselines and targets must, or may be, recalculated including availability of better data, certain service area expansions, contractions, or annexations of already developed areas.

As discussed in Chapter 3, since 2015 the District boundary had one annexation of ±1.21 acres and two detachments totaling ±9.44 acres for a net contraction of approximately 8 acres. All these areas were vacant during baseline years and at the time of the annexation or detachment; therefore, they are not considered to be a previously served portion of the distribution system. Because the land within said detachments is exceedingly small in the scope of the entire service area (26,000 acres) and the land was vacant with zero water use at least until after the detachment was approved in 2018 and therefore no water use from the land was included in the District's baselines and targets, the District has not recalculated the baseline and targets from the 2015 UWMP as a result of said annexation or detachments. Therefore, consistent with *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (Feb. 2016) (*Methodologies*) no revisions to the District's Water Use Baseline, Interim Water Use Target, and 2020 Water Use Target from the 2015 UWMP were made herein.

5.2 BASELINES AND TARGETS

The Water Use Baseline, Interim Water Use Target, and the 2020 Water Use Target calculated in the 2015 UWMP are summarized here, and the complete set of tables are provided in Appendix H.

Since JCSD does not deliver recycled water, the 10-year baseline or the "Baseline GPCD Period" began in 1999 and ended in 2008. The 5-year baseline or the "Target Confirmation Period" began in 2003 and ended in 2007, as shown in **Submittal Table 5-1.**

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	*1999*	*2008*	*260*	*208*
5 Year	*2003*	*2007*	*242*	
**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: Units in gallons per capita per day (GPCD). Baseline periods and GPCDs have not changed since 2015 UWMP.				

Once the baseline periods are set, the baseline GPCD is calculated by dividing the volume of water into the system for each baseline year by the service area population in that year (as calculated by the DWR Population Tool). The 2015 SB X7-7 Verification tables located in Appendix H provide the data inputs for the baseline GPCDs.

To calculate the 2020 Water Use Target, the *Target Method 1 – 80 percent of Baseline* methodology was selected in the 2015 UWMP pursuant to Water Code Section 10608.20(b)(1). As shown in Submittal Table 5-1, 80% of the 10-year baseline of 260 GPCD is the 2020 Water Use Target of 208 GPCD.

5.3 2020 SERVICE AREA POPULATION

To correctly calculate the compliance year (2020) GPCD, the population served in 2020 was determined by using DWR's online Population Tool. The DWR Population Tool utilizes U.S. Census year (i.e., 1990, 2000, and 2010)[2] population data, electronic boundary maps of the District service area, and the number of residential meter connections (single-family and

[2] The U.S. Census 2020 decennial data was not available at the time of the 2020 UWMPs.

multifamily residential combined). The District has opted to use DWR's acceptable modification to the 2020 Population Tool estimate by using the 2015 persons-per-connection of 4.18 instead of the 2020 persons-per-connection of 4.10 to arrive at the 2020 population of 130,546 persons (as shown previously in Chapter 3, Table 3-1). See Appendix F for the Population Tool results.

5.4 2020 GROSS WATER USE

Gross water use is a measure of water that enters the distribution system of the Supplier over a 12-month period (calendar year) with certain allowable exclusions. These exclusions are:

- Recycled water delivered within the service area;
- Indirect recycled water;
- Water placed into long term storage (surface or groundwater);
- Water conveyed to another Supplier;
- Water delivered for agricultural use; or
- Process water.

Although JCSD wheels water to another Supplier, this water has not been included in the District's supply source volumes nor the consumption volumes or billing numbers in the baseline calculations or in the 2015 UWMP. Therefore, no exclusions to gross water use will be made for 2020 GPCD calculations.

Gross water use reported for the year 2020 was calculated using *Methodology 1: Gross Water* of the *Methodologies* document, consistent with the way the water use was calculated in the 2015 UWMP for the baseline periods. A 12-month calendar calculation period was used, the water distribution was delineated, and includes District-produced and purchased water. The "Supplier's own water source" for CY 2020 totals 11,796 AF and "a purchased or imported source" for CY 2020 totals 16,306 AF for a total annual gross water use of 28,102 AF (Appendix H, Table 4-A).

No deductions to gross water use were made for exported water, change in the distribution system storage, indirect recycled water, water delivered for agricultural use, or process water.

5.5 2020 COMPLIANCE DAILY PER CAPITA WATER USE (GPCD)

Based on the 2020 population estimate of 130,546 people and 2020 gross water use of 28,102 AF, JCSD's 2020 daily per capita water use is calculated as 192 GPCD as shown in **Submittal Table 5-2**.

Submittal Table 5-2: 2020 Compliance
From SB X7-7 2020 Compliance Form
Retail Supplier or Regional Alliance Only

2020 GPCD			2020 Confirmed Target GPCD*	Did Supplier Achieve Targeted Reduction for 2020? Y/N
Actual 2020 GPCD*	2020 TOTAL Adjustments*	Adjusted 2020 GPCD* *(Adjusted if applicable)*		
192	*0*	*-*	*208*	*Yes*

**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: Units in gallons per capita per day (GPCD).

Because the calculated 2020 Water Use Target was 208 GPCD, the District did achieve their 2020 Water Conservation Target and is compliant with SB X7-7, as shown in Submittal Table 5-2. Pursuant to Water Code Section 10608.24, the District may adjust the actual 2020 GPCD if factors outside the Supplier's control or if special situations occurred. JCSD has determined that no adjustments due to extraordinary events, weather normalization, or economics were warranted.

The complete calculations for the 2020 Water Use Target are located in the SB X7-7 2020 Compliance and Verification Forms located in Appendix H.

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CHAPTER 6 WATER SYSTEM CHARACTERIZATION

As of CY 2020, water supplied to the JCSD service area is entirely from groundwater production. JCSD obtains both potable and non-potable groundwater for use in its service area. All of the District's potable supply comes from the adjudicated portion of the Chino Groundwater Basin (Chino Basin), while the District's small non-potable supply comes from groundwater produced within the Chino Basin and the Riverside County portion of the Riverside-Arlington Basin (aka Riverside South Basin), which is also adjudicated. JCSD does not currently use imported water, surface water, storm water, or recycled water as part of its water supply.

In the future, the District plans to continue utilizing its rights and entitlements to existing groundwater supplies while also pursuing an additional potable water supply from an imported water source and distributing recycled water for non-potable uses.

6.1 PURCHASED OR IMPORTED WATER

6.1.1 Chino Desalter Authority

JCSD purchases treated potable groundwater supplies from CDA, which is a Joint Exercise of Powers Agency created in 2001 by JCSD, Santa Ana River Water Company, Inland Empire Utilities Agency, Western Municipal Water District (WMWD or Western), and the Cities of Chino, Chino Hills, Ontario, and Norco. Currently, CDA operates about 30 wells that pump brackish groundwater from the southern portion of the Chino Basin, two desalter facilities that treat the groundwater with reverse osmosis and ion exchange, a conveyance system to deliver treated water to its member agencies, and brine disposal. CDA is a wholesale supplier and each of the retail members of CDA have contractual "take or pay" commitments to purchase water produced by CDA. The stated goals of the CDA include:

- Achieve hydraulic control of the Chino Basin to prevent contaminated Chino Basin groundwater from entering the Santa Ana River;[1]

[1] Hydraulic control is achieved when groundwater discharge from the Chino-North Management Zone to the Santa Ana River is eliminated or reduced to de minimis levels (less than 1,000 AFY) by pumping at the CDA wells. Hydraulic Control is necessary to maximize the Safe Yield and to prevent degraded groundwater from discharging from the Chino Basin to the Santa Ana River. Four of the nine maximum-

- Reduce TDS (total dissolved solids) and remove contaminants, including nitrates, TCE, PCE, and TCP, from groundwater in the southern portion of the Chino Basin; and

- Deliver the treated water to member agencies to offset the need for imported water.

JCSD is currently entitled to 11,733 AF per year from CDA. As of CY 2020, JCSD received 11,414 AF from CDA. The District's supply obtained from CDA for the last five years are provided in **Table 6A.**

Table 6A Recorded CDA Deliveries (AF), 2016-2020

	2016	2017	2018	2019	2020
Volume (AF)	8,073	8,164	8,971	9,574	11,414

Note: JCSD's current entitlement is 11,733 AF per year.
Source: JCSD Water Operations Dept.
AF = acre-feet

CDA provides high-quality drinking water from two desalters (salt removers) that were anticipated to treat approximately 35,200 acre-feet per year (AFY) of Chino Basin groundwater in 2020 and thereafter. The Chino I Desalter, located at 6905 Kimball Avenue in Chino, was completed in 2000 and expanded in August 2005 to its current rated capacity of 15,906 AFY (14.2 million gallons per day [MGD]). However, the Chino I Desalter cannot provide this rated capacity due to the high concentrations of TDS in the raw water supply. Although Chino Desalter I capacity will not be increased, additional raw water capacity will be provided by five new wells in the Chino Creek Well Field. All five wells have been drilled and equipped. As of March 2021, Chino I Desalter produced 11.97 MGD.

The Chino II Desalter was completed in 2006 and is located at 11202 Harrel Street in the City of Jurupa Valley. The current rated capacity is 11,201 AFY (10 MGD) and permitted capacity is 16,802 AFY (15 MGD), including 5,600 AFY (5 MGD) raw water bypass. The Chino II Desalter is in the process of achieving their permitted capacity as a result of the construction of the South Archibald Plume Cleanup project. CDA is currently expanding the Chino II Desalter to a rated

benefit commitments of the Optimum Basin Management Plan are related to the Chino Desalters and Hydraulic Control. (WEI(d), Exhibit 3-4)

capacity of 25,427 AFY (22.7 mgd). As of March 2021, the Chino II Desalter produced 20.3 MGD.

During calendar year 2020, JCSD negotiated the purchase of Western's CDA supply totaling 3,446 AF.

6.1.2 Rubidoux Community Services District

From 2000 to the end of 2017, JCSD purchased treated groundwater from Rubidoux Community Services District (RCSD) as part of its potable supply. Purchases were stopped beginning January 1, 2018 due to water quality concerns.

An agreement was reached between the two agencies in 2014 to allow JCSD to pump potable water from RCSD into JCSD's 1110' pressure zone through the District's Jewel Street Booster Station. The agencies continue to maintain interties to allow water to flow both ways for sales/purchases or in an emergency. The purchases from RCSD over the past five years is provided in **Table 6B.**

Table 6B Recorded RCSD Deliveries (AF), 2016-2020

	2016	2017	2018	2019	2020
Volume (AF)	2,029	2,322	0	0	0

Source: JCSD Water Operations Dept.
AF = acre-feet

Potable water purchases from RCSD may begin again in the future, although contingent on the water quality concerns being addressed by RCSD.

6.1.3 Imported Water

JCSD does not currently use imported water supplies from the State Water Project.[2] The local distributor of imported water is Western, which is a member agency of The Metropolitan Water District of Southern California (MWD or Metropolitan) who is a State Water Project Contractor. Western can in-turn sell wholesale supplies of imported water that it purchases from Metropolitan to agencies within its service area. Because JCSD is within the Western service

[2] In this plan, the term "imported water" refers only to State Water Project water; it does not refer to any other sources.

area, the District could purchase water from Western in the future contingent on several factors including whether a physical pipeline connection can be made to obtain the water.

State Water Project water comes from Northern California in the Sacramento/San Joaquin Delta. As a State Water Project Contractor, Metropolitan receives an annual allocation that changes each year depending on several factors, including rainfall/snowpack, biological constraints, and various ongoing regulations. Refer to Section 6.2.8 – Future Water Projects.

6.2 GROUNDWATER

The District uses groundwater from the Chino Basin (DWR Bulletin 118 Basin No. 8-002.01) and the Riverside County portion of the Riverside-Arlington Basin (No. 8-002.03) (aka Riverside South Basin). Both are subbasins to the Upper Santa Ana Valley Groundwater Basin (No. 8.2).[3] The Chino Basin is the direct source of groundwater for JCSD, supplying all of the District's potable wells, in addition to CDA's wells. The use of groundwater from the Riverside South Basin is limited to non-potable wells used for irrigation purposes. The groundwater basins in proximity to the District's service area are shown in **Figure 6-1 – Groundwater Basins** (all figures are located at the end of the chapter).

As described in Chapter 3, JCSD currently has 18 active groundwater wells in the Chino Basin, which operate as demand changes. As of August 2020, the District wells have a production rate of 33,090 gallons per minute (gpm) and ultimate well capacity is currently anticipated to be approximately 40,000 gpm (WEBB(a) p. 4-6). JCSD operates two ion-exchange plants to denitrify water from several wells. The Teagarden Ion-Exchange Plant removes nitrates from seven potable wells and the Well 17/18 Ion-Exchange Facility removes nitrates from Wells 17 and 18. Detailed information on the District's water distribution facilities is available in the *2020 JCSD Water Master Plan* (WEBB(a)), which is located on the JCSD Web site, www.jcsd.us.

As described in Section 3.2.3, JCSD maintains five non-potable wells located in the Chino Basin and two non-potable wells in the Riverside South Basin. These wells supply water only for landscape irrigation.

[3] Basin numbering from DWR Bulletin 118. DWR collects, summarizes, and evaluates groundwater data in the "Bulletin 118" series, which defines the boundaries of California's 515 alluvial groundwater basins. Each basin and subbasin is assigned a number code.

6.2.1 Chino Groundwater Basin Description

The Chino Groundwater Basin is one of the largest groundwater basins in Southern California, encompassing approximately 230 square miles of the upper Santa Ana River Watershed. The basin is bounded by the Cucamonga Basin and the San Gabriel Mountains to the north; the Rialto-Colton Basin to the northeast; the chain of Jurupa, Pedley, and La Sierra Hills to the southeast and south; the Temescal Basin to the south; the Chino and Puente Hills to the southwest; the Spadra Basin, San Jose Hills and the Six Basins to the northwest. The Chino Basin lies within the Counties of Los Angeles, Riverside, and San Bernardino and it includes the Cities of Chino, Chino Hills, Eastvale, Fontana, Jurupa Valley, Montclair, Ontario, Pomona, Rancho Cucamonga, and Upland. (WEI(a), p. 1-1)

As of July 1, 2018, the Chino Basin has an estimated 12.6 million AF of total water in storage and an unused storage capacity of approximately 1 million AF (WEI(a), p. 6-15). This large alluvial groundwater basin formed from the eroded sediments of the San Gabriel Mountains, the Chino Hills, Puente Hills, and the San Bernardino Mountains to fill a structural depression. The water-bearing units in the Chino Basin include the Older Alluvium of Pleistocene and Younger Alluvium of Holocene age. (WEI(g), 2003)

Older Alluvium is exposed mainly in the northern part of the Chino Basin and supplies most of the water to wells. It varies in thickness from about 200 feet near the southwestern end of the Chino Basin to over 1,100 feet southwest of Fontana. Pumping capacities of wells completed in the Older Alluvium generally range between 500 and 1,500 gallons per minute (gpm). Capacities exceeding 1,000 gpm are common, with some modern production wells test-pumped at over 4,000 gpm (e.g., southeastern Ontario). In the southern part of the basin where sediments tend to be more clayey, wells generally yield less than 1,000 gpm. (WEI(a), p. 2-3)

While still considered a single basin for hydrologic and legal purposes, the Chino Basin is subdivided into five separate groundwater-flow systems called management zones (MZ), which are shown in **Figure 6-2 – Chino Basin Management Zones**. Each management zone has a unique hydrology, and water resource management activities that occur in one management zone have limited impact on the other management zones. Nearing the southwestern (lowest) part of the basin however, the zones become less distinct as they converge and rise beneath the Prado Basin. Many parties including farmers, overlying industries, cities, and other water

supply entities produce groundwater from the Chino Basin. A discussion of water quality constraints for the Chino Basin is located in Chapter 7.

Chino Basin Management

Water rights to the Chino Basin were adjudicated by the Superior Court of the State of California for the County of San Bernardino on January 27, 1978 (a copy of the Stipulated Judgment and amendments thereto are located in **Appendix I**). The principal function of the Judgment is to control the use of the water source in order to ensure the source is utilized in an optimum manner. Prior to the 1978 adjudication, the Judgment found that the Chino Basin was operating in a continuous state of overdraft. The provisions of the Judgment and the monitoring of the basin are carried out by the court-appointed Chino Basin Watermaster (Watermaster or CBWM). Parties to the Judgment are grouped into three "pools" consisting of the Overlying Agricultural Pool, the Overlying Non-Agricultural Pool, and the Appropriative Pool. JCSD is a member of the Appropriative Pool and therefore has adjudicated production rights to the Chino Basin groundwater. As shown in the Watermaster's *2020/2021 Assessment Package (for Production Year 2019*/2020), the District's annual production right is currently 19,547.9 AF with an additional 31,861.3 AF in storage (CBWM, pp. 10.1, 11.1). Because the Chino Basin and the Riverside-Arlington Basin are adjudicated, groundwater sustainability plans prepared by a groundwater sustainability agency pursuant to the Sustainable Groundwater Management Act of 2014 (SGMA) are not required for these basins.

The 1978 Judgment included a Safe Yield[4] of 140,000 AFY, an allocation of pumping rights among the Parties to the Judgment, and a physical solution that, among other things, requires the Watermaster to offset pumping that occurs in excess of pumping rights. The Safe Yield was reduced to 135,000 AFY for the period of 2015 through 2020. In July 2020, the court ordered that the safe yield be reduced by 3% and reset to 131,000 AFY for the period of July 1, 2020 to June 30, 2030. The Judgment allows parties to pump in excess of their allotted right but must pay a replenishment assessment to the Watermaster to cover the cost to replenish any overdraft caused by the excess pumping. The Watermaster files an annual

[4] Judgment (1978) defines Safe Yield as, "The long-term average annual quantity of groundwater (excluding replenishment or stored water but including return flow to the Basin from use of replenishment or stored water), which can be produced from the basin under cultural conditions of a particular year without causing an undesirable result."

report to the court that addresses pumping and replenishment.[5] Further, the Watermaster files an annual report to DWR pursuant to the Sustainable Groundwater Management Act of 2014 (SGMA) that is required of adjudicated basins. This documents groundwater elevations, extractions, supplies available for recharge, total water use, change in groundwater storage, and the Watermaster's annual report submitted to the court (Water Code Section 10720.8(f)).

Subject to certain localized physical limitations, reductions in Safe Yield with or without augmenting basin management measures affects the cost of groundwater production rather than the reliability of groundwater supplies. The Judgment evinces a clear expectation that parties, including JCSD would produce water in excess of their adjudicated production rights; provided, they pay a replenishment assessment. Therefore, JCSD's ability to produce water from the Basin is thus largely a matter of cost. Water produced in excess of production rights will cost more than water produced within a party's production rights. Thus, the quantity and reliability of water supplies is a matter of cost of the water produced from the Basin rather than limitations on JCSD's access to groundwater supply.

The Chino Basin Watermaster, at the direction of the court, developed the Optimum Basin Management Program (OBMP) as the central planning document for managing the basin. The Peace Agreement was subsequently reached in order to implement the OBMP. The OBMP was updated in 2020 and includes a 2020 Storage Management Plan. The OBMP includes nine program elements (PE) to coordinate stakeholder activities to achieve the management goals, as follows:

- PE 1 – Develop and Implement Comprehensive Monitoring Program.
- PE 2 – Develop and Implement Comprehensive Recharge Program.
- PE 3 – Develop and Implement a Water Supply Plan for Impaired Areas.
- PE 4 – Develop and Implement Comprehensive Groundwater Management Plan for Management Zone 1.
- PE 5 – Develop and Implement Regional Supplemental Water Program.

[5] All Chino Basin Watermaster reports and documents are available at www.cbwm.org.

- PE 6 – Develop and Implement Cooperative Programs with the Regional Board and Other Agencies to Improve Basin Management.
- PE 7 – Develop and Implement Salt Management Plan.
- PE 8 – Develop and Implement Groundwater Storage Management Program.
- PE 9 – Develop and Implement Storage and Recovery Programs.

As part of the OBMP, the Watermaster has a groundwater management program comprised of approximately 1,000 wells. This program measures both groundwater quantity and quality throughout the Chino Basin and can be used to monitor groundwater pumping and to identify pollution sources and problems.

To achieve the goal of PE 3 (*Develop and Implement a Water Supply Plan for Impaired Areas)*, municipal groundwater production would need to reach approximately 40,000 AFY in the southern part of the basin. This would replace the decreased agricultural pumping (as the area converts from agricultural to urban uses) and keep groundwater levels from rising and discharging to the Santa Ana River. The potential consequences would be the loss of Safe Yield and the outflow of groundwater with high-TDS and high-nitrate concentrations from the Chino Basin to the Santa Ana River; the latter of which could impair downstream beneficial uses in Orange County. Therefore, the Chino Basin Desalters discussed in Section 6.1 were proposed to maintain and enhance Safe Yield, to pump and treat high salinity groundwater (PE 7), to meet growing municipal demands (PE 5) and to protect beneficial uses of the Santa Ana River. (WEI(b), p. 28)

Beginning September 30, 2011, Metropolitan's delivery of State Water Project water for replenishment of the Chino Basin ended; therefore, two primary sources of recharge are currently pursued by the Watermaster on behalf of the Parties to the Judgment: stormwater recharge and recycled water from wastewater treatment plants.

6.2.2 Riverside Groundwater Basin Description

Some of JCSD's non-potable water supply comes from the Riverside-Arlington Sub-basin (DWR Bulletin 118 Basin No. 8-002.03, aka "Riverside Basin"), which is part of the Upper Santa

Ana Valley Groundwater Basin (No. 8.2). The Riverside County portion of the Riverside Basin is referred to as Riverside South Basin for the purposes of its adjudication and is the focus of the discussion herein (Figure 6-1).

The Riverside Basin encompasses a surface area of 58,600 acres (92 square miles) within portions of Riverside and San Bernardino Counties. The Riverside Basin underlies part of the Santa Ana River Watershed and is bounded by impermeable rocks of Box Springs Mountains to the southeast, Arlington Mountain to the south, La Sierra Heights and Mount Rubidoux to the northwest, and the Jurupa Mountains to the north. (K&S, p. 5-2)

Riverside Basin Management

The Riverside Basin is adjudicated by two Judgments; first, the Judgment in Case No. 117628, Orange County Water District vs. City of Chino, et al., entered April 17, 1969 ("Orange County Judgment"), which is provided in **Appendix J**. Second, the pumping rights to the San Bernardino, Colton, and Riverside Groundwater Basins are set forth in the Judgment in Case No. 78426-County of Riverside, Western Municipal Water District of Riverside County et al., v. East San Bernardino County Water District et al., entered April 17, 1969 ("Western-San Bernardino Judgment"). A copy of the Western-San Bernardino Judgment is provided in **Appendix K** and will be the focus of the remainder of this section. The Western-San Bernardino Judgment provides a physical solution that establishes the entitlements and obligations of the two major water districts overlying said basins, namely San Bernardino Valley Municipal Water District (Valley District) and Western. The court appointed a Watermaster, composed of one person nominated from Valley District and one person nominated from Western to administer and enforce all instruction and orders of the court ("Western-San Bernardino Watermaster"). (WSBW, pp. 1, 5)

The Riverside Basin is bounded by the Rialto-Colton fault to the north, Arlington Basin to the south, Box Spring Mountains to the east, and Chino Basin to the west. The Riverside basin is an alluvial fill, unconfined basin (WSC, p. 7-4). Compliance with the Judgment requires an annual accounting of groundwater and surface water flows and diversions within the various basins in order that the Watermaster may properly report to the court the comparisons of the year-by-year operations with the verified entitlements, and an accounting as to the replenishment obligations or credits indicated by such comparison. (WSBW, p. 5)

Section IX(b) of the Judgment, below, describes the aggregate pumping limit:

> *Over any five year period, there may be extracted from such Basin Area, without replenishment obligation, an amount equal to five times such annual average for the Basin Area; provided, however, that if extractions in any year exceed such average by more than 30 percent, Western* [Municipal Water District] *shall provide replenishment in the following year equal to the excess extractions over such 20 percent peaking allowance.*

The Judgment does not specify the volume of water in the Riverside Basin that the District can extract or is limited to. The base period average production in the Riverside South Basin was 29,633 and this is the base right for use in the basin.[6] If annual production exceeds 20% of this average, or if a five-year period production exceeds five times the amount of 29,633 AF, then Western shall provide replenishment. Pumping in the Riverside Basin has not exceeded the base right since the Judgment was entered into. Because the Judgment allows under-extractions to count as credits and over-extractions to count as obligations, Western has a credit of 544,221 AF as of 2019 that can be used to offset future obligations (WSBW, p. 119). In the event Western is required to provide replenishment water to the Riverside Basin because aggregate pumping exceeded the aggregate pumping limit and no credits were available to offset the obligation, then the District may be responsible for some of the cost of that replenishment, along with other users.

6.2.3 Recorded Groundwater Pumping and Sufficiency of Supply

The total annual groundwater produced by JCSD from 2016-2020 are provided in **Submittal Table 6-1** (next page)**.** Sufficient water supplies have been available from both basins to meet JCSD's needs over the past five years.

[6] Measured as the average extractions from 1959 – 1963 (WSBW, p. 86).

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 - potable (No. 8-2.01)	10,715	12,905	14,829	13,720	11,029
Alluvial Basin	Chino Basin - non-potable (No. 8-2.01)	233	253	304	255	276
Alluvial Basin	Riverside Basin - non-potable (No. 8-2.03)	473	503	516	492	491
	TOTAL	11,421	13,661	15,649	14,467	11,796
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: CY data. Units in acre-feet (AF). Includes groundwater produced by the District. Purchased groundwater produced by others is not included here.						

An adjudicated water right has perhaps the most substantial indicia of reliability of any water right that currently exists in California. An adjudicated right is based upon long-term studies whose purpose it is to protect the long-term functionality of the water source. These rights are coordinated in an established and binding manner with all the other users of the basin and are overseen by a Watermaster which has the authority to mandate and proscribe activities whose purpose is to protect the water source and maximize its long-term beneficial use.

JCSD's legal right to pump water in an amount necessary to meet all demands as sanctioned and protected by the Chino Basin Judgment as discussed above, is buttressed by several programs and projects, including the OBMP, that are directed at ensuring the sufficiency of groundwater supplies from the Chino Basin, particularly during dry years. The sufficiency of the Chino Basin groundwater supply that is available to JCSD is assured due to the abundance of groundwater in the central and southern portion of the Chino Basin, OBMP objectives that prioritize and assure production from the southern Chino Basin coupled with desalting and ion-exchange treatment facilities that enable the use of this abundant supply for municipal (potable) purposes. As indicated previously, southern basin production where JCSD is partially located, is the linchpin of several critical OBMP objectives. Thus, the sufficiency of groundwater is heightened and prioritized by the necessity of continued pumping from the

southern Chino Basin under the OBMP which is administered by the Watermaster and ultimately validated and enforced by continuing Court oversight.

In regard to the sufficiency of the Riverside South Basin, the Western-San Bernardino Watermaster has documented in its *Annual Report for Calendar Year 2020*, "during the five-year period 2015 through 2019, Plaintiffs did not exceed the allowable extractions and that Western [Municipal Water District] credits exceed obligations and therefore is not required to provide replenishment (WSBW, p. iii)."

6.3 SURFACE WATER

JCSD does not use surface water as part of its supply, nor does it have plans to expand supply sources by using surface water.

There are three major creeks that flow through the District's service area; Day Creek, San Sevaine Creek, and Cucamonga Creek which drain from the San Gabriel mountains north of the District to the Santa Ana River along the southern boundary of the District. These waterways are concrete-lined and heavily managed by other entities and not a part of JCSD's activities. Surface water quantity and quality is managed and monitored throughout the Chino Basin as a component of the OBMP. The Watermaster and Inland Empire Utilities Agency (IEUA) continually measure the quantity of storm water and supplemental water entering the recharge basins.

6.4 STORMWATER

JCSD does not have the authority to manage storm water intentionally to divert for beneficial use, but there are other entities in the Chino Basin that are performing this task for the benefit of the region.

Communities are increasingly implementing opportunities to beneficially use storm water to meet local water supply demands. Groundwater recharge with storm water capture and infiltration (or spreading/recharge) basins is an integral part of the Chino Basin Watermaster's OBMP efforts to increase supply and improve groundwater quality ("Program Element 2"). The Watermaster and IEUA are continuing to implement the *2013 Amendment to the 2010 Recharge Master Plan Update*, the goal of which is to increase the basin's sustainability and

decrease reliance on imported water. In FY 2019/2020, progress was made by the Watermaster on several projects to increase stormwater diversion and storage in Lower Day Basin (9,104 acre-feet) and Wineville/Jurupa/RP3 Basins (17,982 acre-feet). (CBWM(b), p.8) Further, the Chino Basin *2018 Recharge Master Plan Update* documents that the Watermaster has sufficient recharge capacity as of FY 2018/2019 to meet expected future replenishment obligations through 2050 (WEI(c), p. iii)

6.5 WASTEWATER AND RECYCLED WATER

JCSD is the responsible agency for collecting and conveying the municipal wastewater generated within its service area to two regional wastewater treatment plants and one brine waste disposal pipeline:

- City of Riverside Regional Water Quality Control Plant (RWQCP);
- Western Riverside County Regional Wastewater Authority's Wastewater Treatment Plant (WRCRWA); and
- Orange County Sanitation District via the Inland Empire Brine Line (IEBL).

Recycled water is currently produced and distributed from the RWQCP. Recycled water will become available from the WRCRWA facility in the near future. Although entitled to recycled water produced from its share of wastewater flows to both of these treatment plants, JCSD currently does not use or distribute recycled water. As discussed herein, the District is in the process of designing a recycled water system. Additional detail on the District's wastewater system is available in the JCSD *2020 Wastewater Master Plan* located at www.JCSD.us.

6.5.1 Recycled Water Coordination

JCSD is actively working to provide its customers recycled water in the future. Utilizing recycled water for irrigation and other non-potable purposes will allow the District to more efficiently allocate its potable water supply and increase the overall reliability of water supplies in the service area.

Recycled water is currently produced and distributed from the City of Riverside RWQCP for use in several locations in the City of Riverside. JCSD is entitled to the recycled water

produced from its share of wastewater flows to the RWQCP; however, the District does not have a connection or an agreement with the City of Riverside to access this supply for use and distribution in its service area.

Recycled water will soon be produced and available from the WRCRWA facility. In 2015, IEUA submitted a Clean Water State Revolving Fund (SRF) loan application to the State Water Board on behalf of IEUA and the District, for the *Joint IEUA-JCSD Regional Water Recycling Program*, including a District-only Recycled Water Service Expansion project. In addition, JCSD has received funding agreements with the State Water Board and Riverside County Flood Control and Water Conservation District.

The Recycled Water Service Expansion project would convey recycled water from the WRCRWA facility to irrigating parks, playgrounds, and other landscaped areas in Eastvale and JCSD's non-potable lines "Area B" in Jurupa Valley (Clean Water State Revolving Fund Project No. 8167-110). Funding from the State is based on a performance requirement to deliver 500 AFY for irrigation; however, the District estimates 660 AFY of demand will be met with the initial system. Design of the system is underway, and construction is estimated to begin in 2022. This project would convert the irrigation currently being used in said areas from potable water to recycled water. JCSD is actively working on securing grants and the SRF loans to fund the project from the following agencies: State Water Resources Control Board, Riverside County Flood Control District, and U.S. Bureau of Reclamation. The finalization of grants and loans will be completed by summer 2021 and presented to the JCSD Board of Directors when available.

This project aims to overcome several challenges to bringing recycled water to the District. One challenge is that most of the demands for this supply are at a higher elevation than the treatment plants where the recycled water is produced, requiring great energy and infrastructure to move the treated water uphill for use. Another challenge is the limited existing infrastructure available to distribute the water; as mentioned in Chapter 3 the District's recycled water system is limited at this time to the "Area B Non-Potable System." Further, the places where recycled water can be used may not be contiguous, thus increasing cost to reach scattered places to irrigate. The primary constraint at this time to delivering recycled water is the cost to do so is so much higher than the cost to utilize the District's other supply sources.

6.5.2 Wastewater Collection, Treatment, and Disposal

JCSD's sewer system is centered on the regional approach to treatment as a cost-effective way to treat wastewater. Currently the District has 10 sewage lift stations, 3 inverted siphons, and 11 diversion structures. JCSD owns approximately 376 miles of gravity pipelines and 8 miles of force mains (WEBB(d), p. ES-4).

As shown on **Figure 6-3 – JCSD Wastewater Tributary Areas**, wastewater generated in the easterly half of the District is tributary to the City of Riverside RWQCP, which is located outside of the District boundary and discharges advanced-treated effluent to the Santa Ana River and distributes recycled water for beneficial use by the City of Riverside outside of the District boundary. JCSD does not have a connection or agreement with the City of Riverside for recycled water supplies.

The north-central area of the District is largely industrial and wastewater generated there is tributary to the Inland Empire Brine Line, which is a regional brine waste disposal pipeline owned and maintained by the Santa Ana Watershed Project Authority (SAWPA, www.sawpa.org). The IEBL starts in the upper Santa Ana River Watershed and terminates at Orange County Sanitation District's Fountain Valley plant for treatment and discharge to the Pacific Ocean. Because brine waste is highly saline containing industrial wastes, potential for re-use is not possible.

The westerly half of the District is tributary to the WRCRWA treatment plant, which is located within the JCSD service area. Tertiary-treated effluent is discharged to the Santa Ana River along the District's southern boundary. WRCRWA is a joint powers authority (JPA) consisting of the cities of Norco and Corona, JCSD, Home Gardens Sanitary District, and Western. Western is the plant's operator. A recent Change of Use Order has been granted and the WRCRWA treatment plant will soon produce recycled water for beneficial use. As a member of the JPA, JCSD will be entitled to the recycled water generated from its share of wastewater flows to the plant. Current and projected wastewater flows and operating details for each treatment plant are provided in **Table 6C.**

Table 6C - Wastewater Treatment Facilities Treating Flows from JCSD

	City of Riverside Regional Water Quality Control Plant (RWQCP)	Western Riverside County Regional Wastewater Authority Treatment Plant (WRCRWA)	Inland Empire Brine Line (IEBL)
Percentage of JCSD Area Served[1]	41%	38%	13%
Treatment and Discharge Within JCSD?	No	Yes	No
Plant Operator	City of Riverside	Western Municipal Water District	Santa Ana Watershed Project Authority
Treatment Services Provided	Primary, secondary, and tertiary treatment. Meets all Title 22 requirements for recycled water and distributes recycled water within the City of Riverside.	Primary, secondary, and tertiary treatment. Meets all Title 22 requirements for recycled water.	Conveys brine waste from upper Santa Ana River Watershed sources to treatment at Orange County Sanitation District (OCSD) and discharge to Pacific Ocean.
2020 Average Flows from JCSD (MGD)[2]	2.9	4.6	0.8
JCSD Capacity Right (MGD)	4 MGD (until 2030) 5 MGD (after 2030)	6 MGD	3.493 MGD (IEBL) 1.155 MGD (OCSD)
JCSD Projected Buildout Contribution (MGD)	4.74	5.22	1.32
Current Maximum Permitted Capacity (MGD)	46	14	17[3]

Source: JCSD *2020 Wastewater Master Plan (Draft)* (WEBB(d)), pp. 4-2, 4-20, 5-32.
MGD = million gallons per day.
(1) Jurupa Mountains currently limit the wastewater service area to approximately 92% of the District.
(2) Flows from JCSD tributary areas to each treatment facility. Based on highest flow value from 12-month running average from January 2020 to December 2020.
(3) Source: SAWPA Staff, 05/06/2021.

In CY 2020, the District contributed wastewater in the amounts of 5,134 AF to WRCRWA, 3,241 AF to RWQCP and 939 AF to the IEBL, as shown in **Submittal Table 6-2.**

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.					
92%	Percentage of 2020 service area covered by wastewater collection system *(optional)*					
	Percentage of 2020 service area population covered by wastewater collection system *(optional)*					
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? *Drop Down List*	Volume of Wastewater Collected from UWMP Service Area 2020 *	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? *Drop Down List*	Is WWTP Operation Contracted to a Third Party? *(optional)* *Drop Down List*
JCSD	Metered	5,134	Western Riverside County Regional Wastewater Authority (WRCRWA)	Western Riverside County Regional Wastewater Authority Treatment Plant	Yes	Yes
JCSD	Metered	3,241	City of Riverside	Regional Water Quality Control Plant	No	No
JCSD	Metered	939	Santa Ana Watershed Project Authority	Orange County Sanitation District	No	Yes
Total Wastewater Collected from Service Area in 2020:		9,314				
**** Units of measure (AF, CCF, MG)*** *must remain consistent throughout the UWMP as reported in Table 2-3* **.**						
NOTES: CY2020, volume in AF. Brine waste to Orange County Sanitation District is non-reclaimable. City of Riverside treatment plant is on the border of the District service area. Source: JCSD Sewer System Total Flow Summary.						

As of CY 2020, WRCRWA treated and discharge approximately 9,100 AF of wastewater from all sources. In addition, the RWQCP in 2020 treated and discharged approximately 28,000 AF of wastewater from all sources, and produced 185 AF of recycled water, as shown in **Submittal Table 6-3** (next page).

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?	Treatment Level *Drop down list*	2020 volumes [1]				
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area [3]	Recycled Outside of Service Area	Instream Flow Permit Requirement
Western Riverside County Regional Wastewater Authority Treatment Plant	Santa Ana River	Santa Ana River		River or creek outfall	Yes	Tertiary	9,100	9,100	0	0	0
Regional Water Quality Control Plant	Santa Ana River	Santa Ana River		River or creek outfall	Yes	Advanced	28,340	27,981	0	185	25,000
						Total	37,440	37,081	0	185	25,000

[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: Santa Ana River is located along most of the southerly boundary of the District. Sources: (1) RWQCP treated/discharged/recycled flows from "2020 Annual Report, NPDES No. CA0205350, for the City of Riverside's Regional Water Quality Control Plant", (2) Instream flow permit requirement from "Update of the Integrated Master Plan for the Wastewater Collection and Treatment Facilities" (Carollo, Jan. 2020); (3) WRCRWA treated/discharged flows from personal communication with Ddaze Phuong, Sr. Operations Technician I, Western Municipal Water District 04/01/2021.

6.5.3 Recycled Water System Description

JCSD does not operate nor participate in a recycled water system at this time. However, as mentioned previously, recycled water will soon be produced and available from the WRCRWA facility. JCSD is in the process of securing funding and preparing design drawings to construct a system that would convey recycled water from the WRCRWA facility to irrigating parks, playgrounds, and other landscaped areas in Eastvale and JCSD's non-potable "Area B" pipelines in Jurupa Valley (Clean Water State Revolving Fund Project No. 8167-110). Funding from the State is based on a performance requirement to deliver 500 AFY for irrigation; however, the District estimates 660 AFY of demand will be met with the initial system. Design of the system is underway, and construction is estimated to begin in 2022. This project would convert the irrigation currently being used in said areas from potable water to recycled water.

6.5.4 Potential, Current, and Projected Recycled Water Uses

JCSD currently does not put recycled water to beneficial use. The definition of recycled water includes the term "direct beneficial use", which is defined in CCR, Title 22, §60301.200 as "the use of recycled water that has been transported from the point of treatment or production to the point of use without an intervening discharge to waters of the State." In the future as recycled water use becomes a reality for JCSD, beneficial uses could include:

- Landscape irrigation (excluding golf courses);
- Golf course irrigation;
- Commercial use;
- Industrial use; and
- Groundwater recharge.

Future recycled water supplies are expected to come online for beneficial use by 2022 (WEBB(e)), as shown in **Submittal Table 6-4**. At such time that recycled water becomes part of JCSD's supply portfolio, the District expects to see an equal decrease in potable water that was previously used for irrigation purposes.

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:	Western Riverside County Regional Wastewater Authority (WRCRWA)
Name of Supplier Operating the Recycled Water Distribution System:	Jurupa Community Services District
Supplemental Water Added in 2020 (volume) *Include units*	0
Source of 2020 Supplemental Water	0

Beneficial Use Type *Insert additional rows if needed.*	**Potential** Beneficial Uses of Recycled Water (Describe)	Amount of **Potential** Uses of Recycled Water (Quantity) *Include volume units*[1]	General Description of 2020 Uses	Level of Treatment *Drop down list*	2020[1]	2025[1]	2030[1]	2035[1]	2040[1]	2045[1] (opt)
Agricultural irrigation										
Landscape irrigation (exc golf courses)	JCSD parks, city community center, school fields, median landscaping in road rights-of-way.	626 AF	No recycled water use in 2020	Tertiary	0	660	660	660	660	660
Golf course irrigation										
Commercial use										
Industrial use										
Geothermal and other energy production										
Seawater intrusion barrier										
Recreational impoundment										
Wetlands or wildlife habitat										
Groundwater recharge (IPR)										
Reservoir water augmentation (IPR)										
Direct potable reuse										
Other (Description Required)										
				Total:	0	660	660	660	660	660
				2020 Internal Reuse						

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

NOTES: Volumes in acre-feet (AF). Source: Technical Memorandum - Non-Potable Water Scoping Study - 500 AFY option (Jan. 21, 2021).

The 2020 UWMP must describe the actual use of recycled water compared to predictions of recycled water use made in the 2015 UWMP, which is provided in **Submittal Table 6-5**. Table

6-4 of the District's 2015 UWMP projected that up to 500 AF per year of recycled water would be available from the WRCRWA plant for JCSD irrigation purposes. Work is still ongoing to achieve this goal and recycled water is expected for JCSD by 2022.

Submittal Table 6-5 Retail: 2015 UWMP Recycled Water Use Projection Compared to 2020 Actual		
☐	Recycled water was not used in 2015 nor projected for use in 2020. The supplier will not complete the table below. If recycled water was not used in 2020, and was not predicted to be in 2015, then check the box and do not complete the table.	
Beneficial Use Type	**2015 Projection for 2020 [1]**	**2020 Actual Use [1]**
Insert additional rows as needed.		
Agricultural irrigation		
Landscape irrigation (exc golf courses)	500	0
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Reservoir water augmentation (IPR)		
Direct potable reuse		
Other (Description Required)		
Total	500	0
[1] **Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.		
NOTE: From Table 6-4 of the 2015 UWMP		

6.5.5 Actions to Encourage and Optimize Future Recycled Water Use

For more than 10 years, JCSD has been involved with public outreach and coordinating with local entities, local water agencies, regional wastewater agencies, and other planning agencies to discuss the feasibility of using recycled water in lieu of potable or non-potable groundwater that is currently used for irrigation. In this Plan, it is projected that recycled water use will come online and distributed by the District by the next UWMP cycle. However, regional planning and coordination effort will continue to the extent possible as other opportunities develop to take advantage of the recycled water supply to which the District is entitled and put it to beneficial use. Funding availability, securing grant funding, and financial incentives are among the factors

that will play a big role in the future implementation of recommended recycled water projects. The District will weigh the cost-effectiveness of recycled water projects and the current unit cost of producing or purchasing potable and non-potable groundwater. State and federal funding, if available, could offset the cost imposed during project construction which typically makes the project cost prohibitive. Obtaining funding can also help build community support for a project because it results in reduced taxpayer contribution.

As shown previously in Submittal Table 6-2, the District sent approximately 5,134 AF of wastewater for treatment at the WRCRWA treatment plant during CY 2020. An annual amount of recycled water of this volume would be a significant offset of potable water use in the District. As described earlier, JCSD has completed studies to identify both existing and future potential non-potable demands that could be potentially supplied by non-potable sources, thus, freeing up potable supplies currently used to meet portion of irrigation demands.

The expected increase in recycled water (and subsequent decrease in potable and non-potable water demand) by the District's current recycled water project is provided in **Submittal Table 6-6.**

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.		
	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			
JCSD Recycled Water Project (CWSRF Project No. 8167-110)	To convert 660 AFY recycled water for irrigating parks, playgrounds, and other landscaped areas in JCSD boundary.	2022	660
		Total	660
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*			
NOTES: Units in acre-feet (AF)			

6.6 DESALINATED WATER OPPORTUNITIES

The District does not desalinate water (remove salts) but may do so in the future. JCSD currently obtains desalinated water from CDA (refer to Section 6.1.1). CDA owns and operates two desalters, Chino I and Chino II, for the benefit of its member agencies, including JCSD. The desalters treat brackish, or very salty, groundwater from the Chino Basin where there are elevated concentrations of nitrate and TDS resulting from historic dairy and agricultural activities. CDA is a wholesale water supplier and will prepare a 2020 UWMP that describes its production and facilities, which is available at www.chinodesalter.org.

6.7 WATER EXCHANGES AND TRANSFERS

Pursuant to a long-term agreement, JCSD transfers Santa Ana River Water Company's allotment from CDA and delivers it to the Santa Ana River Water Company. If the Santa Ana River Water Company does not use all of its allotment, then the difference stays in JCSD's system. On the other hand, if the Santa Ana River Water Company needs more than its allotment from CDA, then JCSD will sell that water to them pursuant to their agreement.

JCSD participates in a conjunctive use program called the Dry Year Yield (DYY) Program. The DYY Program is a cooperative conjunctive use effort involving Metropolitan, IEUA, Chino Basin Watermaster, Three Valleys Municipal Water District, and Chino Basin groundwater producers including the City of Ontario.[7] Under this Program, Metropolitan is allowed to store up to 100,000 AF per year of water in the Chino Basin when surplus water is available during wet years, and to reduce imported water deliveries up to 33,000 AF per year during dry, drought, or emergency periods. The DYY program provides Metropolitan the right to store groundwater in the basin, as a hedge against drought, in exchange for paying the costs of developing the facilities that deliver that water.

JCSD entered into a Local Agency Agreement on January 12, 2004 with the City of Ontario because Ontario has a direct connection with imported water from Metropolitan at the Water Facilities Authority Treatment Plant in Upland. When Metropolitan makes a "call" for its stored water, the participating agencies will produce up to 33,000 AF per year (i.e., the dry year yield)

[7] Information on the Dry Year Yield Program is available at the Chino Basin Watermaster Web site, http://cbwm.org/rep_engineering.htm.

from Metropolitan's "storage account" in the Chino Basin. In exchange, Metropolitan will provide agencies an operation and maintenance credit per acre-foot for the cost of pumping. During "wet years" or "non-call" years, Ontario will increase Metropolitan deliveries, which JCSD will purchase from Ontario and becomes part of JCSD's supply in the form of Ontario's portion of CDA water. Up to 2,000 AF over 12 months is expected. During a "call year," Ontario will stop deliveries to JCSD to meet the performance requirements of the program. During a "call year," JCSD will stop receiving Ontario's portion of CDA water and return to District well supply to meet demand.

According to the Watermaster's *Fiscal Year 2019-2020 43rd Annual Report*: "The DYY program is currently the only Storage and Recovery Program that is being implemented in the Chino Basin. Following years of drought, Metropolitan has been accumulating water in the storage account since 2017. By December 31, 2019, the volume of groundwater in the DYY program account was 49,510 acre-feet" (CBWM(b), p. 4).

6.8 FUTURE WATER PROJECTS

Future water supply projects or programs that will have a quantifiable increase in JCSD's water supply and can reasonably be expected to be implemented within the 20-year time frame of the UWMP are summarized in **Submittal Table 6-7** (next page)**.** Narrative descriptions of each project (or group of projects) follow in timeline order after the table.

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	Planned for Use in Year Type	Expected Increase in Water Supply to Supplier*
	Drop Down List (y/n)	*If Yes, Supplier Name*				
Add additional rows as needed						
Well 13	No		Add ion-exchange to bring well back online.	2021	All Year Types	2,500
Well 17	No		Add ion-exchange to bring well back online.	2021	All Year Types	2,500
JCSD Recycled Water Project (CWSRF Project No. 8167-110)	Yes	Western Riverside County Regional Wastewater Authority (WRCRWA)	New recycled water supply for irrigating parks, playgrounds, and other landscaped areas in Eastvale and Area B in Jurupa Valley.	2023	All Year Types	660
La Sierra Pipeline Connection	Yes	Western Municipal Water District	Bring imported water from MWD's Henry J. Mills Water Treatment Plant through WMWD's La Sierra Pipeline through the Sterling Pump Station, under the Santa Ana River to CDA.	2024	Average Year	4,000
Well 30	No		Supply 2500 gpm to 1110 PZ by replacing Well 19, which is at 1,000 gpm.	2025	All Year Types	2,500
Etiwanda Northern Pipeline - Phase 1a	Yes	Cucamonga Valley Water District	Pipeline construction and connection to CVWD and well site acquisitions.	2021-2023	Average Year	2,000
Etiwanda Northern Pipeline - Phase 1b	Yes	Cucamonga Valley Water District	Two new potable wells (2500 gpm each), lateral connections to pipeline, hydroelectric generation at LMWTP intake.	2022-2024	All Year Types	2,000
Etiwanda Northern Pipeline - Phase 2a	Yes	Cucamonga Valley Water District	Pipeline construction and connection to CVWD Resevoir 2C; well and reservoir site acquisitions.	2022-2025	All Year Types	2,000
Etiwanda Northern Pipeline - Phase 2b	Yes	Cucamonga Valley Water District	Drill and equip 3 new wells (2500 gpm each), including aquifer storage and recovery wells for 2 wells. Laterals to connect to Etiwanda Pipeline.	2025-2029	All Year Types	2,000
Etiwanda Northern Pipeline - Phase 2c	Yes	Cucamonga Valley Water District	Construct 10 MG reservoir at CVWD Reservoir 2C; booster upgrades, and hydroelectric generation at JCSD.	2022-2027	All Year Types	0
Etiwanda Northern Pipeline - Phase 3	Yes	Cucamonga Valley Water District	Treatment at JCSD wells in 3 parts to recover an out-of-service supply. This phase is not part of the 10,000 AFY total from Etiwanda Pipeline project.	2022-2027	All Year Types	6,000
Etiwanda Northern Pipeline - Phase 4	Yes	Cucamonga Valley Water District	15,090 LF of pipeline for final connection of pipeline to CVWD LMWTP (or RNWTP). Expansion/upgrade of LMWTP or RNWTP.	2023-2026	All Year Types	2,000
Van Buren Interconnect	Yes	City of Riverside Public Utilities	Complete the potable intertie with RPU. Deliveries from RPU will exclude summers.	Beyond 2026	Average Year	3,000-5,000
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Volume in AF. Etiwanda pIpeline anticipated total yield is 10,000 AF.						

- Well 13 and Well 17 Projects.

  Wells 13 and 17 are currently offline due to water quality concerns. To bring these wells back online as soon as possible, the District is pursuing an emergency project to install wellhead treatment for PFAS at each well site using single-pass ion-exchange resin. Treatment at each well site will be approximately 3,000 gpm. This supply is anticipated to be implemented by the end of 2021. Because the source is Chino Basin groundwater, the project will increase reliability for normal year, single-dry year, and multiple dry-years.

- Recycled Water Expansion Project.

  The JCSD Recycled Water Expansion Project will bring recycled water to landscaped areas where it can be used in Eastvale and southwestern Jurupa Valley ("Area B"). Design is currently underway to bring recycled water from the WRCRWA treatment plant that will replace 660 AFY of potable water demand with 660 AFY of recycled water demand. Implementation is expected in 2023. The project will increase reliability for a normal year and a single-dry year. Because 660 AFY is just 13% of the current average yearly wastewater flow to WRCRWA from JCSD (Submittal Table 6-2; 5,134 AFY), this supply is expected to remain available in multiple-dry years as well, despite expected reductions in wastewater flows to treatment plants during extended droughts.

- La Sierra Pipeline Connection.

  JCSD currently does not have a direct connection to imported water supplies. This project could bring imported State Water Project water that is treated at Metropolitan's Henry J. Mills Water Treatment Plant through Western's La Sierra Pipeline and Sterling Pump Station and delivered to CDA where JCSD can access the supply. Implementation could provide approximately 4,000 AFY in an average year; however, implementation of this project is contingent on continuing discussions and securing an agreement with Western. Based on Metropolitan's determination that no service reliability concerns are projected for imported water during normal and drought periods before 2045 (WMWD(a), p. 3), this supply source would be available in normal, single-dry, and multiple dry years.

- Etiwanda Pipeline Project.

  The Etiwanda Intervalley Water Quality and Water Resiliency (Etiwanda Pipeline) Project will provide a new water supply source for the District from a combination of Cucamonga Valley Water District's (CVWD's) surface water treatment plants and new JCSD wells drilled in CVWD's service area, which is in the upper portion of the Chino Basin. The project will be constructed in seven phases with varying supply volumes coming online as the project proceeds over approximately 10 years. Approximately 10,000 AFY for JCSD is anticipated from the project at completion; however, for planning purposes herein 6,000 AFY is used. The design will allow the water to flow to either agency, as needed. This supply is expected to be met from CVWD's water treatment plants, which treat raw imported State Water Project water from Metropolitan's Rialto Feeder and new JCSD wells developed in the upper portion of the Chino Basin. Based on Metropolitan's determination that no service reliability concerns are projected for imported water during normal and drought periods before 2045 (WMWD(a), p. 3), this supply source would be available in normal, single-dry, and multiple dry years.

- Well 30 Project.

  Well 19 was constructed over 100 years ago and production is declining. Therefore, proposed Well 30 will replace Well 19 and provide an increase in supply of up to 1,500 gpm for a total of 2,500 gpm. Property acquisition and environmental review is currently underway. This project is expected to be completed in 2025 and would supply average year, single-dry, and multiple-dry year demands.

- Van Buren Interconnect Project.

  JCSD prepared for an intertie connection with the City of Riverside by installing a segment of pipe in the Van Buren Blvd. Bridge many years back. This project would finish that connection and provide 3,000-5,000 AFY of potable water to JCSD for approximately 9-10 months out of the year (excluding summer months). This supply is expected to be available in average years only.

6.9 SUMMARY OF EXISTING AND PLANNED SOURCES OF WATER

The potable and non-potable water supplies utilized by the District in CY 2020 are provided in **Submittal Table 6-8** (next page)**.** Water supplied in CY 2020 are all within the terms of the District's rights, contracts, and entitlements.

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				
Purchased or Imported Water	CDA desalinated groundwater (Chino Basin No. 8-002.01)	11,414	Drinking Water	
Groundwater (not desalinated)	Potable wells (Chino Basin No. 8-002.01)	11,029	Drinking Water	
Other	Dry-Year Yield desalinated groundwater (Chino Basin No. 8-002.01)	1,446	Drinking Water	
Purchased or Imported Water	Western Municipal Water District via CDA desalinated groundwater (Chino Basin No. 8-002.01)	3,446	Drinking Water	
Transfers	For Santa Ana River Water Company from CDA desalinated groundwater (Chino Basin No. 8-002.01)	1,170	Drinking Water	
Groundwater (not desalinated)	Non-potable wells (Chino Basin No. 8-002.01)	276	Other Non-Potable Water	
Groundwater (not desalinated)	Non-potable wells (Riverside Basin No. 8-002.03)	491	Other Non-Potable Water	
	Total	29,272		0
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*				
NOTES: CY 2020 data. Units in acre-feet (AF). Source: JCSD. Total potable supply equals 28,505 AF which is higher than the 2020 Water Master Plan total 2020 supply estimate of 27,357 AF because this table includes transfers (1,170 AF) and a correction of -22 AF in the well production data used in the Master Plan. Total non-potable suppply in CY 2020 is 767 AF.				

The District's planned sources of water supplies are provided in **Submittal Table 6-9**, which are based on information reasonably available to JCSD during preparation of this UWMP.

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** Reasonably Available Volume	**2030** Reasonably Available Volume	**2035** Reasonably Available Volume	**2040** Reasonably Available Volume	**2045** (opt) Reasonably Available Volume
Add additional rows as needed						
Groundwater (not desalinated)	Potable wells (Chino Basin No. 8-02.01)	14,000	18,000	18,000	18,000	18,000
Purchased or Imported Water	Chino Desalter Authority (Chino Basin No. 8-02.01) desalinated groundwater	11,733	11,733	11,733	11,733	11,733
Purchased or Imported Water	Western Municipal Water District	4,000	4,000	4,000	4,000	4,000
Purchased or Imported Water	Cucamonga Valley Water District	6,000	6,000	6,000	6,000	6,000
Purchased or Imported Water	Rubidoux Community Services District (Riverside South Basin No. 8-02.03)	2,000	2,000	2,000	2,000	2,000
Desalinated Water - Groundwater	DYY Program Agreement with City of Ontario (via CDA, Basin No. 8-02.01)	2,000	0	0	0	0
Transfers	Transfer water to Santa Ana River Water Company (from CDA, Basin No. 8-02.01)	1,200	1,200	1,200	1,200	1,200
Recycled Water	JCSD Recycled Water Project (CWSRF Project No. 8167-110)	660	660	660	660	660
Other	Non-Potable Irrigation Water from Riverside Basin (No. 8-02.03)	500	500	500	500	500
	TOTAL SUPPLY (AF)	42,093	44,093	44,093	44,093	44,093

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

NOTES: Volumes in acre-feet (AF).

The supply projections for District well production in Submittal Table 6-9 have incorporated the water rights that are assigned to JCSD from two overlying water rights holders: Mira Loma Space Center (Space Center Mira Loma, Inc.) and Swan Lake Mobile Home Park (Hamner Park Associates, a California Limited Partnership). When the Space Center and Swan Lake stopped producing groundwater from their own wells located on their respective properties and JCSD began providing water service to them, agreements were developed such that the water delivered by JCSD to each entity (and used on their respective properties) will be accounted for as water produced in exercise of each entities' overlying appropriative rights (up to their annual production right) and not as an exercise of the District's water rights.[8] The Space Center's assigned share of safe yield is 104.1 AF and Swan Lake's assigned share of safe yield is 464.2 AF. According to the Chino Basin Watermaster's *Production Year 2019-2020 Report*, JCSD delivered 93.7 AF and 314.8 AF to Space Center and Swan Lake, respectively (p. 3.1). Pursuant to their said agreements, water rights equivalent to these delivered volumes were assigned to JCSD for that year.

Other items of note from Submittal Table 6-9 include the increase in water purchased from Western beginning by 2025. It is assumed this includes purchase of Western's allocation of CDA water to some degree. Supplies from the DYY Program are planned to stop in 2028; renewal of the program is unknown at this time. Purchases of potable water from RCSD is expected to begin again by 2025. Notably, the water supply volumes projected in Submittal Table 6-9 are much higher than the water demand volumes projected in Table 4-2 (Chapter 4). Projected water supply needs to exceed projected demand in order to meet maximum day water demands.

6.10 SPECIAL CONDITIONS

6.10.1 Climate Change Effects

Beginning in the 2020 UWMP, the Water Code requires the District to consider the impacts of climate change in its water supply projections, which are shown in Submittal Table 6-9.

[8] Space Center Agreement: *Water Supply Agreement by and between Jurupa Community Service District and Space Center Mira Loma, Inc.*, entered into April 14, 1997. Swan Lake Agreement: *Notice Regarding Provision of Service to a Non-Agricultural Pool Party by an Appropriative Pool Party by and between Swan Lake and Jurupa Community Services District*, signed October 10, 2014.

Considerations for climate change impacts began with using *Climate Change Vulnerability Screening Form for Urban Water Management Planning* located in the DWR Guidebook for 2020 UWMPs. Pursuant to Water Code, the District's planning for climate change impacts anticipated supply availability under a normal water year, single dry year, and droughts lasting at least five years, as described below.

Western's Technical Memorandum dated April 22, 2021 on climate change effects in its service area was used to apply water supply change factors to projected supplies in Submittal Table 6-9 (WMWD(a), p. 11 [Appendix E]). The water supply factors developed by Western and used herein are provided in **Table 6D**, below. As shown in the factors, Western's analysis found:

> "For normal years, precipitation and natural recharge are initially projected to decrease during the first decade before stabilizing during the second decade. The maximum projected range of decrease for normal year values is 1.7 percent. However, the projections show that droughts will initially be less severe from the perspective of local rainfall and recharge for the single dry year with increases of up to 1 percent. Recharge during 5-year droughts is projected to decrease by up to 2.3 percent by 2045." (WMWD(a), p. 11)

Table 6D - Water Supply Change Factors for Precipitation and Natural Recharge)

Beginning Year	Normal Year	Single-Dry Year	Five-Year Dry Period
2020(1)	100.0%	100.0%	100.0%
2025	99.1%	100.5%	99.5%
2030	98.3%	101.0%	98.9%
2035	98.5%	100.8%	98.5%
2040	98.7%	100.7%	98.1%
2045	98.9%	100.5%	97.7%

Source: Western Municipal Water District, *Technical Memorandum: Western Drought Contingency Plan – Climate Change Vulnerability Assessment*, April 22, 2021 (WMWD(a), p. 11 [Appendix E]).
(1) 2020 is baseline year.

To account for the potential effects of climate change to water supplies, and the uncertainty therein, JCSD has conservatively applied the normal year factors from Western's analysis in Table 6D to the groundwater supply projections of Submittal Table 6-9 beginning in 2025

through 2045, even though the District's groundwater supply has not resulted in a water shortage due to drought in the past. The results are shown below in **Table 6E.**

Table 6E - Potential Effect of Climate Change to Normal Year Projected Supplies

	2025	2030	2035	2040	2045
TOTAL SUPPLY from Table 6-9 (AF)[1]	42,093	44,093	44,093	44,093	44,093
Water Supply Climate Change Factor[2]	99.1%	98.3%	98.5%	98.7%	98.9%
TOTAL SUPPLY with Climate Change Factors (AF)	41,714	43,343	43,432	43,520	43,608
Potential Decrease in Total Supply from Climate Change Effects (AF)	379	750	661	573	485

Notes: Units in acre-feet (AF).
[1] Total supply from Submittal Table 6-9.
[2] Climate change factors from Table 6D (WMWD(a)).

6.10.2 Regulatory Conditions and Project Development

Constraints to the District's water supplies are discussed in Chapter 7.1.2. In summary, additional regulations for yet-to-be determined emerging contaminants in water are expected to continue influencing existing and future water supplies to some degree. Said effects could include how future well sites are located and what wellhead treatment(s) and/or blending are needed and subsequent costs to do so.

6.10.3 Other Locally Applicable Criteria

As discussed previously in Section 6.2, groundwater production in adjudicated basins is limited to a "safe yield" and that annual volume is periodically recalculated based on changes to the overall system. This would be an example of other locally applicable criteria that is entirely outside of the District's control but dictates to some degree how much can be produced from the Chino Basin and Riverside South Basin without replenishment or causing deleterious physical effects (e.g., subsidence, surface cracking, etc.). This constraint is discussed further in Section 7.1.2.

As discussed previously in Section 6.5, the availability of recycled water for the District is dependent on the treatment plant's ability to provide said water, meeting all of its effluent treatment standards and discharge permit requirements. Therefore, the District's planned future supply of recycled water could be constrained if the treatment plant effluent did not meet the discharge requirements.

As discussed previously in Section 6.8, Metropolitan has determined that there are no service reliability concerns projected for imported water during normal and drought periods before 2045 (WMWD(a), p. 3); however, the District remains prepared to use its local supplies, water held in storage, and full utilization of its rights to water to meet demand in the event imported supplies are decreased.

6.11 ENERGY USE

Energy is required to operate a water supply system, including the energy needed to pump, treat, store, and deliver water to the end consumer. Beginning in 2020, UWMPs must report estimates of the energy used for the water distribution system that is within the District's operational control (Water Code Section 10631.2(a)).

JCSD obtained electricity usage data from its electricity supplier, Southern California Edison for calendar year 2020 for each electrical meter located at each of the District's facilities. This includes JCSD water wells, booster stations, reservoirs, treatment systems, and pressure reducing stations. Total electricity used for the water distribution system in CY2020 was 11,648,280 kilowatt hours (kWh), as shown in DWR **Table O-1B**.[9] Energy intensity based on 29,272 AF supplied in CY 2020 (Submittal Table 6-9) was calculated to be approximately 398 kWh per AF supplied. The District does not use solar power or other self-generated renewable energy, nor hydropower.

[9] A kilowatt-hour (kWh) equals the amount of energy used by keeping a 1,000-watt appliance running for one hour.

Table O-1B: Recommended Energy Reporting - Total Utility Approach				
Enter Start Date for Reporting Period	1/1/2020	Urban Water Supplier Operational Control		
End Date	12/30/2020			
☐ 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)		*29272*	*0*	*29272*
Energy Consumed (kWh)		*11648280*	*0*	*11648280*
Energy Intensity (kWh/volume)		*397.9*	*0.0*	*397.9*

Quantity of Self-Generated Renewable Energy

0 kWh

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

Metered Data

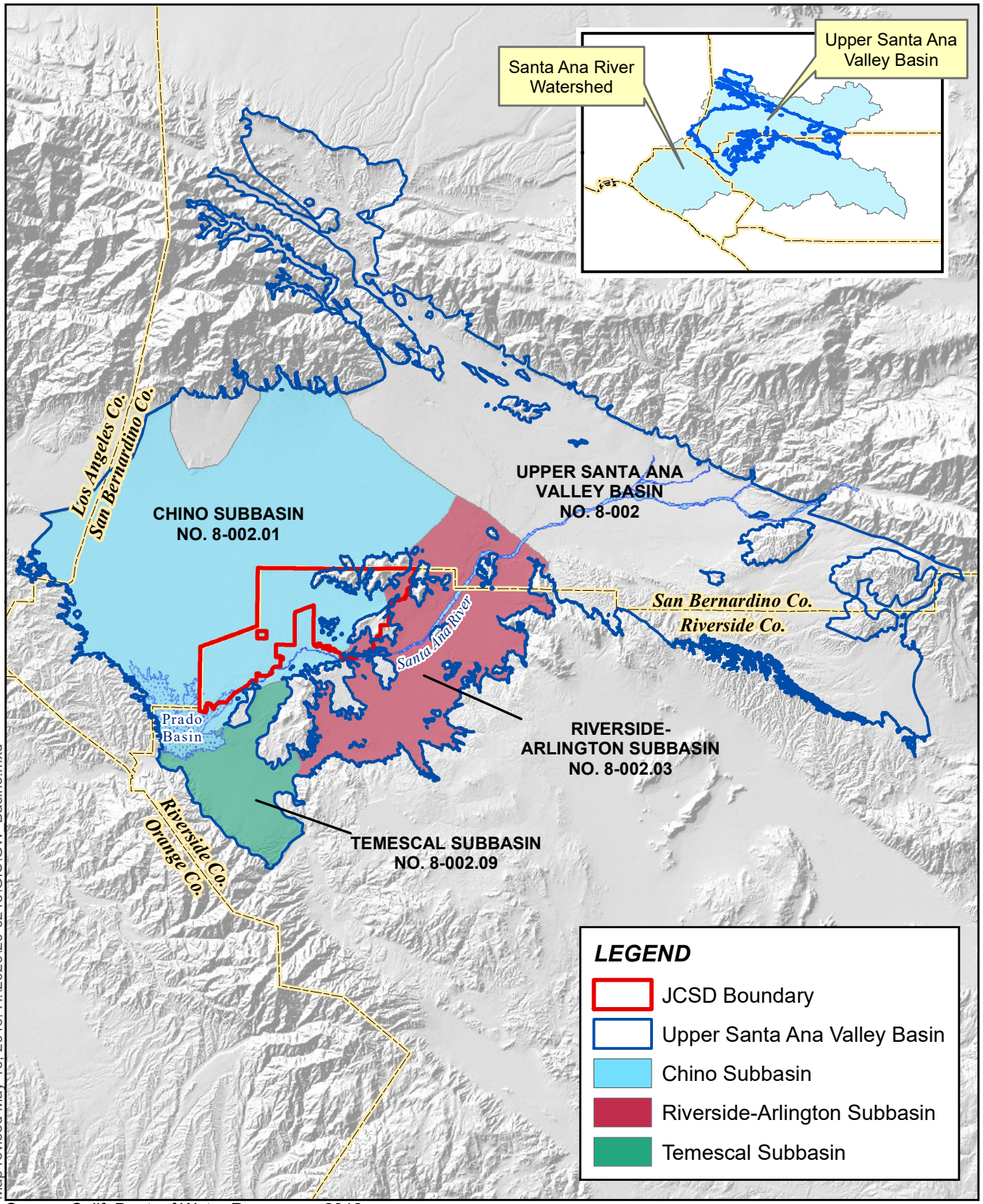
Data Quality Narrative:

Source of data from meter records for CY2020 from Southern California Edison. Sum of Kwh usage.

Narrative:

Data includes JCSD pressure-reducing stations, wells, booster stations, treatment plants,and reservoirs for potable water. Includes pumps for non-potable water.

Based on the data provided by Southern California Edison for this plan, monthly total energy usage that was over one million kWh occurred between June and November, with July 2020 having the highest usage at 1,472,729 kWh. The month with the lowest energy used was May 2020 at 445,612 kWh.



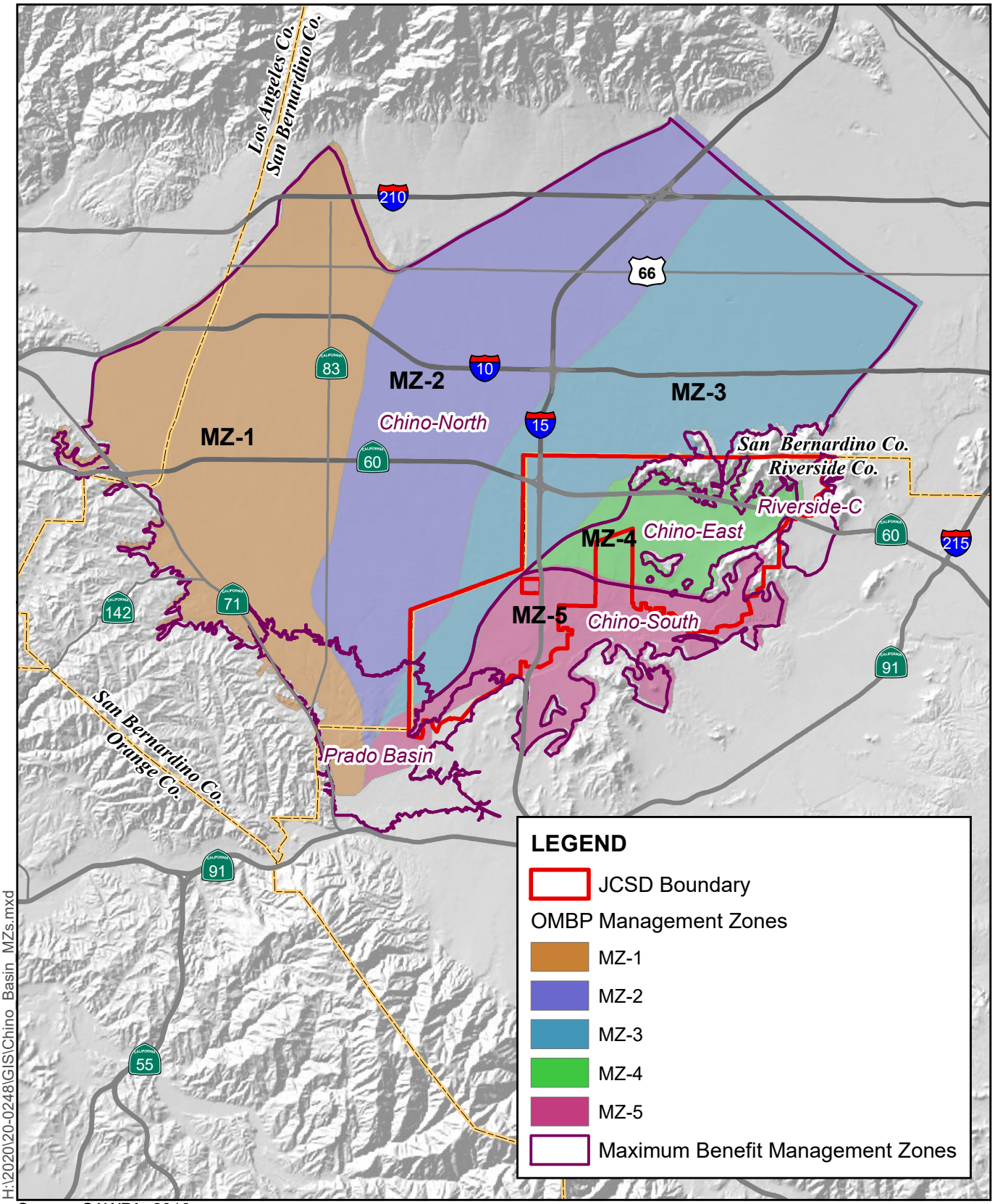
Map revised May 16, 2016. H:\2020\20-0248\GIS\GW Basins.mxd

Source: Calif. Dept. of Water Resources, 2018.

Figure 6-1 – Groundwater Basins
JCSD Urban Water Management Plan 2020

0 5 10 15 Miles

ALBERT A. WEBB ASSOCIATES



H:\2020\20-0248\GIS\Chino Basin MZs.mxd

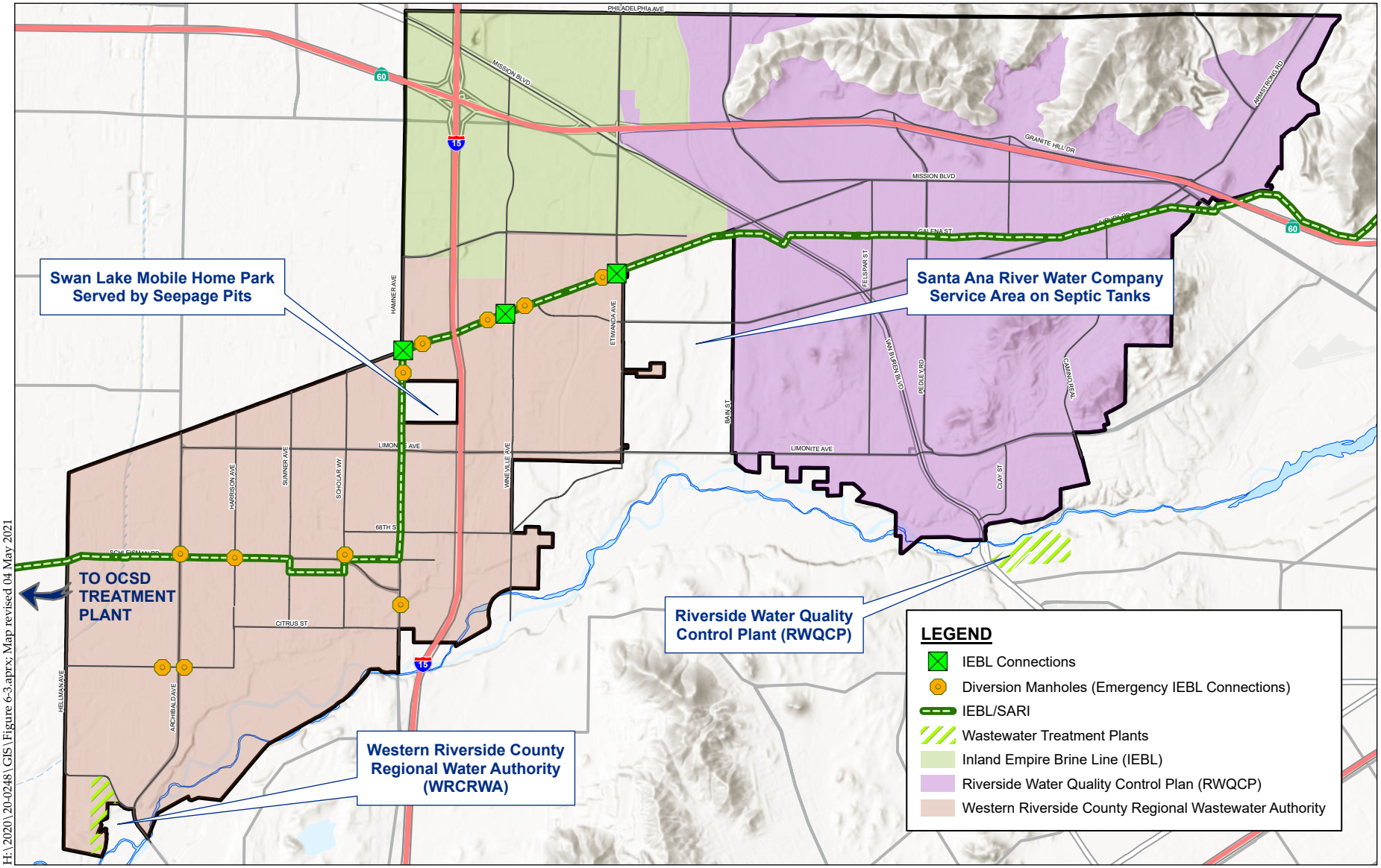
Source: SAWPA, 2019.

Figure 6-2 – Chino Basin Management Zones

JCSD Urban Water Management Plan 2021

0 2 4 6 Miles

ALBERT A. WEBB ASSOCIATES



H:\2020\20-0248\GIS\Figure 6-3.aprx; Map revised 04 May 2021

Sources: Riverside Co. GIS 2020; JCSD GIS 2019; ESRI, 2021.

0 0.5 1 1.5 2 Miles

Figure 6-3 JCSD Wastewater Tributary Areas

JCSD Urban Water Management Plan 2020

Jurupa Community Services District

Albert A. Webb Associates

CHAPTER 7 WATER SERVICE RELIABILITY AND DROUGHT RISK ASSESSMENT

This chapter describes the District's ability to meet the water needs of its customers with its water supplies under varying conditions over the next 20 years. Assessing water service reliability takes into consideration a number of factors, including plausible changes in supplies, regulatory and legal constraints, climate change, and expected growth, among others. This chapter also includes a near-term assessment of a severe drought period lasting for the next five consecutive years.

7.1 WATER SERVICE RELIABILITY ASSESSMENT

Pursuant to Water Code, this reliability assessment will compare the total water supply sources available to the District with the long-term projected water use over the next 20 years, in five-year increments during normal, single-dry, and multiple dry water years. This assessment marries the findings in Chapter 4 – Water Use Characterization and Chapter 6 – Water Supply Characterization to help direct management actions for the future.

7.1.1 Summary of Water Use and Water Supply

As described in Chapter 4, water use attributed to single-family residential customers has been consistently 69% on average of the total potable retail demand for the past 10 years. The next biggest consumers have been Potable Landscape Irrigation and Commercial/Institutional customers at 10% and 9% of the total on average, respectively, followed by multi-family residential at 5%, "other" at 4%, and industrial at 3% on average of the total potable water use for the past 10 years. Other demands such as sales or transfers to other systems and non-potable water irrigation have been fairly consistent for the past five years. Water losses accounted for in the potable system have fluctuated since 2016 but are remain between 4 to 8 percent of production (see Table 4A). As shown in Chart 4-1, total water use was at its lowest in 2015 as a result of mandatory drought restrictions. Current consumption numbers demonstrate customer's continuing efforts to conserve; for example, September 2020 water use was 12.48% less than September 2013, which is a savings of 102,746,379 gallons (JCSD(a), Item No. 2). Future potable water use has been projected in the District's *2020 Water Master Plan* based on full buildout of the service area, which has been incorporated herein with the additions of expected non-potable and recycled water demands (WEBB(a)).

Refer to Submittal Tables 4-1, 4-2, 4-3, and 4-4 for current (2020) and future (2025-2045) water use, as well as water losses.

As described in Chapter 6, JCSD relies on groundwater for its water supply. The majority of the District's water supply comes from the Chino Groundwater Basin, which is produced by District wells (both non-potable and potable), potable desalinated groundwater purchased from CDA, or purchased from Western or the City of Ontario with water delivered to the District via CDA facilities (all potable). The District also produces non-potable groundwater from the Riverside South Groundwater Basin that is used for irrigation. Both basins are adjudicated with court appointed Watermasters. The District stopped purchasing potable water from Rubidoux Community Services District effective January 1, 2018. The District does not use surface water or rely on stormwater to meet customer demands. Because of the Chino Basin's estimated volume in storage and the Chino Basin Watermaster's efforts to monitor production and prevent overdraft of the Chino Basin, this water supply has proven to be stable and reliable, even when environmental conditions are exceptionally dry. Likewise, the efforts of the Western-San Bernardino Watermaster and its oversight of the Riverside South Basin have provided a stable supply there as well. However, to ensure reliability into the future, the District plans to construct new wells, increase treatment facilities, and partner with Cucamonga Valley Water District to construct an interagency connection (i.e., "Etiwanda Pipeline Project") allowing the flow of potable water in either direction. To bring recycled water to the service area for the first time, the District is securing funding to bring recycled water from the WRCRWA treatment plant to parks, medians, and school yards in Eastvale, and the Area B Non-Potable Pipelines for irrigation in southwestern Jurupa Valley. In the long-term, the District is having ongoing discussions with Western to continue purchasing Western's allotment of CDA water and to connect to an imported water supply from the Mills Gravity Feeder pipeline. Refer to Submittal Table 6-6 for planned recycled water supplies, Submittal Table 6-7 for other planned supply projects, Submittal Table 6-8 for current (2020) supplies, and Submittal Table 6-9 for projected water supplies through 2045.

7.1.2 Constraints to Water Supply

Four factors can affect the availability of groundwater for the District: sufficient production capacity (e.g., wells, pumps, pipes, etc.); sustainability of the groundwater to meet pumping

demand on a renewable basis; protection of groundwater wells from contamination, or provisions for treatment in the event of contamination; and catastrophic events.

Water Quality and Production Capacity Constraints

Some groundwater producers in the Chino Basin are challenged with the issue of addressing elevated levels of nitrates, TDS, and other contaminants such as 1,2,3-TCP, 1,1-DCE, and perchlorate. JCSD operates two ion-exchange plants to denitrify water from several wells at the Teagarden Ion-Exchange Plant and Well 17/18 Ion-Exchange Plant, as described in Chapter 6. Water delivered by CDA is treated by the Chino I or Chino II desalters to remove salts (TDS) and nitrate. Since 2005, JCSD has reported that all samples of delivered water have been below the State and Federal maximum contaminant level (MCL) of 45 milligrams per liter (mg/L) of nitrate (or 10 mg/L nitrate as nitrogen). This is a result of JCSD's treatment and blending plan within the service area. JCSD has obtained a permit from the California Department of Health (CDH) that allows high nitrate water to be blended with lower nitrate waters. Blending results in concentrations of nitrates, TDS, 1,2,3-TCP, 1,1-DCE, and perchlorate consistently below the MCL. (WEBB(a), pp. 4-9, 4-11) The District's most recent Consumer Confidence Report (CCR) describing the results of water quality testing performed in 2020 is provided in **Appendix L.**

As reported by the Chino Basin Watermaster, there are currently 13 groundwater plumes in the Chino Basin that are monitored and remediated by various agencies and responsible parties. The Stringfellow Acid Pits site is located within the JCSD service area in the Jurupa Mountains. None of the District's wells have been impacted by the Stringfellow plume. In addition, the District makes a conscious effort to ensure none of its existing and future wells interfere with the cleanup efforts at Stringfellow and that a safe distance is always maintained. (WEBB(a), p. 4-9)

Per- and polyfluoroalkyl substances (PFAS) are a large group of man-made chemicals that includes PFOA, PFOS, and others. After independent review of the available information on the risks, the State Water Board Division of Drinking Water established notification levels at concentrations of 6.5 ppt for PFOS and 5.1 ppt for PFOA. Notification levels are a nonregulatory, precautionary health-based measure for concentrations in drinking water that warrant notification and further monitoring and assessment. Public water systems are

encouraged to test their water for contaminants with notification levels, and in some circumstance may be ordered by the state to test. If the systems do test, they are required to report exceedances to their governing boards and the State Water Board and are urged to report this information to customers via the consumer confidence reports. (Webb(a), pp. 4-9 - 4-10)

JCSD conducted a study from November 2019 to February 2020 to determine PFAS and PFOA levels within water supply wells. According to the study, water produced from District Wells 17, 18, and 27 had concentrations above the established notification level, and concentrations in Well 28 were roughly 25 times higher than the notification level. Wells 12, 13, 14, 15, and 23 were also above the notification limits. As a result, the District authorized two studies: 1) *Final Updated Geohydrologic Analysis of Future Groundwater Production in JCSD* by Geoscience (May 26, 2020); and 2) *Water Quality Evaluation Study* by WEBB and Hazen & Sawyer (forthcoming). (WEBB(a), p. 4-10)

Key findings of the 2020 Geoscience Report are as follows:

1. A local drawdown of 5 to 10 feet is anticipated over the 25-year simulation period;
2. By 2025, 13 of the District's wells' nitrate (as nitrogen) concentrations will exceed 10 mg/L;
3. By 2025, 13 of the District's wells' TDS concentration will exceed 600 mg/L; and
4. Modeling results predict further water quality degradation through the year 2044 for both TDS and nitrates.

The District has 18,905 gpm pumping capacity from its online wells and CDA has a current capacity of 7,375 gpm for a total available to the District of 26,280 gpm. As described in further detail in the District's *2020 Water Master Plan*, District Wells 13, 17, 18, 23, and 28 cannot operate due to water quality issues (one for high nitrate and TDS, three for high PFOA, and one for high PFOS) and Wells 20 and 24 cannot operate due other issues (low production and bent casing) for a total loss of 14,325 gpm. Other wells that had high PFAS and PFOA concentrations are operable because they can be blended with water from the Teagarden Ion-Exchange Plant to concentrations below the notification limit. (WEBB(a), p. 4-11)

The forthcoming *Water Quality Evaluation Study* will outline near-term and long-term projects to get wells back online by adding additional treatment. The first recommended projects from the study would add ion-exchange vessels to Well 13 and Well 17 in summer 2021 (shown in Submittal Table 6-7). This would bring back approximately 4,000 gpm to the system.

As noted previously, JCSD has not purchased water supplies from RCSD since January 1, 2018 as a result of 1,2,3-trichloropropane (1,2,3-TCP) in the RCSD supply. This contamination has placed a constraint on both agencies, with JCSD having to obtain supply elsewhere and RCSD being unable to collect the revenue until adequate treatment is provided. Further, RCSD's supply water is high in TDS; therefore, the District is constrained from purchasing supply from RCSD and utilizing the interagency connection until the supply from RCSD meets certain water quality standards. RCSD is currently in the process of adding the necessary treatment systems.

Water Supply Constraints

A physical constraint to the groundwater resources utilized by JCSD could result from declining groundwater levels. A possible response by JCSD to a decline in groundwater levels might be higher costs as a result of increased energy usage to pump groundwater from deeper in the basin, or the cost to purchase supplies from other sources.

The Chino Basin Watermaster has recently undertaken a safe yield redetermination. In July 2020, the court ordered that the safe yield be reduced by 3% and reset to 131,000 AFY for the period of July 1, 2020 to June 30, 2030. The court previously reset the safe yield from its initial 140,000 AFY to 135,000 AFY in 2017 for the period of 2010 to 2020. Although the District can pump in excess of its rights with payment of a replenishment fee and access its groundwater storage accounts pursuant to the Judgment, smaller safe yields in the future may encourage less production to avoid increased fees.

In 2019/2020, the Chino Basin Watermaster updated its Optimum Basin Management Plan (OBMP) and its Storage Management Plan. The OBMP is the central planning document for managing the basin. The updated OBMP plans for the next 20 years with the core focus shifting from developing the maximum benefit program, implementing hydraulic control, and developing the operations needed to maintain it (e.g., desalters), to managing storage and

water quality. The 2020 Storage Management Plan provides options and information needed by Parties to the Judgment to develop an actionable implementation plan for storage management (CBWM(b), p. 1). Continued implementation of the OBMP and Storage Management Plan by the Watermaster and continued participation in such activities by the District will help maintain the District's ability to fully utilize its water rights.

As a reporting mechanism and pursuant to the OBMP Phase 1 Report, the Peace Agreement, and the associated OBMP Implementation Plan, and the November 15, 2001 Court Order, Chino Basin Watermaster publishes a *State of the Basin* report every two years beginning in 2002 that characterizes basin conditions from groundwater monitoring. The most recent report is the *2018 State of the Basin* which includes data collected through fiscal year (FY) 2017/2018 (WEI(d), 2019). Two JCSD wells with sufficient historical groundwater level records were selected to be part of the groundwater monitoring – Well 14 in Chino Basin Management Zone 3 (MZ3) and Well 10 in Chino Basin Management Zone 4 (MZ4).

According to the *State of the Basin* reports, groundwater elevation contours at JCSD Wells 14 and 10 appear stable in the Spring of 2012, 2014, 2016, and 2018 at approximately 575 feet above msl (WEI(e), Exhibit 4-4). "Water levels at JCSD Well 14 (MZ3) from 2000 to 2010 progressively declined by about 30 feet due to a dry period and increased pumping in MZ3. From 2010 to 2018, groundwater levels stabilized or increased by up to 15 feet, likely due to reduced production and increases in artificial recharge. Groundwater levels in Well 14 fluctuate annually regardless of drought periods" (WEI(d), Exhibit 4-12).

JCSD Well 10 is in the vicinity of the JCSD and Chino-II Desalter well fields. "Water levels at JCSD Well 10 began to decrease around 2000 and notably accelerated in decline around 2006 when pumping at Chino-II Desalter wells commenced in MZ3 and MZ4. From 2000 to 2010, water levels declined by about 35 feet at these wells. The decline of groundwater levels in this portion of the basin was necessary to achieve hydraulic control of the Chino Basin…which was achieved in this area by 2010, and from 2010 to 2018, groundwater levels stabilized" (WEI(d), Exhibit 4-13). Groundwater levels at Well 14 remain constant regardless of season or drought (*ibid).* Although the 2020 State of the Basin report containing FY 2019/2020 data will not be available until June 2021, this data reported to the Watermaster demonstrates stable

groundwater conditions, taking into account the pumping in the CDA well field that maintains hydraulic control.

Catastrophic Events and Interties

Catastrophic events including electrical outages, earthquakes, fire, or any other natural disaster could constrain water supplies. In the event of such an emergency, the District is prepared to purchase emergency water supplies from neighboring agencies over the time required to get the District's system functioning again. The District and RCSD share two interties that can be activated in an emergency to flow in either direction (i.e., JCSD Intertie South and Jewel Street Intertie). The District also has an intertie with CDA to obtain emergency water.

7.1.3 Reliability by Type of Year

JCSD has had a reliable water supply to meet demands during normal, single-dry, and multiple-dry years. Notably, the District had sufficient local water supplies during the statewide drought from 2012 to 2017. The Water Code requires each water supplier to determine three types of years and how much supply was available for each: normal (or average),[1] single dry,[2] and multiple dry years for five years.[3] As shown in **Submittal Table 7-1** below, the District expects all of its average supply from local groundwater sources (District wells and CDA) to be available regardless of the year type. Although the hydrology for imported water supplies differs from local hydrology, the District will also assume, consistent with Western, that imported water supplies are expected to be available in all normal and drought years through 2045 (WMWD(a), p. 3) and therefore a second version of Submittal Table 7-1 for imported water is not provided.

[1] A year, or an averaged range of years, that most closely represents the average water supply available to the agency. The UWMP Act uses the term "normal".
[2] The single-dry year is the year that represents the lowest water supply available to the agency.
[3] The multiple dry year period that represents the lowest average water supply availability to the agency for a consecutive multiple year period (three years or more).

Submittal Table 7-1 Retail: Basis of Water Year Data (Reliability Assessment)			
Year Type (Local Groundwater Supply)	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	2010		100%
Single-Dry Year	2018		100%
Consecutive Dry Years 1st Year	2012		100%
Consecutive Dry Years 2nd Year	2013		100%
Consecutive Dry Years 3rd Year	2014		100%
Consecutive Dry Years 4th Year	2015		100%
Consecutive Dry Years 5th Year	2016		100%
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: This version of Table 7-1 represents local groundwater supplies.			

The selected baseline water years for local groundwater supplies were based on the rainfall data collected by Riverside County Flood Control and Water Conservation District from five stations scattered around western Riverside County (i.e., Riverside, Corona, Elsinore, Hemet/San Jacinto, and Perris/Moreno Valley) (RCFC(b)). Each year, the Flood Control District determines whether that year was, on average, a very dry, dry, normal, wet, very wet, or record wet year by converting annual total rainfall as a percentage of normal, where normal is calculated as the average per station. Records from these stations range from 63 to 127 years of rainfall data. The Flood Control's data as of FY19/20 suggests 2010 was considered a "normal" rainfall year for western Riverside County; 2018 was "very dry" between two "wet" years (2017 and 2019); and 2012 to 2016 were five consecutive "dry" years (RCFC(b)).

7.1.4 Normal Year Reliability

Normal Year. This condition represents the water supplies a supplier considers available during normal conditions.

JCSD water demands are discussed in Chapter 4 and projections of water use during a Normal Year are provided in Table 4-3. JCSD water supplies are presented in Chapter 6 and water supply projections during a Normal Year are provided in Table 6-9. The Normal Year supply and demand projections are compared in **Submittal Table 7-2**, below**.**

Submittal Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2025	2030	2035	2040	2045 *(Opt)*
Supply totals *(autofill from Table 6-9)*	42,093	44,093	44,093	44,093	44,093
Demand totals *(autofill from Table 4-3)*	31,525	34,035	35,825	37,795	37,795
Difference	10,568	10,058	8,268	6,298	6,298
NOTES: Units in acre-feet (AF). Demand includes 660 AFY of recycled water and 640 AFY of non-potable water.					

According to the assumptions of Submittal Table 7-2, during normal rainfall years, the District has sufficient supply to meet demands to the year 2045. In order to consider the potential effects of climate change on said supply and demand projections, **Table 7A** compares supply and demand totals that have been adjusted using factors developed by Western (WMWD(a)).

Table 7A Comparison of Climate Change-Adjusted Normal Year Supply and Demand

	2025	2030	2035	2040	2045
TOTAL SUPPLY with Climate Change Factors (AF)	41,714	43,343	43,432	43,520	43,608
TOTAL DEMANDS with Climate Change Factors (AF)	31,714	34,443	36,470	38,702	38,966
Difference	10,000	8,900	6,962	4,818	4,642

Notes: Units in acre-feet (AF). Climate change factors from WMWD(a).
(1) From Table 4E.
(2) From Table 6E.

The surplus in supply shown in Table 7A compared to the surplus in Submittal Table 7-2 above is smaller between 2030 and 2045 as a result of incorporating the climate change factors for reductions in precipitation and natural recharge and increased outdoor demand during normal years.

7.1.5 Single Dry Year Reliability

Single Dry Year. The year that represents the lowest water supply available to the Supplier.

The District's single dry year supply and demand comparisons are provided in **Table 7-3**, which show that a surplus of water supply continues through 2045.

Submittal Table 7-3 Retail: Single Dry Year Supply and Demand Comparison

	2025	2030	2035	2040	2045 (Opt)
Supply totals*	42,303	44,534	44,446	44,402	44,313
Demand totals*	31,714	34,477	36,506	38,740	39,004
Difference	10,589	10,057	7,940	5,662	5,309

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

NOTES: Units in acre-feet (AF). Supply includes single-dry year climate change factors from Table 6D. Demand includes recycled water (660 AFY), non-potable (640 AFY) and climate change factors from Table 4D.

The following assumptions have been made to estimate supply and demand during a single dry year (drought stages are described in detailed in Chapter 8):

- The provisions of a Stage 1 "Drought Watch" will be implemented, and customers requested to achieve a 10% voluntary consumption reduction (Ord No. 389).
- There will be no change to the supply of recycled water.

- Water demand and groundwater supply during a single-dry year may increase by the factors shown in Table 4D and Table 6D as a result of the anticipated effects of climate change (WMWD(a), pp. 11, 13). These factors have been imbedded in the calculations of Submittal Table 7-3.

- MWD will make a "call" for stored groundwater in the Chino Basin pursuant to the DYY Program; therefore, JCSD will stop receiving supply from City of Ontario (2,000 AFY) and make up the difference with District wells and treatment facilities.

- Water losses are included in future potable water demands at 7.5% of annual potable demands.

- There will be no decrease in imported water supplies (WMWD(a), p. 3), which would include imported water via Western and/or imported water via Cucamonga Valley Water District.

7.1.6 Multiple Dry Year Reliability

Five-Consecutive-Year Drought. The driest five-year historical sequence for the Supplier.

The District's Multiple Dry Year supply and demand comparisons are provided in **Submittal Table 7-4** (next page).

Submittal Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	41,883	43,608	43,432	43,255	43,079
	Demand totals	31,462	34,443	36,470	38,702	38,928
	Difference	10,420	9,165	6,962	4,554	4,150
Second year	Supply totals	41,883	43,608	43,432	43,255	43,079
	Demand totals	28,316	30,999	32,823	34,832	35,036
	Difference	13,567	12,609	10,609	8,424	8,043
Third year	Supply totals	41,883	43,608	43,432	43,255	43,079
	Demand totals	25,170	27,554	29,176	30,961	31,143
	Difference	16,713	16,054	14,256	12,294	11,936
Fourth year	Supply totals	41,883	43,608	43,432	43,255	43,079
	Demand totals	22,024	24,110	25,529	27,091	27,250
	Difference	19,859	19,498	17,903	16,164	15,829
Fifth year	Supply totals	41,883	43,608	43,432	43,255	43,079
	Demand totals	18,877	20,666	21,882	23,221	23,357
	Difference	23,005	22,942	21,550	20,034	19,722
***Units of measure (AF, CCF, MG)** must remain consistent throughout the UWMP as reported in Table 2-3.*						
NOTES: Units in acre-feet (AF). Supply includes climate change supply factors for multiple dry years from Table 6D. Demand includes recycled water (660AFY), non-potable demand (640 AFY), climate change demand factors for multiple dry years from Table 4D, and reductions of 10-40% from water conservation beginning in year 2.						

The following assumptions are made to estimate supply and demand during a consecutive five-year multiple dry year period (drought stages are detailed in Chapter 8):

- Water demand and groundwater supply may change for each year in the five-year dry period by the climate change factors for outdoor water use and precipitation/natural recharge shown in Tables 4D and 6D. Each five-year increment has a different factor beginning with normal year supply and demand, which have been imbedded in the calculations of Submittal Table 7-4.

- During the first dry year, the provisions of a Stage 1 "Drought Watch" will be implemented, and customers requested to voluntarily reduce consumption up to 10% (Ord. No. 389).

- During the second dry year, a decrease in water use of 10% in response to water conservation efforts is assumed, using the first year as a baseline. The provisions of a Stage 2 "Drought Caution" will be implemented at the Board of Director's discretion, and customers mandated to conserve between 10% and 20% (Ord. No. 389).

- The third dry year is assumed to have a 20% decrease in demand in response to water conservation efforts, measured from the first year as the baseline. The provisions of a Stage 3 "Drought Alert" will be implemented at the discretion of the Board of Directors, and customers mandated to conserve between 20% and 30% (Ord. No. 389).

- The fourth dry year will have a 30% decrease in demand in response to water conservation efforts, as measured from the first year as the baseline. The provisions of a Stage 4 "Drought Critical" will be implemented at the discretion of the Board of Directors, and customers mandated to conserve between 30% and 40% (Ord. No. 389).

- The fifth dry year will have a 40% decrease in demand in response to water conservation efforts, as measured from the first year as baseline. The provisions of a Stage 5 "Drought Emergency" will be implemented at the discretion of the Board of Directors, and customers mandated to conserve a minimum of 40% (Ord. No. 389).

- There will be no decrease in imported water supplies during any five-year dry period from 2025 to 2045 (WMWD(a), p. 3).

- District wells would only be pumped as needed to meet water demands, and water purchased from CDA only as needed, even though the District's groundwater supply in the Chino Basin could produce more water if needed. Because District wells are not operated at full capacity, it can be assumed as drought conditions worsen, groundwater pumping could increase to continue meeting water demands and be a function of cost rather than supply.

- The supply of recycled water will be the same in multiple dry years 1 through 5, as in normal years.

- MWD will make a "call" for stored water starting in Year 1 and each year thereafter; therefore, the District's supply of 2,000 AF from City of Ontario will cease, and the difference made up by District wells.

- Water losses are included in future potable water demands at 7.5% of annual potable demands.

7.1.7 Management Tools and Options for Reliability

As shown in the tables above, JCSD anticipates having adequate water supplies to meet future demands during normal, single-dry, and multiple-dry years through the 20-year planning period with the potential effects of climate change, future supply projects, and water conservation taken into account. This is mainly because of the reliability of the District's primary water source in the Chino Basin and the ability of customers to conserve when needed. Water conservation will continue to be a key tool for the District to maximize local resources and minimize the need for imported supplies. Between 2013 and 2015, for example, JCSD customers demonstrated a reduction in water use by 23 percent over the two-year period.

JCSD will continue making efforts to maximize the use of local water resources and minimize the need to import water. District actions such as increased implementation of demand management measures, increased use of recycled water, and enhanced groundwater management are anticipated.

Demand management measures implemented by JCSD over the past five years and planned for the next five years are outlined in Chapter 9. Although the District has achieved the 2020

target for water conservation pursuant to SB X7-7 (Chapter 5), it is understood that drought conditions are likely ongoing in the foreseeable future. And therefore, water conservation efforts are planned to continue and expand to reduce potable water use to the maximum extent practicable. To encourage water use reductions during drought conditions, JCSD has developed a multi-level Water Shortage Contingency Plan, as discussed in detail in Chapter 8 of this UWMP.

The District is also pursuing grant funding to replace potable landscape water use with an equal allotment of recycled water from the WRCRWA treatment plant. Notably, using recycled water as groundwater recharge and/or other beneficial uses is expected to expand in the Chino Basin. JCSD aims to continue expanding recycled water supplies into its service area.

The Chino Basin OBMP administered by the Watermaster manages the basin production by way of nine elements. The element that could potentially impact JCSD's supply directly is Program Element 2, which addresses the recharge program. The decisions and infrastructure related to this OBMP element will be used to balance long-term groundwater production. Similarly, JCSD will continue supporting storm water capture and infiltration projects within its service area and the local Chino Basin Management Zone.

Although JCSD will continue utilizing local water supplies to the maximum extent practicable following the intent of Water Code Section 10620 to minimize the need to import water from other regions, the District has chosen to diversify the supply portfolio with participation in projects to access imported water supplies with Western and Cucamonga Valley Water District. Local water supplies will continue to constitute a majority of JCSD's supply portfolio, as previously shown in Submittal Table 6-9.

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This page is blank to allow the Drought Risk Assessment to be swapped out without affecting the pagination of other sections in the event it is updated before the next UWMP cycle.

7.2 DROUGHT RISK ASSESSMENT

The Drought Risk Assessment (DRA) is a new requirement beginning with the 2020 UWMP. This DRA can be updated before the next UWMP cycle (i.e., 2025); however, the notification and approval procedures in Chapter 10 of the UWMP would be required for any interim changes. An update to the DRA may be needed as result from new information becoming available, water supply or water use changes, or in the event of unforeseen circumstances.

The DRA is based on the five driest consecutive years on record taking into account any extra effects to water supplies from plausible changes in climate, regulations, and other locally applicable criteria. If there is a shortage, the DRA identifies what the effects to the shortage would be from increasing supply and/or reducing demand. Water Code requires that the DRA include a description of the data and methods used, the basis for the supply shortage conditions, determination of the reliability of each source, and comparison of total water supplies and uses during the drought, which are described below.

7.2.1 Data, Methods, and Basis for Water Shortage Conditions

The Recycled Water Expansion Program currently proposed by the District to bring 660 AFY of recycled water from WRCRWA treatment plant to irrigate certain landscaping, parks, and school yards in Eastvale and southwestern Jurupa Valley is assumed to be a reliable source of supply during any of the five drought years from 2021 to 2025. This is based on 660 AFY being a fraction of the annual average volume of wastewater the District sends to the WRCRWA plant; in other words, even if the wastewater volume decreases as a result of customer water conservation efforts during a drought, it is not expected to decrease such that 660 AFY would not continue to be available.

Western prepared a Technical Memorandum dated April 22, 2021 regarding their Drought Contingency Plan and Climate Change Vulnerability Assessment and made it available for use by the District and all other retail agencies to use in their UWMPs (WMWD(a)). A copy of said memo is located in Appendix E. Pertinent data and findings from this memorandum have been referenced in Chapters 3, 4, and 6. In regard to imported water supplies, said memo references the current (November 2020) draft of Metropolitan's 2020 UWMP Drought Risk Assessment which indicates "no service reliability concerns are projected for imported water during normal

and drought periods before 2045." Therefore, for purposes of its 2020 UWMP, Western has assumed deliveries of imported water supplies will be unchanged during normal years, single dry years, and five-year droughts (WMWD(a), p. 3). JCSD will also assume for purposes of this UWMP that imported water supplies will be available in the 20-year planning horizon regardless of normal, single dry, or multiple dry years. In regard to recycled water supplies, Western's analysis suggests that "supplies of recycled water and reclaimed water which are sourced from indoor uses are largely insensitive to changes in climate" (WMWD(a), p. 9).

Western's April 22, 2021 Technical Memorandum also describes an analysis performed that developed factors that its retail agencies can apply to water demand and supply projections to account for the potential effects of climate change to surface water and groundwater within Western's service area, which includes the District (Tables 4D and 6D). Said analysis determined factors for 2020 during a five-year dry period that would not change water demands or groundwater supplies as a result of the effects of climate change. Said factors reflect the following trends and findings from the Technical Memorandum analysis:

- *Projected decreases in water supplies from Santa Ana and Santa Margarita River basins under normal and drought conditions relative to baseline conditions in 2020, due to projected decreases in precipitation and projected increases in surface water evaporation caused by increasing temperatures.*

- *Smaller decreases in projected precipitation and natural recharge under normal and multi-year drought years. However, the single dry year was slightly wetter under future conditions compared to the baseline. Precipitation will occur during shorter rainy seasons with higher intensity.*

- *Outdoor water uses are projected to increase under normal, single dry, and multi-year drought conditions, caused by projected temperature increases, which lead to higher evapotranspiration rates for landscaping, irrigated crops, and native vegetation.*
  (WMWD(a), pp. 1-2)

Supply conditions for the District wells and CDA wells in the Chino Basin during the five driest years (2013-2017) were consistent with non-drought years. Although typical seasonal fluctuations occur in individual wells, overall groundwater level contours between 2012 and

2018 have remained stable despite the implementation of the CDA wells to achieve hydraulic control in the Chino Basin (WEI(d), Exhibit 4-4). Because approximately 12.6 million AF of water is in the Chino Basin (WEI(a), p. 6-15), and hydraulic control will continue for the foreseeable future, it is assumed in this DRA that there would be no decrease in the water supply available to the District from District wells or CDA wells during drought periods, including a drought in the years 2021-2025. This is consistent with Western's climate change analysis and climate change factors (WMWD(a), pp. 11, 13). In addition, new District wells brought online during the drought period are assumed to provide anticipated production volumes, which is approximately 2/3 of pumping capacity.

7.2.2 Individual Water Source Reliability

The following characterizations reflect the expected amount and reliability of the water supply during the first year of a drought beginning in 2021. Based on the climate change analysis performed by Western for its service area, the climate change factors for demand and groundwater supply in a five-year dry period beginning in 2020 are 100% - indicating no change as a result of potential climate change during each year of the five year drought beginning in 2021 (Appendix E).

- Drought Year 1: 2021
    - No decline to customer water use as compared to 2020. The District would be in a Level 2 drought condition with mandatory prohibitions on water use pursuant to Ordinance No. 389.
    - No decline in water supply from District non-potable well water as compared to 2020.
    - No decline in water supply from District potable well water as compared to 2020. This includes seven District wells being offline as of 2020 (40% reduction in pumping capacity).
    - It is conservatively assumed that MWD will make a "call" and the supply from City of Ontario via CDA of up to 2,000 AFY of potable water (as part of the DYY Program) will not be available. The difference would be made up by District

wells and facilities funded in part by the District's participation in the DYY Program.

- Drought Year 2: 2022
    - The District will remain in a Level 2 drought condition with increasing public education, outreach, and enforcement of the mandatory prohibitions to reduce water use 10% as compared to 2020 (reduction of 2,927 AFY).
    - No decline in water supply of District non-potable well water as compared to 2020.
    - No decline in water supply of District potable well water as compared to 2020.
    - MWD will make a "call" and supplies of up to 2,000 AFY will not be available from City of Ontario via CDA pursuant to the DYY Program.
    - District Wells 13 and 17 will be back online and provide at least 2,000 AFY of potable water supplies.
- Drought Year 3: 2023
    - Customer water use could decrease 20% as compared to 2020 (reduction of 5,854 AFY) as a result of demand management measures.
    - No decline in supply of District non-potable well water as compared to 2020.
    - No decline in supply of District potable well water as compared to 2020.
    - MWD will make a "call" and supplies of up to 2,000 AFY will not be available from City of Ontario via CDA pursuant to the DYY Program.
    - District Wells 13 and 17 will provide at least 2,000 AFY of potable water supplies.
    - Recycled water will come online to replace 660 AFY of 2022 potable water use.

  - First phase of Etiwanda Pipeline Project (Phase 1a) will be constructed and an estimated 2,000 AFY may be available to the District.

- Drought Year 4: 2024
  - Customer water use could decrease 30% as compared to 2020 (reduction of 8,782 AFY) as a result of demand management measures.
  - No decline in supply of District non-potable well water as compared to 2020.
  - No decline in supply of District potable well water as compared to 2020.
  - MWD will make a "call" and supplies of up to 2,000 AFY will not be available from City of Ontario via CDA pursuant to the DYY Program.
  - District Wells 13 and 17 will provide at least 2,000 AFY of potable water supplies.
  - Recycled water will replace 660 AFY of potable water use.
  - Second phase of Etiwanda Pipeline Project (Phase 1b) will be constructed and two new JCSD wells providing an estimated 2,000 AFY will be brought online.
  - Negotiations may be complete to make available imported water supply to JCSD from Western via La Sierra Pipeline and CDA.

- Drought Year 5: 2025
  - Customer water use will decrease 40% as compared to 2020 (reduction of 11,709 AFY) as a result of demand management measures.
  - No decline in water supply from District non-potable well water as compared to 2020.
  - No decline in water supply from District potable well water as compared to 2020.

- MWD will make a "call" and supplies of up to 2,000 AFY will not be available from City of Ontario via CDA pursuant to the DYY Program.
- District Wells 13 and 17 will provide at least 2,000 AFY of potable water supplies.
- Recycled water will replace 660 AFY of potable water use.
- Phase 2a of Etiwanda Pipeline Project will provide an estimated 2,000 AFY.
- Third phase of Etiwanda Pipeline Project (Phase 2a) will be completed with an estimated 1,000 AFY.
- JCSD Well 30 will be drilled and equipped providing up to 2,500 AFY of potable water supply.

The uncertainty in the aforementioned assumptions include the water supplied by projects with agreements that have not been completely finalized between all parties. This includes the Etiwanda Pipeline project and the La Sierra Pipeline Connection project. Production rates of new wells are also estimated and have some uncertainty because they have not been drilled, equipped, and tested yet. Lastly, there is uncertainty whether Metropolitan would need to make a "call" for water as part of the DYY Program.

7.2.3 Total Water Supply and Use Comparison

When a water supplier cannot meet the demands of its customers for whatever reason, this DRA assumes two things can happen: the District can mandate customers to conserve water, thus reducing demand; and/or the District can augment or supplement its normal supplies with an emergency source of water.

JCSD customers have shown to be responsive to water conservation mandates. For example, JCSD Resolution No. 2499 was approved by the Board of Directors on August 11, 2014 to elevate the District to Drought Response Level 2. Residential water use at that time was 179.2 gallons per capita per day (R-GPCD). Nine months later, the Board of Directors approved Resolution No. 2542 on May 26, 2015 to elevate the District to Drought Response Level 3. From the time JCSD went from Level 2 to Level 3, residential water use decreased from 179.2

GPCD to 119.6 GPCD (a 33% drop). From May 26, 2015 to April 2016, JCSD residential water use decreased another 14 percent from 119.6 GPCD to 103 GPCD. (WEBB(a), p. 8-6)

Supply augmentation for JCSD comes from the District's water held in storage accounts in the Chino Basin and full utilization of its rights to pump from the Chino Basin. These sources of emergency supply are not expected to be used until the District is in an extreme such as Drought Level 4 or 5. For example, in 2020 the District wells in the Chino Basin produced approximately 11,029 AF (Submittal Table 6-8); however, the District's annual production right is 19,547.9 AF and the District has 31,861.3 AF in storage (CBWM(a), pp. 10.1, 11.1). Should it have been needed, the District could pump another 8,000 AF without paying a replenishment fee, and the District could access its groundwater storage accounts up to said amount.

Assuming the next five years - 2021 through 2025 - are a five-consecutive year drought, and taking into account the assumptions in Section 7.2.2, the District's potential water supply surplus (or shortage) is provided in **Submittal Table 7-5** (next page)**.** If there is a shortage, then the benefit of a supply augmentation or use reduction action is shown to address the shortage. As shown in Submittal Table 7-5, surplus supply is expected in all five years for both potable and non-potable water primarily because the supplies from District wells and CDA wells do not decrease and additional supply projects come online.

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Submittal Table 7-5: Five-Year Drought Risk Assessment Tables to address Water Code Section 10635(b)	
2021	**Total**
Total Water Use - *Potable*	29,272
Total Supplies - *Potable*	29,272
Surplus/Shortfall w/o WSCP Action	0
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	0
Resulting % Use Reduction from WSCP action	0%
2022	**Total**
Total Water Use [Use Worksheet]	26,345
Total Supplies [Supply Worksheet]	29,272
Surplus/Shortfall w/o WSCP Action	2,927
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	2,927
Resulting % Use Reduction from WSCP action	0%
2023	**Total**
Total Water Use [Use Worksheet]	23,418
Total Supplies [Supply Worksheet]	31,272
Surplus/Shortfall w/o WSCP Action	7,854
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	7,854
Resulting % Use Reduction from WSCP action	0%
2024	**Total**
Total Water Use [Use Worksheet]	20,490
Total Supplies [Supply Worksheet]	33,272
Surplus/Shortfall w/o WSCP Action	12,782
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	
Resulting % Use Reduction from WSCP action	0%
2025	**Total**
Total Water Use [Use Worksheet]	17,563
Total Supplies [Supply Worksheet]	37,772
Surplus/Shortfall w/o WSCP Action	20,209
Planned WSCP Actions (use reduction and supply augmentation)	
WSCP - supply augmentation benefit	
WSCP - use reduction savings benefit	
Revised Surplus/(shortfall)	20,209
Resulting % Use Reduction from WSCP action	0%

CHAPTER 8 WATER SHORTAGE CONTINGENCY PLAN

Adoption Date and Resolution No.: June 28,2021, JCSD Resolution No. 3134

This Water Shortage Contingency Plan (WSCP) details JCSD's actions in the event of an actual water shortage condition. A water shortage means that the water supply available is insufficient to meet the normally expected customer water use at a given point in time. The State Legislature modified the UWMP laws in 2018 to require a WSCP with the specific elements contained herein. The District may modify this WSCP at any time independent of updates to the UWMP; however, the same steps to notify and hold a public hearing are required with each modification as described herein. This chapter is written as a stand-alone document and therefore repeats many elements from the other chapters in the UWMP.

8.1 WATER SUPPLY RELIABILITY ANALYSIS

Pursuant to Water Code Section 10632(a)(1), the following is a summary of the Water Service Reliability Assessment and Drought Risk Assessment located in Chapter 7 of this UWMP.

The District has assessed the reliability of its water service during normal, single-dry, and multiple-dry years by comparing total projected water supplies with total projected water demand over the next 20 years, in five-year increments. Future water supplies for JCSD include all reasonably foreseeable and quantifiable future water supply projects that the District is either currently undertaking or is in the process of implementing. Future water demands for JCSD reflect a land-use based approach assuming mid-range density buildout of the District's service area and updated water duty factors from 2018-2019 customer meter data prepared separately for each land use type in each City within the District. In summary, the District is projected to have sufficient water supplies to meet expected customer demands in normal years, single-dry years, and multiple-dry years occurring anytime between 2025 and 2045 with the future supply projects coming online and the potential effects of climate change on precipitation/natural recharge and outdoor water use.

The District has prepared a five-consecutive-year Drought Risk Assessment (DRA) for a drought beginning in 2021 and continuing through 2025. The DRA assumes a sequential reduction in customer water use with each passing year to reflect mandated conservation. These projected reductions in water use are deemed realistic given the observed reductions

JCSD customers made during the five-year drought from 2013 to 2017. Further, the DRA assumes imported water supplies would be available to the District beginning in drought year one (2021) through drought year five (2025) (WMWD(a), p. 3). Local groundwater supplies from District wells and Chino Desalter Authority (CDA) wells are assumed to be reliable in all years of the DRA, which is consistent with what was observed during the five-year drought from 2013 to 2017. The available supply in the DRA is bolstered by several water supply projects coming online between 2021 and 2025.

Groundwater reliability is based on recent analyses and observations made by the District and Chino Basin Watermaster. The Chino Basin is currently estimated to have approximately 12.6 million acre-feet of total water in storage (WEI(a), p. 6-15). The CDA well field partially located in the southwestern corner of the District must provide controlled overdraft in the southern part of the basin in order to achieve hydraulic control and maintain the safe yield (WEI(e), p. 1-4). Despite said pumping in the CDA well field, groundwater level contours between 2012 and 2018 in the JCSD area remained stable (WEI(d), Exhibit 4-4). These facts point to the Chino Basin being is of such sufficient size in terms of reliable water in storage regardless of drought conditions that reductions to the District's groundwater supply during drought years is not foreseeable. Further, the District's appropriative rights to groundwater, entitlements to CDA water, and water held in groundwater storage accounts are sufficient to meet demands through the next five years if it were five consecutive drought years.

The ability to produce water from the Chino Basin has been constrained in the last couple of years by the sudden and unexpected appearance of a newly regulated family of contaminants (i.e., PFAS). Several of the District's wells were taken offline in 2020 as a result. The difference in groundwater production has been made up by the District's other wells and purchases from CDA within the existing entitlements. It is plausible that there will be more contaminants being regulated in the future that the District currently is not aware of and unable to fully prepare for. However, the District is currently addressing the known impairments with a plan of targeted projects to bring wells back online (i.e., *Water Quality Evaluation Study* prepared by Hazen & Sawyer and WEBB). The order in which projects are proposed has been optimized to account for several variables, such as the varying concentrations of contaminants in each well (including PFAS, 1,2,3-TCP, 1,1-DCE, nitrates, and TDS), available space for treatment at each well site, minimizing the waste from treatment technologies, minimizing new pipeline lengths,

and the distance to existing blending and/or treatment facilities. Because of said reliability of the Chino Groundwater Basin, the District's demonstrated ability to make-up for nearly 40% of pumping capacity being put offline in 2020 and still meeting water demands, and the plan that has been put in-place to address water quality concerns, the DRA has assumed that availability of groundwater supplies will not be reduced due to water quality constraints.

8.2 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

Beginning in 2022, the District will prepare an annual water supply and demand assessment (or, Annual Assessment) and submit an Annual Water Shortage Assessment Report to DWR. The Annual Assessment is a determination of the near-term outlook for supplies and demands and how a perceived shortage may relate to WSCP shortage stage response actions in the next 12-month period; this determination is based on known circumstances and information available to JCSD at the time of analysis.

The Annual Water Shortage Assessment will be due by July 1 of each year pursuant to Water Code Section 10632.1. DWR is currently developing a stand-alone guidance document to help suppliers develop their own procedures but it will not be available before the deadline for this document, which is July 1, 2021. Therefore, the decision-making process and key data inputs for the Annual Assessment shown below are interim and subject to change when the DWR guidance document becomes available.

8.2.1 Decision-Making Process for Annual Assessment

The Annual Assessment and related reporting are to be conducted based on the District's procedures described in the WSCP. At this time, the Annual Assessment is anticipated to be primarily based on the District's ongoing water supply and water demand tracking and monitoring process, the results and analysis of which is presented monthly to the Board of Directors. The Annual Assessment will involve examination of developing demand and supply conditions for the next 12-months, as well as considerations for potential actions consistent with the WSCP. In June when an Annual Assessment is presented to the Board of Directors, it may include a request to trigger specific shortage response actions. Upon approval, JCSD staff will then submit the Annual Assessment to DWR by July 1.

8.2.2 Data and Methodologies for Annual Assessment

The primary data sources that could be used by the District to evaluate the water reliability for the current year and one dry year are detailed below pursuant to Water Code Section 10632(a)(2). The Annual Assessment determination will be based on considerations of available water supplies, unconstrained demand, and infrastructure considerations.[1] Because the WSCP shortage stages are defined in terms of shortage percentages, shortage percentages for current year and one dry year conditions would be calculated for the Annual Assessment. The characteristics of "one dry year" according to the District will be at the discretion of the District, which may be refined and changed over time based on ongoing data collection. The 2020 UWMP suggests the conditions of a single dry year would be consistent with average rainfall in 2018, which was approximately half of average (47%) with average being 11 inches per year (Table 7-1). The District will focus the Annual Assessment based on actual forecasted near-term water supply conditions to ensure appropriate shortage response actions are triggered in a timely manner with expected outcomes.

1. **Evaluation Criteria.**

   For each Annual Assessment, the District will characterize current year and one dry year scenarios based on best-available data. JCSD will consult with the Chino Basin Watermaster with regard to any limitations on groundwater extractions. The District will consult with CDA to confirm whether they will meet their contracted obligations to supply water pursuant to their agreement. Said consults will focus on estimates for the next 12 months and estimates if a single-dry year condition occurs where rainfall is half of average. The District will make an estimation of available core supplies and unconstrained demands for the next 12-month period and a dry-year scenario to calculate shortage percentages. These findings will be given additional context and

[1] For the Annual Assessment and WSCP, Water Code Section 10632(a)(2)(B)(i) directs the District to use current year "unconstrained demand" when assessing water supply reliability. Unconstrained demand is defined as expected water use in the upcoming year, based on recent water use, and before any projected shortage response actions that may be taken under the WSCP. Unconstrained demand may be differentiated from observed demand, which may be constrained by preceding, ongoing, or future actions, such as emergency actions taken as part of a mutli-year drought. Routine activities such as ongoing conservation programs and regular operational adjustments are not considered as constraints on demands.

influenced by infrastructure considerations (discussed below) which will differ from year to year.

2. Water Supply.

For each Annual Assessment, the District will quantify each source of water supply for the next 12 months and in a single-dry year condition based at least in-part on the consultations described in step 1 (Evaluation Criteria). Quantification of supplies will differentiate the District's water supplies in Table 8-3 that are expected to be used in a supply augmentation situation.

3. Current Year Unconstrained Customer Demand.

For each Annual Assessment, the District will gather data to forecast near-term demands, and may take into consideration historical usage trends, weather trends, and water-use efficiency trends. The growth projections from the *Water Master Plan*, the number of service availability letters issued recently, and development rates from the Development Status Map may be referenced to gauge demand. Because these would be "constrained" observed demands rather than unconstrained demands, the District would adjust its near-term demand forecast for the Annual Assessment to account for extraordinary demand management measures that the District may intend or have already put into effect for the current year.

4. Current Year Available Supply.

For each Annual Assessment, the District will make two estimates of the available annual water supply using (1) current year conditions for the next 12 months and (2) one dry year conditions. Because the definition of one dry year is at the discretion of the District, JCSD will be able to refine and update its assumptions for a dry year scenario in each Annual Assessment as information becomes available.

5. Infrastructure Considerations.

For each Annual Assessment, the District will describe infrastructure constraints that would influence the ability to obtain the water supply as expected and/or the ability to distribute normally to customers. Projects in the next 12 months that would influence

capabilities would be quantified with the volume of water becoming available or unavailable and the duration of projects/constraints.

Each year, JCSD regularly carries out preventive and corrective maintenance of its facilities to inspect and repair pipelines and facilities and support capital improvement projects. These shutdowns involve a high level of planning and coordination; they are scheduled to ensure that major portions of the distribution system are not out of service at the same time. Operational flexibility within JCSD's system allow shutdowns to be successfully completed while continuing to meet all system demands.

6. Other Factors.

For each Annual Assessment, the District can describe locally applicable factors that can influence or disrupt supplies, along with other unique local considerations that are considered to be part of the Annual Assessment.

8.3 SIX STANDARD WATER SHORTAGE STAGES

The Water Code requires six standard water shortage stages in the WSCP that correspond to progressive ranges of up to 10%, 20%, 30%, 40%, and 50% shortages and greater than 50% shortage. Each stage represents an increasing gap between JCSD's supplies and demands as determined in the Annual Assessment. As described above, shortage percentages will be calculated as percent shortfall of supplies against demands for anticipated current year conditions and assumed dry year conditions. Shortage levels also apply to catastrophic interruption of water supplies, including but not limited to a regional power outage or earthquake. The District's shortage response actions for each shortage level are shown in **Submittal Table 8-1** (next page) and described in Section 8.4, below.

Submittal Table 8-1 Water Shortage Contingency Plan Levels		
Shortage Level	**Percent Shortage Range**	**Shortage Response Actions** (*Narrative description*)
1	Up to 10%	"Drought Watch" (Voluntary per person water use reduction of up to 10%.) District will increase public education and outreach efforts to implement many voluntary water conservation practices.
2	Up to 20%	"Drought Caution" (Mandatory per person water use reduction of 10-20%.) Demand reduction actions expand to limit outdoor water use and all Level 1 actions become mandatory. Beginning at this level, District can pursue administrative, civil, and criminal penalties and remedies, cumulatively, for violation of water conservation measures.
3	Up to 30%	"Drought Alert" (Mandatory per person water use reduction of 20-30%.) Demand reduction actions expand to further limit outdoor irrigation, including no public median watering. Demand Actions required by level 1 and level 2 stay in-effect.
4	Up to 40%	"Drought Critical" (Mandatory perperson water use reduction of 30-40%.) Demand reduction actions can include suspending new service availability letters, annexations to its service area, and/or may establish water allocations for properties served. Demand reductions in levels 1-3 are in-effect. Supply augmentation may begin with using water in storage.
5	Up to 50%	"Drought Emergency" (Mandatory per person water use reduction of more than 40%.) Demand reduction actions continue and can include a moratorium on new service connections and water allocations. Actions in level 1-4 remain in-effect. Supply augmentation may begin (or continue) with using water in storage and/or fully utilizing rights.
6	>50%	Also "Drought Emergency" (Same requirements apply in this situation as level 5.)
NOTES: Source: JCSD Ordinance. No. 389. Refer to Table 8A for Water Conservation Measures by Drought Response Level and Table 8-2 for restrictions on end uses.		

Water suppliers may continue using their existing water shortage stages as long as a cross-reference relating its existing stages to the six standard levels prescribed by statute (Water Code 10632(a)(3)). The District's crosswalk is provided in **Table 8A** (next page).

Table 8A– Crosswalk Between JCSD Shortage Levels and 2020 Mandated Shortage Levels

Drought Condition	2015 UWMP Stage	Supply Condition/ Shortage	Per Person Water Use Reduction Target		2020 WSCP Level	Shortage Levels Prescribed by Statute
Abnormally Dry	1	Normal (Drought Watch - voluntary)	< 10%	→	1	≤ 10%
Moderate Drought	2	Drought Caution (mandatory)	10-20%	→	2	10-20%
Severe Drought	3	Drought Alert (mandatory)	20-30%	→	3	20-30%
Extreme Drought	4	Drought Critical (mandatory)	(30-40%)	→	4	30-40%
Exceptional Drought	5	Drought Emergency (mandatory)	>40%	→	5	40-50%
				→	6	> 50%

JCSD Ordinance No. 389 describes the District's five-stage Water Conservation Program to be invoked during declared water shortages (a copy of Ordinance No. 389 is located in **Appendix M**). The stages reflect increasing levels of prohibitions and consumption reduction methods. Ordinance No. 389 includes both voluntary and mandatory rationing depending on the causes, severity, and anticipated duration of the water supply shortage. Therefore, the District may declare a drought emergency stage at any time based on the current circumstances, without regard to the drought stage previously in effect. The JCSD shortage stages also apply in the event of catastrophic interruptions of water supplies.

8.4 WATER SHORTAGE RESPONSE ACTIONS

The water shortage response actions the District can take that align with the defined shortage levels in Table 8A include demand reduction actions, supply augmentation actions, operational changes, and additional mandatory prohibitions. The authority to determine shortage conditions and to select appropriate shortage response actions remains with each water supplier. **Table 8B** summarizes the demand reduction actions listed in Ord. No. 389 and in

which stage the action is voluntary or mandatory. Descriptions of each stage are noted after the table.

Table 8B - JCSD Ord. No. 389 Demand Reduction Actions

Prohibition	Voluntary	Prohibition is mandatory			
	Level 1[(1)]	Level 2[(1)]	Level 3	Level 4	Level 5
Do not use water to wash down paved surfaces	X	X	X	X	X
Adjust sprinklers and irrigation systems to avoid overspray, runoff, and waste	X	X	X	X	X
Irrigate all landscapes before dawn, and never between 8:00 AM and 8:00 PM	X	X	X	X	X
Irrigation is prohibited during and 48 hours after measurable rain	X	X	X	X	X
Agricultural users are requested to reduce water usage and consult with local Resource Conservation District as needed for appropriate measures	X	X	X	X	X
Developers and residents are encouraged to design and install water-efficient landscaping and minimize turf areas	X	X	X	X	X
Install water saving devices in indoor plumbing	X	X	X	X	X
Check for and repair leaks both indoors and outdoors	X	X	X	X	X
Use re-circulated water in decorative features	X	X	X	X	X
Wash motor vehicles and other mobile equipment with a bucket or hand-held hose with positive shut-off valve	X	X	X		
Vehicles may only be washed at commercial carwashes				X	X
Restaurants do not serve water unless requested	X	X	X	X	X
Hotels and motels must provide guests with a no-wash option	X	X	X	X	X
Limit all outdoor irrigation to 4 days per week, no more than 10 minutes per station per day; does not apply to functional landscapes.		X			
Limit all outdoor irrigation to 3 days per week, no more than 10 minutes per station per day; functional landscapes watering limited to 4 days per week			X		
Limit all outdoor irrigation to 2 days per week, no more than 10 minutes per station per day; functional landscapes watering limited to 3 days per week				X	X
Irrigation will be limited to odd-numbered addresses on Mondays, Wednesdays, Fridays			X		

Prohibition	Voluntary	Prohibition is mandatory			
	Level 1[1]	Level 2[1]	Level 3	Level 4	Level 5
and even-numbered addresses on Tuesdays, Thursdays, Saturdays					
Irrigation will be limited to odd-numbered addresses on Mondays and Thursdays, even-numbered addresses on Tuesdays and Fridays				X	X
Ornamental landscapes with properly operating water-efficient devices can be irrigated 30 minutes/station/day for drip irrigation or 20 minutes/station/day for stream rotors on the days authorized for landscape irrigation		X	X	X	X
Repair or stop leaks within 72 hours of notification		X			
Repair or stop leaks within 48 hours of notification			X	X	X
No irrigation of turf on public medians			X	X	X
Irrigation with potable water outside newly constructed homes inconsistent with CBSC or DHCD standards is prohibited[2]			X	X	X
Each developer must submit a Water Conservation Plan prior to using water for dust control and grading at construction sites			X	X	X
The District may establish a water allocation for each property served				X	X

Source: JCSD Ord. No. 389.
An "X" indicates the prohibition is applicable.
CBSC: California Building Standards Commission; DHCD: Department of Housing and Community Development.
(1) Level 2 is the lowest the District can declare under current state regulations.

Drought Response Level 1 – Drought Watch Condition

The District cannot declare less than a Level 2 condition under current state regulations, and therefore all Level 1 conditions are currently mandatory. If a Level 1 condition can be declared by the Board of Directors, then all water users would be asked to voluntarily reduce their water use up to 10 percent.

[2] CBSC = California Building Standards Commission, DHCD = Department of Housing and Community Development

Drought Response Level 2 – Drought Caution Condition

Level 2 is the lowest level the District can declare under current statewide regulations. The Board of Directors can declare a Level 2 Drought Caution Condition which mandates all water users to reduce their water use more than 10 percent and up to 20 percent. The water conservation measures required in addition to Level 1 measures are presented in Table 8B. Beginning with Drought Response Level 2, violation of the mandatory water conservation measures shall be subject to civil penalties (see section 8.6, below).

Drought Response Level 3 – Drought Alert Condition

The Board of Directors can declare a Level 3 Drought Alert Condition which mandates all water users to reduce their water use more than 20 percent and up to 30 percent to ensure sufficient supplies. At Level 3, new service availability letters will be issued by JCSD provided that the applicant proves to the satisfaction of the District of an enforceable commitment that water demands for the project will be offset by 100 percent prior to the provision of a new water meter.

Drought Response Level 4 – Drought Critical Condition

The Board of Directors can declare a Level 4 Drought Critical Condition which mandates all water users to reduce their water use more than 30 percent and up to 40 percent to ensure sufficient supplies. Upon declaration of a Level 4 condition, the issuance of new service availability letters shall be suspended, unless already approved, provided the applicant provides proof to the satisfaction of the District of an enforceable commitment that water demands from the project will be offset by 125 percent prior to the provision of a new water meter.[3] New connections and temporary construction meters shall be permitted as necessary under the discretion of the Board of Directors to protect public's health, safety and welfare.

Beginning with Level 4, the District shall also suspend consideration of annexations to its service area, unless the annexation increases the water supply available to the District by more than the anticipated demands of the property to be annexed. Also beginning with a Level 4 condition, the Board of Directors will consider instating Water Allocation Targets for each

[3] Substituting this requirement with imposition of the Water Resources Capacity Charge is at the discretion of the District at such time they enter Drought Level 4.

property served. The calculation would be applied to consumption in excess of the Public Health and Safety threshold of eleven units per monthly billing period.

Drought Response Level 5 – Drought Emergency Condition

In the event of a water shortage of any percentage more than 40 percent, or at any other time the Board of Directors deems necessary, the Board of Directors may declare a Level 5 Drought Emergency Condition and consider a moratorium on new service connections regardless of approved water availability letters. The water conservation measures required in addition to Level 1, Level 2, Level 3, and Level 4 measures would all be mandatory. The Board of Directors can also consider instating water allocation targets for each customer served.

8.4.1 Demand Reduction

There are generally two ways to respond to a water shortage through either demand reduction actions or supply augmentation. The District's Water Conservation Program in Ordinance No. 389 focuses on reducing demand for water to address reductions in water supplies and/or worsening drought conditions. The District demonstrated during the drought of 2013-2017 that demand reduction efforts are achievable and effective; for example, average per-person water use was reduced from 179.2 gallons per capita per day (GPCD) in August 2014 to 103 GPCD in April 2016, which is a 42.5% decrease in use over two years (WEBB(b), p. 8-6). The District's demand reduction actions are provided in **Submittal Table 8-2** (next page) including the estimated proportion of the shortage gap that the demand reduction action is expected to meet at each level. Level 1 actions are not shown in Submittal Table 8-2 because they are currently mandatory per Level 2 conditions. The percentages add up to 100% in Levels 2 and 3.

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				
2	Other - Prohibit use of potable water for washing hard surfaces	5%	Includes sidewalks, driveways, parking areas, tennis courts, patios, or other paved areas, except to alleviate immediate safety or sanitation hazards.	Yes
2	Expand Public Information Campaign	8%		Yes
2	Offer Water Use Surveys	3%		No
2	Increase Water Waste Patrols	8%		Yes
2	Landscape - Restrict or prohibit runoff from landscape irrigation	5%	Adjust sprinklers to avoid overspray, runoff and waste.	Yes
2	Landscape - Limit landscape irrigation to specific days	3%	Avoid watering on windy days.	Yes
2	Landscape - Limit landscape irrigation to specific times	8%	Limited to before 8 AM and 8 PM.	Yes
2	Other - Require automatic shut of hoses	5%	Use hose equipped with a positive shut-off nozzle or bucket to water non-irrigated landscaping	Yes
2	Landscape - Other landscape restriction or prohibition	2%	Prohibited during or 48 hours after measurable rain (0.25-inch).	Yes
2	Other	0% (No agricultural users currently)	Agricultural users are encouraged to meet with the local Resource Conservation District or industry associations to identify water conservation measures and implement as soon as possible.	Yes
2	Landscape - Other landscape restriction or prohibition	15%	Residents and developers are urged to install waterwise landscaping/minimize turf areas	Yes
2	Other	10%	Install water saving devices indoors.	Yes
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	5%	Check for leaks indoors/outdoors and repair them immediately.	Yes
2	Water Features - Restrict water use for decorative water features, such as fountains	1%	Use recirculated water in these features.	Yes
2	Other - Require automatic shut of hoses	1%	Wash vehicles, etc. with a hose and shut-off nozzle, or at a commercial site.	Yes
2	Other	0	Avoid washing vehicles during hot conditions.	Yes
2	CII - Restaurants may only serve water upon request	1%	Also applicable in other public places where food is served.	Yes
2	CII - Lodging establishment must offer opt out of linen service	0	Notice of this option should be displayed prominently in each room.	Yes
2	Landscape - Limit landscape irrigation to specific times	13%	Ornamental landcsapes with water-efficient devices may irrigate as follows on authorized days: Drip Irrigation - 30 min per station; and Stream Rotors - 20 minutes per station.	Yes
2	Landscape - Limit landscape irrigation to specific days	5%	Limit all outdoor irrigation to 4 days per week and no more than 10 minutes per station. Does not apply to functional landscape, which shall be limited to 5 days per week as approved by District.	Yes
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	2%	All leaks must be repaired/stopped within 72 hours of notification	Yes

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				
3	Landscape - Limit landscape irrigation to specific days	20%	Odd and even addresses water on opposite days with no watering on Sunday.	Yes
3	Landscape - Prohibit certain types of landscape irrigation	6%	No irrigation of turf on public medians.	Yes
3	Landscape - Prohibit certain types of landscape irrigation	0%	No irrigation with potable water outside of new construction in a manner inconsistent with regulations established by Building Standards Commission and Dept. of Housing & Community Development.	Yes
3	Other	2%	Use of water for dust control shall only be permitted as set forth in a Water Conservation Plan approved by the District.	Yes
3	Moratorium or Net Zero Demand Increase on New Connections	0		Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	2%	Repair or stop leaks within 48 hours.	Yes
4	Other	40%	All Level 2 and Level 3 demand reduction actions	Yes
4	Landscape - Limit landscape irrigation to specific days	3%	Limit outdoor irrigation to 2 days per week, 10 minutes per stations. Functional landscape will be limited to 3 days per week. Exemptions for fire protection and erosion control may allow watering up to 3 days per week.	Yes
4	Landscape - Limit landscape irrigation to specific days	6%	Odd addresses water on Mon. and Thurs., even addresses on Tues. and Fri. and no watering on Sat. or Sun.	Yes
4	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	1%	Vehicles can only be washed at commercial car washes.	Yes
4	Moratorium or Net Zero Demand Increase on New Connections	0		Yes
4	Other	0	Water Allocation Target may be developed for each account. This option is reserved for the most extreme contingency, therefore no demand reduction is provided.	Yes
5	Other	45%	All Level 2, Level 3, and Level 4 demand reduction actions	Yes
5	Other	0%	Water Allocation Target may be developed for each account. This option is reserved for the most extreme contingency, therefore no demand reduction is provided.	Yes
5	Moratorium or Net Zero Demand Increase on New Connections	5%	Moratorium on new service connections regardless of the existence of water availability letters for such connections.	Yes

NOTES: Level 2 is the lowest stage the District can declare under current statewide regulations. Therefore, all previously Level 1 measures are now Level 2 measures. Consistent with Ord. No. 389, this plan assumes a Level 2 reduction goal = 20%, Level 3 reduction goal = 30%, Level 4 reduction goal = 40%, Level 5 reduction goal = 50%. In Level 4 and Level 5, a supply augmentation (Table 8-3) would meet the other half of the shortage gap. Percentages are estimated based on best available information.

8.4.2 Supply Augmentation

The District can augment or supplement its water supplies by utilizing its full rights in the Chino Basin and by using water held in the Chino Basin groundwater storage accounts. These augmentation actions would not be redundant to the supplies discussed in UWMP Chapter 6 because these actions are above and beyond a normal water supply scenario. For example, the District plans to produce up to 14,000 AFY beginning in 2030 (Submittal Table 6-9). The supply augmentation would consist of pumping Chino Basin groundwater in an amount greater than 14,000 AFY up to the District's production right which is currently 19,548 AF (CBWM(a), p. 10.1). And pursuant to the Judgment, the District can pump in excess of its production right with payment of a replenishment fee. The District can also augment supply by using its water held in storage in the Chino Basin, which is currently 31,861.3 AF (CBWM(a), p. 11.1).

As shown in **Submittal Table 8-3**, these supply augmentation measures would occur no sooner than drought stage 4. In drought stage 5, a combination of the two supply augmentation actions would be used to meet half of the shortage gap, with the other half met by demand reductions shown previously in Submittal Table 8-2.

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			
4	Other Actions (describe)	50%	Utilizing full rights in the Chino Basin.
5	Other Actions (describe)	50%	Utilizing full rights in the Chino Basin.
5	Stored Emergency Supply	50%	Using water held in storage account in Chino Basin.
NOTES: In Level 5, the shortage could be met by either utilizing full rights in the Chino Basin or using water held in storage in the Chino Basin, or a combination thereof to meet at least half of the shortage gap. The remainder would be met with demand reduction actions (Table 8-2).			

8.4.3 Operational Changes

The operational actions that would be undertaken in the various drought scenarios are outlined in Table 8-2. The District already has a program to monitor, analyze, and tracking of customer usage rates and has budgeted a very aggressive pipeline replacement program.

8.4.4 Additional Mandatory Restrictions

All mandatory restrictions developed by the District in addition to state-mandated prohibitions are listed in Table 8C and Submittal Table 8-2. No additional mandatory restrictions are available; however, the Board of Directors has the discretion to develop in the future locally appropriate restrictions as conditions dictate.

8.4.5 Emergency Response Plan

JCSD adopted its Emergency Response Plan (ERP) in September 2020. Applicable excerpts from the document are included herein where noted; the document in its entirety is kept by the District. The ERP includes a Risk and Resilience Assessment for water facilities developed pursuant to America's Water Infrastructure Act of 2018 (AWIA). The ERP also includes Emergency Support Function No. 2 - Public Works and Engineering (ESF #2) to coordinate critical facilities including water treatment and distribution. JCSD has developed the ERP to facilitate resumption of normal operation of their facilities after an emergency including catastrophic supply interruptions. The primary hazards identified for JCSD are natural, infrastructure, and human-caused (ERP, p. 6). The following is a summary of pertinent information from the ERP (2020):

> *The Emergency Response Plan (ERP) is activated when it becomes necessary to mobilize resources of the District and the Mutual Aid Responders and the necessary Officers to save lives, protect property and critical infrastructure, and maintain services. This plan assigns roles and responsibilities to the various departments and Mutual Aid responders, and requires training, planning, and exercising prior to an emergency or incident. Each Department (Engineering, Water Operations, Sewer Operations, Finance, and Administration) is committed to effectively and efficiently coordinating and functioning within their assigned roles while providing mitigation and planning, response, and recovery efforts realized as the result of an incident or emergency. (ERP, p. 5)*
>
> *Jurupa Community Services District operates and maintains several facilities, which provides potable water to several businesses and the public in general including the City of Norco, the City of Ontario, and the Santa Ana River Water Company. It is important to note that none of the agencies that receive water*

from JCSD are solely dependent upon JCSD to provide water to their customers; all have alternative water sources. Therefore, if JCSD'S operation is terminated by a disaster, drinking water supplies will not be jeopardized. However, JCSD is committed to its obligation to provide a reliable source of potable water as soon as possible in the event of an emergency. JCSD recognizes that in the event of a regional disaster, such as an earthquake, other water sources may also be jeopardized; therefore, it is critical to return all facilities to full operation as soon as possible after an emergency. (ERP, p. 6)

JCSD is preparing to adopt its *2020 Water Master Plan,* which includes discussion and analysis of the District's existing water infrastructure in the event of an emergency and design criteria for future infrastructure to prepare for potential emergencies. The following excerpts address emergency water infrastructure situations:

- *JCSD has interties with neighboring water agencies including Santa Ana River Water Company, City of Ontario, City of Norco, Rubidoux Community Services District, and CDA.* (WEBB(a), p. 4-18)

- *JCSD operates 14 pressure reducing (regulating) stations, which allow the transfer of water from a higher-pressure zone to a lower pressure zone without exceeding the allowable pressure of the lower zone or completely draining water out of the higher zone. These ensure that a main break, or similar emergency in the lower pressure zone does not drain too much water from the upper pressure zone.* (WEBB(a), p. 4-17)

- *JCSD has connections (or interties) with neighboring water agencies, including the SARWC, the cities of Norco and Ontario, and RCSD to convey supplies in the event of an emergency.* (WEBB(a), p. 4-19)

- *JCSD has 16 water storage reservoirs located throughout the service area with a total capacity of 57.4 million gallons (MG). Stored water helps to equalize fluctuations between maximum and average daily supply and demand, to supply water for firefighting, and to meet demands during an emergency or unplanned outage of a major source of supply. JCSD design criteria for reservoirs includes an emergency storage volume equivalent to 75% of maximum day demand*. (WEBB(a), pp. 4-12, 5-5)

- *JCSD has eight primary pump stations with 22 electric pumps to provide water to higher elevations* (p. 4-13). *District design criteria requires that pump stations shall be constructed of fireproof materials and in some instances provided with peripheral sprinkler systems to prevent fire damage. Furthermore, power to the pump stations shall be provided through underground service to minimize possibility of damage during fires. Standby generators and automatic transfer switches shall be provided to critical pump stations to maintain operation during power outages*. (WEBB(a), p. 5-6)

- *JCSD has standby pumps at each of the existing pump stations for redundancy. Additionally, there are standby generators at most of the booster stations for electrical outages. Tanks and reservoirs have been dispersed across the distribution system and each has emergency storage if the supply source is out of service. Most of the distribution piping has been looped to create dual source systems. These looped pipe systems provide redundancy which increases the reliability of the system in the event of a waterline rupture, replacement, maintenance, or for some other reason. Reliability and redundancy should be considered in the design of future water facilities. Standby pumps and generators should be incorporated into the design of future booster stations. When possible, distribution piping should be designed with loops and avoid having more than 25 homes on a dead-end line*. (WEBB(a), pp. 5-6, 5-7)

As stated in the District's 2015 UWMP, "JCSD's facilities were designed and built to withstand earthquakes. Most of the District's systems are built of concrete and steel. In addition to causing structural damage, both earthquakes and fires could cause regional power outages. JCSD has installed standby power sources and repair supplies at strategic locations to lessen this risk to service disruption. More than half of JCSD's potable wells are equipped with backup generators." (WEBB(b), p. 8-14)

JCSD is a member of the statewide Water/Wastewater Agency Response Network (CalWARN) that functions in coordination with the State Office of Emergency Services. CalWARN is a network of agencies that support and promote statewide emergency preparedness, disaster response, and mutual assistance for public and private water and wastewater utilities.

JCSD is also a member of the Emergency Response Network of the Inland Empire (ERNIE), which facilitates public agency preparedness for, response to, and recovery from local and

regional disasters. Agencies volunteer to enter into an agreement to provide mutual aid and assistance to other member agencies. ERNIE assists agencies with trainings, communication, documentations for reimbursement, concept of emergency operations, and writing after-action reports and corrective action plans.

8.4.6 Seismic Risk Assessment and Mitigation Plan

Pursuant to Water Code Section 10632.5 beginning January 1, 2020, the UWMP 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.[4] The District may comply with this requirement by submitting a copy of its most recent Hazard Mitigation Plan (HMP) prepared under the federal Disaster Mitigation Act of 2000 if the HMP addresses seismic risk.

JCSD recently adopted its *2020 Hazard Mitigation Plan* (HMP) that was prepared pursuant to the federal Disaster Mitigation Act of 2000 (Public Law 106-390). Applicable excerpts from the document are included herein where noted, but the entire document is held by the District. Key findings from the 2020 HMP that are pertinent to the UWMP include:

- Earthquake hazards – No known faults are located within the District; however, several major faults are located in close proximity to the District, including the San Andreas Fault and San Jacinto Fault. JCSD has never been severely impacted by an earthquake (HMP, pp. 42-43).

- Wildfire hazards – The most recent wildfire event within JCSD occurred on Nov. 2, 2011 when a 13-acre fire pushed by Santa Ana Winds caused damage to three homes in the Glen Avon community of Jurupa Valley. Bordering areas along the District's boundary to the north and south are prone to wildfires including the Santa Ana River corridor (HMP, p. 52).

- Flooding hazards – The most recent flooding event to affect JCSD occurred in February of 2017 when flooding from the Santa Ana River damaged the Sky Lift Station 1 and 3. Prior to that, a series of storms in 2010 between Dec. 18 and Dec. 23 caused significant

[4] Pursuant to Water Code section 10632.5, the assessment herein is based on other sources, as described below. Albert A. Webb Associates is not qualified to make its own independent seismic risk assessments or recommend mitigation actions and assumes no responsibility for those recommended herein.

flooding damage to District property when the Santa Ana River inundated JCSD property off of Citrus Avenue. (HMP, p. 57)

- Windstorm hazards – High velocity wind events are typically the result of Santa Ana wind conditions (between Oct. and Feb.). Although infrequent, Santa Ana wind conditions and sporadic tornado activity have been known to impact District infrastructure located in isolated locations. (HMP, p. 65)

- Utility-Related hazards – The District has experienced brief power failures but none to the extent they posed a significant threat. The Public Safety Power Shutoff Program began in 2019 to shutoff electric power for reasons of public safety in an effort to prevent a wildfire. To date, no deliberate electricity stoppages have been ordered in the District area. There have been no natural gas pipeline incidents posing a significant threat to the District (HMP, p. 68)

To assess risk in the HMP, each potential type of risk was first prioritized based on probability to occur, magnitude of impact, length of warning time before an event occurs, and duration of the disaster event. Risks are ranked based on these factors, with the highest risk being an earthquake from the San Andreas Fault and an earthquake from the San Jacinto Fault, in addition to flood, wildfire, utility-related risk, and windstorm (HMP, p. 33). Vulnerability to the effects of an earthquake were determined to include the entire service area with likely probability to occur, but no significant previous earthquake events are noted. The magnitude of the event according to the Southern California Earthquake Center in 2007 concluded that there is a 99.7% probability than earthquake of magnitude 6.7 or greater will hit California within 30 years. Said earthquake would most likely originate from the San Andreas Fault (HMP, p. 35). Impacts from an earthquake could affect every JCSD facility (HMP, pp. 37-38) and every land use type in the District (HMP, p. 40).

The HMP contains a Mitigation Actions Matrix to identify actions that have been completed or still needed to address potential hazards, including seismic risk (pp. 83-108). Mitigation Earthquake Action Items include the following to mitigate seismic risk (shown in image below): (1) EQ-1 - Purchase and Installation of Engineered Seismic Retrofits (e.g. Seismic Valves and Couplings) at Water Storage Facilities (Reservoirs); and (2) EQ-2 - Conduct inventory and

identify action plan for retrofitting non-structural equipment and furniture, etc. against seismic activity. (HMP, p. 100)

Action Item	Coordinating Department	Timeline	Plan Goals Addressed					Priority L-Low, M-Medium, H- High	Benefit: L-Low, M-Medium, H-High	Cost: L-Low, M-Medium, H-High	Funding Source: GF-General Fund, GR-Grant, CIP, STEP-Strategic Plan, WP-Water Plan, SP-Sewer Plan	Planning Mechanism: GF-General Fund, GR-Grant, STEP-Strategic Plan, WP-Water Plan, SP-Sewer Plan	Buildings & Infrastructure: Does the Action Item involve new and/or existing Buildings & Infrastructure? Y=Yes, N=No	2020 Comments and Status: Completed, Revised, Deleted, New, Postponed, and Notes
			Protect Life and Property	Public Awareness	Natural Systems	Partnerships and Implementation	Emergency Services							
MH-57 Earthquake Action Items														
EQ-1 Purchase and Installation of Engineered Seismic Retrofits (e.g. Seismic Valves and Couplings) at Water Storage Facilities (Reservoirs).	Engineering	3 years			X	X	X	H	H	H	GR/GF, CIP,	STEP, WP, SP	Y	Revised
EQ-2 Conduct inventory and identify action plan for retrofitting non-structural equipment and furniture, etc. against seismic activity.	Operations	1-2 years	X	X	X	X	X	H	H	M	GR/GF	STEP	Y	Revised

Excerpt from Mitigation Actions Matrix in the JCSD 2020 Hazard Mitigation Plan.

8.4.7 Shortage Response Action Effectiveness

The District's response actions are shown in Submittal Tables 8-2 and 8-3. Each response action listed has a corresponding percentage of the shortage gap that the action is expected to meet. The percentages in Submittal Table 8-2 are based on the observed effectiveness of demand reduction actions undertaken during the last five years including the drought from 2013-2017. The higher the percentage, the more effective the action is expected to be in reducing demand. Actions that were very prescriptive such as limiting outdoor watering to specific times was effective because that can be monitored real-time in-house and spotted easily during water waste patrols. Instead of limiting watering to just a certain number of days per week, assign which customers using odd/even addresses can water on which days and not just any four days of the week, for example, is much more enforceable and effective.

Because the District has not declared a Level 4 (30-40% reduction) or Level 5 (>40% reduction) drought level, and never required water allocation targets because they are reserved for the most extreme scenario and unlikely at this time to be implemented, percentages of effectiveness were assumed 0% in Submittal Table 8-2.

As described previously, the District demonstrated during the drought of 2013-2017 that demand reduction efforts are achievable and effective; for example, average Districtwide consumption decreased 23 percent from 2013 to 2015. Average per-person water use was reduced from 179.2 gallons per capita per day (GPCD) in August 2014 to 103 GPCD in April 2016, which is a 42.5% decrease in use over two years. (WEBB(b), pp. 8-6, 8-12) During drought periods, the JCSD Operations Department reports weekly production figures to the Conservation Coordinator, who then prepares a monthly report to the Board of Directors to report on progress toward the water conservation target. In doing so, the District does analyze the efficacy of response actions on a monthly basis.

The effectiveness of the supply augmentation actions shown in Submittal Table 8-3 have not been needed to-date and are therefore estimated based on a thorough understanding of pumping capacity, well locations, and expected production rates based on long-term records. Because the District's system has been designed to fully utilize its groundwater rights and water in storage, the supply augmentation actions in Submittal Table 8-3 are estimated to close the water shortage gap by at least half during a Level 4 or Level 5 drought declaration.

8.5 COMMUNICATION PROTOCOLS

In the event of a drought declaration, notifications will proceed pursuant to JCSD Ordinance No. 389, which states in-part:

> *The existence of Drought Response Level 2 "Drought Caution," Level 3 "Drought Alert," or Level 4 "Drought Critical," or Level 5 "Drought Emergency" condition may be declared by resolution of the Board of Directors adopted at a regular or special public meeting held in accordance with State law. The mandatory conservation measures applicable to Drought Response Levels 2, 3, 4 or 5 conditions shall take effect immediately or as otherwise provided by State law. Within ten (10) days following the declaration of the response level, the District*

shall publish a copy of the resolution in a newspaper used for publication of official notices. If the District establishes a water allocation in response to a Drought Response Level 4 or Level 5 condition, it shall provide notice of the allocation by including it in the regular billing statement for the fee or charge or by any other mailing to the address to which the District customarily mails the billing statement for fees or charges for ongoing water service. Water allocation shall be effective on the fifth (5th) day following the date of mailing or at such later date as specified in the notice. The District's Board of Directors may declare an end to a Drought Response Level by the adoption of a resolution at any regular or special meeting held in accordance with State law.

In the event of an emergency, the District's ERP will provide complete guidance on notifications procedure, which states in-part (ERP, p. 27):

Initial notification to Duty Officers, District response departments, county employees, and the public occurs through several primary methods:

- *The Emergency Communications Center (ECC) will follow the Emergency Notification, District Paging Criteria is used to notify the Duty Officer of all responses, and to notify the General Manager.*
- *Involved departments and non-governmental emergency organizations notify their personnel and support through their pre-established individual emergency call procedures.*
- *Employees will be notified through the Employee Alert System (EAS) of the current situation and any response or protective actions necessary. The EAS is an important component in emergency notification, and it is incumbent on all employees to keep contact information up to date.*
- *The public will be informed through the appropriate public notification channel(s).*

Public notification channels can include the JCSD Emergency Communications Center, Nixle and the Employee Alert Systems, JCSD web site, local radio and television stations, NOAA

Weather Radio (National Weather Service), mobile public address systems, outdoor warning system/ Wireless Audio Visual Emergency System (WAVES), telephone/reverse 911, general broadcast over all available radio frequencies, and Social Media (Facebook, Twitter, LinkedIn, Instagram, etc.) (HMP, p. 73). District Staff should refer to Emergency Support Function No. 2 (ESF #2) – Communications within the ERP for detailed procedures, assumptions and available resources related to communications in an emergency (HMP, p. 71).

8.6 COMPLIANCE AND ENFORCEMENT

Pursuant to Water Code Section 10632(a)(6), the following explains the customer compliance, enforcement, appeal, and exemption procedures for triggered shortage response actions as determined by the WSCP.

The District will make a reasonable effort to assist customers with compliance, including personal contact, door hanger, letter, email, or telephone to notify customers of violation. Violation of the mandatory water restrictions associated with Drought Response Levels 2 through 5 will be subject to civil penalties set forth in Section 10.0 of Ordinance No. 389, as well as all other criminal and civil sanctions available under State law. During Drought Response Level 1, all reduction measures are voluntary.

As outlined in Section 10.0 of Ordinance No. 389, each day that a violation occurs is a separate offense. The first violation of any provision will result in a civil penalty fee of $25.00; fees associated with any other provisions within one year of the first violation of any provision of Ordinance No. 389 will be assessed as follows in **Table 8C.**

Table 8C - Penalties for Violations of Drought Level Restrictions

Civil Penalties for Violations of Drought Levels 2-5 Restrictions	
First Violation	$25.00
Second Violation	$50.00
Third Violation	$100.00
Fourth Violation	$200.00
Fifth Violation	$500.00

Source: JCSD Ord. No. 389.

If a water allocation has been imposed by the District during a Drought Response Level 4 or Level 5, water use in excess of the violation shall also constitute a violation. Water use in excess of the water allocation target per equivalent dwelling unit in any monthly period shall constitute a first offense, resulting in written notification. Monthly water use in excess of the water allocation target of any provision in any subsequent monthly billing period within one year of the first violation will constitute subsequent violation and the user will be assessed fees according to the following schedule in **Table 8D**:

Table 8D - Penalties for Violations of Water Allocation Target

Civil Penalties for Violations of Water Allocation Target	
First Violation	Written Notification
Second Violation	$20.00
Third Violation	$50.00
Fourth Violation	$100.00
Fifth Violation	$250.00
Sixth Violation	$500.00

Source: JCSD Ord. No. 389.

When a civil penalty is to be imposed, the customer will be given written notification of the penalty to be imposed. The customer then has seven days to contest the penalty, and the District will hold a hearing within 14 days if requested. Penalty amounts may be separately itemized on the Districts monthly bill for water service and will be due at the same time and in the same manner as charges for water service. Penalties collected will be used solely to implement and enforce water conservation measures.

Violation of a provision of this ordinance (No. 389) is subject to enforcement through installation of a flow-restricting device at the meter and could also be persecuted as a misdemeanor, punishable by imprisonment in the county jail for not more than 30 days or by a fine not exceeding $1,000 or both (Water Code Section 377). Willful violations could also constitute cause for termination of service to the property in violation. Such service shall not be resumed until such time as the Board of Directors receives satisfactory assurances that violations will not recur. The customer shall be responsible for the District's standard fees and charges for termination and resumption of service.

8.7 LEGAL AUTHORITIES

This section of the WSCP discloses the legal authorities that JCSD relies upon to implement the shortage response actions in Section 8.4, and to enforce them relative to Section 8.6.

The District maintains legal authority to implement JCSD Ordinance No. 389 – Water Conservation Program including the demand reduction actions in Section 8.4.1 and enforcement actions in Section 8.6. Ordinance No. 389 was adopted on May 26, 2015 by the JCSD Board of Directors as an Urgency Ordinance to adopt a water conservation program pursuant to Water Code section 375 that took effect immediately pursuant to Water Code section 376 (Appendix M).

The District's legal right to pump in the Chino Basin in order to implement the supply augmentation actions in Table 8-3 is an appropriative right adjudicated pursuant to the 1978 Judgment (Appendix I).

The following statements have been included herein to demonstrate consistency with Water Code Section 10632(a)(7):

1. Water Code Section Division 1, Section 350 - Declaration of a water shortage emergency condition.

> The governing body of the Jurupa Community Services District shall declare a water shortage emergency condition to prevail within the area served by the Jurupa Community Services District whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the Jurupa Community Services District to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

2. California Government Code, California Emergency Services Act (Article 2, Section 8558).

The Jurupa Community Services District shall coordinate with any city or county within which it provides water supply services for the possible proclamation of a local emergency.

The following is a list of contacts for all cities and counties for which the District provides service that can be used in the event of a local emergency as defined in subpart (c) of Gov. Code Section 8558:

a. County of Riverside Emergency Management Dept. (951) 358-7100

b. City of Eastvale City Manager's Office (951) 703-4411

c. City of Jurupa Valley City Manager's Office (951) 332-6161

8.8 FINANCIAL CONSEQUENCES OF THE WSCP

When implementing the WSCP, JCSD's response actions would include supply augmentation, demand management and operational flexibility, all of which could impact JCSD financially. Financial consequences would include a decrease in revenue due to a decrease in water use. Other consequences could include an increase in costs to augment supply as well as increased staffing costs for tracking, reporting, patrol and enforcement actions to implement the WSCP.

Upon implementation of the WSCP, JCSD uses its financial resources to mitigate the impacts of water shortages. Mitigation actions that would be initiated to address revenue reductions and expense increases associated with shortage response actions include use of a graduated fee structure for successive violations of water use restrictions during each Drought Response Level (Section 8.6, above). Any penalties collected under this policy will be used to implement and enforce water conservation measures. In addition, JCSD would consider a reduction of operation and maintenance expenses, deferral of capital improvement projects and use of the District's operations reserve and rate stabilization fund as needed to mitigate any short-term revenue shortfalls. In June 2012, JCSD adopted a Reserve Policy (Policy No. 2007-02) to ensure that the District will have sufficient funding available to meet the District's operating, capital, and debt service obligations. Reserves are managed in a manner that allows JCSD to fund costs consistent with its annually updated Capital Replacement Program as well as other

long-term plans while avoiding significant rate fluctuations due to changes in cash flow requirements.

One component of this Reserve Policy is a Rate Stabilization Fund, established specifically to shield the Water Fund from the financial effects of extraordinary circumstances. This Reserve is in place to ensure that the District can meet costs of necessary services while lessening the impact of otherwise significant changes in user fees, in any one year. Funding is determined at the end of each fiscal year based on analysis of available funds remaining based on the District's operations as presented in the audited financial statements.

8.8.1 Additional Costs from Discouraging Excessive Water Use During a Drought Emergency

During a drought emergency, the District is required to prohibit excessive water use pursuant to Water Code Section 365 et al. Reporting the actions undertaken by the District to do so does not need to be reported in this UWMP; however, reporting the cost of compliance with Section 365 et al. is a required component of this UWMP, pursuant to Water Code Section 10632(a)(8)(C).

For reference, Water Code Section 367 states there are three types of drought emergencies: (1) declared statewide drought emergency; (2) suppliers move to a local stage of requiring mandatory reductions (as part of the WSCP); and (3) declared local drought emergency. During any one of these three types of drought emergencies, Water Code Section 366 states that excessive water use must be prohibited by using either a rate structure or an excessive water use ordinance.

JCSD Ordinance No. 389 prohibits excessive water use by all customers at all times, which includes declared statewide and local drought emergencies, with violations of said prohibition subject to the penalties described therein. Further, each drought response level declared by the District includes the prohibition of excessive water use, also subject to the penalties described therein.

The costs of discouraging excessive water use during the drought emergency would include increased staffing costs for tracking and patrolling, customer notifications, increased customer

education, enforcement warnings and enforcement actions associated with excessive water use.

8.9 MONITORING AND REPORTING

The District will monitor and report on implementation of this WSCP based on key water use metrics to meet state reporting requirements. The District monitors all activities in the water distribution system through a dynamic system control and data acquisition (SCADA) system. The District will continue to monitor and contact high water users and investigate potential leaks. The Operations Department will continue to monitor the system daily and weekly. Reports are provided monthly to the Board of Directors as to the status of water supplies and water demands. At such time the State Water Board provides the regulations for monthly reporting along with associated enforcement metrics, these will be reviewed and incorporated herein as appropriate.

8.10 REFINEMENT PROCEDURES

Water Code Section 10632(a)(10) requires a description of how this WSCP will be reevaluated and improved upon to ensure water shortage risk tolerance is adequate and appropriate water shortage mitigation strategies are implemented as needed.

The WSCP will be periodically reevaluated to ensure that its shortage response actions are effective and up-to-date based on lessons learned from implementing the WSCP. The plan will be revised and updated during the UWMP five-year cycle to incorporate new information. For example, new demand reduction and/or supply augmentation actions may be added. If significant revisions are warranted, then the WSCP will be updated outside of the UWMP five-year update cycle. In the course of preparing the forthcoming Annual Assessments each year, JCSD staff can routinely analyze the functionality of the WSCP and prepare recommendations to modify the WSCP to the Board of Directors for the purpose of improving effectiveness in meeting the intent and goals of the WSCP.

8.11 SPECIAL WATER FEATURE DISTINCTION

Pursuant to Water Code Section 10632(b), water features that are not for human recreation are analyzed and defined separately from swimming pools and spas.

Non-Swimming Pool and Non-Spa Water Features

Water features that are not used for the purpose of human recreation are referred to as "decorative fountains, ponds, lakes, or other similar aesthetic structures" in JCSD Ordinance No. 389. These features must use recirculated water at all times regardless of drought stage. Water waste that is found to be related to such features may be enforced pursuant to the penalties in JCSD Ordinance No. 389. Said water waste can be reported to the District via the E-Citizen smart phone application, email, and telephone, as well as by staff. The District can also spot a malfunctioning meter or water waste through its AMR system. Additional demand reduction actions that are triggered during declared droughts can be developed to address decorative water features and incorporated herein during the next update to the WSCP.

Swimming Pools and Spas

Swimming pools and spas that are intended for human recreation must use potable water for health and safety considerations. JCSD Ordinance 389 does not address swimming pools and spas specifically. Water waste that is found to be related to pools and spas may be enforced pursuant to the penalties in JCSD Ordinance No. 389. Said water waste can be reported to the District via the E-Citizen smart phone application, email, and telephone, as well as by staff. The District can also spot a malfunctioning meter or water waste through its AMR system. Additional demand reduction actions that are triggered during declared droughts can be developed to address swimming pools and spas and incorporated herein during the next update to the WSCP.

8.12 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

The following are the steps to adopt, submit, implement, and amend the WSCP. The WSCP may be amended independently of the UWMP, as needed.

8.12.1 WSCP Adoption or Amendment

To adopt a WSCP or amend an adopted WSCP, the District will provide two required notices to customers and each city and county within which it provides service: (1) notice of a public hearing at least 60 days prior to the public hearing stating that the WSCP is being reviewed and adoption (or amendment) of the WSCP is being considered; (2) notice of the time and

place of the public hearing including where the draft document is available for public viewing. Per Government Code Chapter 17.5 (commencing with Section 7290) of Division 7 of Title 1, the District must hold the public hearing consistent with the Dymally-Alatorre Bilingual Services Act. Determination of whether language assistance is needed is at the discretion of the District (per Gov. Code Section 7293). The District shall also place the notice containing the date and location of the public hearing and location of where the plan is available for public viewing in a newspaper once a week for two successive weeks (per Gov. Code Section 6066).

The public hearing for the WSCP may take place at the same meeting as the adoption hearing of the Board of Directors; however, the meeting agenda must include the public hearing as an agenda item. Before the District can submit the WSCP to DWR, the Board of Directors must formally adopt the WSCP. The adoption resolution should be included with the WSCP, either as an attachment or Web address where it can be found online.

8.12.2 WSCP Submittal and Availability

The WSCP (or amended WSCP) must be submitted to DWR within 30 days of adoption. Submittal must be done electronically using the Water Use Efficiency (WUE) data online submittal tool located online at: https://wuedata.water.ca.gov/. Within 30 days of submitting the adopted WSCP to DWR, the District must make the plan available for public review during normal business hours. This can be accomplished by placing a hardcopy at the front desk or by posting copies on the District Web site.

The WSCP (or amended WSCP) must also be submitted to the California State Library within 30 days of adoption. Submittal must be done via compact disc (CD) or hardcopy and mailed to:

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

(If delivered by courier or overnight carrier, the street address should be used instead: 900 N Street, Sacramento, CA 95814.)

The WSCP (or amended WSCP) must also be submitted to each city or county to which the District provides water within 30 days of adoption. It may be submitted in an electronic format. Proof of said submittals to DWR, State Library, cities and county will be kept with the WSCP.

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CHAPTER 9 DEMAND MANAGEMENT MEASURES

Demand management is an integral part of water resources management. Because the demand for water tends to increase as communities grow and available water supplies can change over time, having demand management measures (DMMs) that help lower demands can improve water service reliability. This chapter provides a comprehensive description of the water conservation programs that JCSD has implemented, is currently implementing, and plans to implement in the future to meet future urban water use reduction targets.

9.1 Demand Management Measures for Retail Agencies

The section of the Water Code that addresses DMMs was significantly modified in 2014 to simplify, clarify, and update DMM reporting requirements. The state legislature enacted streamlining of the retail agency requirements from 14 measures to six general requirements plus an "other" category, as follows (CWC §10631(1)(B)):

1. Water waste prevention ordinances;
2. Metering;
3. Conservation pricing;
4. Public education and outreach;
5. Programs to assess and manage distribution system real loss;
6. Water conservation program coordination and staffing support; and
7. Other demand management measures that have a significant impact on water use as measured in gallons per capita per day, including innovating measures, if implemented.

Pursuant to the Water Code, each DMM description includes how the measure has been implemented over the past five years, and how future efforts will help the District to meet future water use targets.

9.1.1 Water Waste Prevention Ordinances

The JCSD Board of Directors adopted Ordinance No. 389 on May 26, 2015, which contains the District's Water Conservation Program and water waste ordinance. The Ordinance is provided in Appendix M. Because the State Water Board adopted additional emergency regulations for urban water suppliers on March 17, 2015 and May 5, 2015, Ordinance No. 389 was prepared

as an update and replacement of JCSD Ordinance No. 387 that was adopted in response to the first emergency regulations adopted by the State Water Board on July 15, 2014.

Article 3.0, Item A of Ordinance No. 389, states: *The water conservation measures set forth in this Article 3.0 shall be in effect at all times and shall be subject to the penalties hereafter set forth*. Item B continues, *It shall be unlawful for any Person to waste water or to use it unreasonably*. Ordinance No. 389 includes the five Drought Response Levels (of which the District is always in one), prohibitions, and penalties.

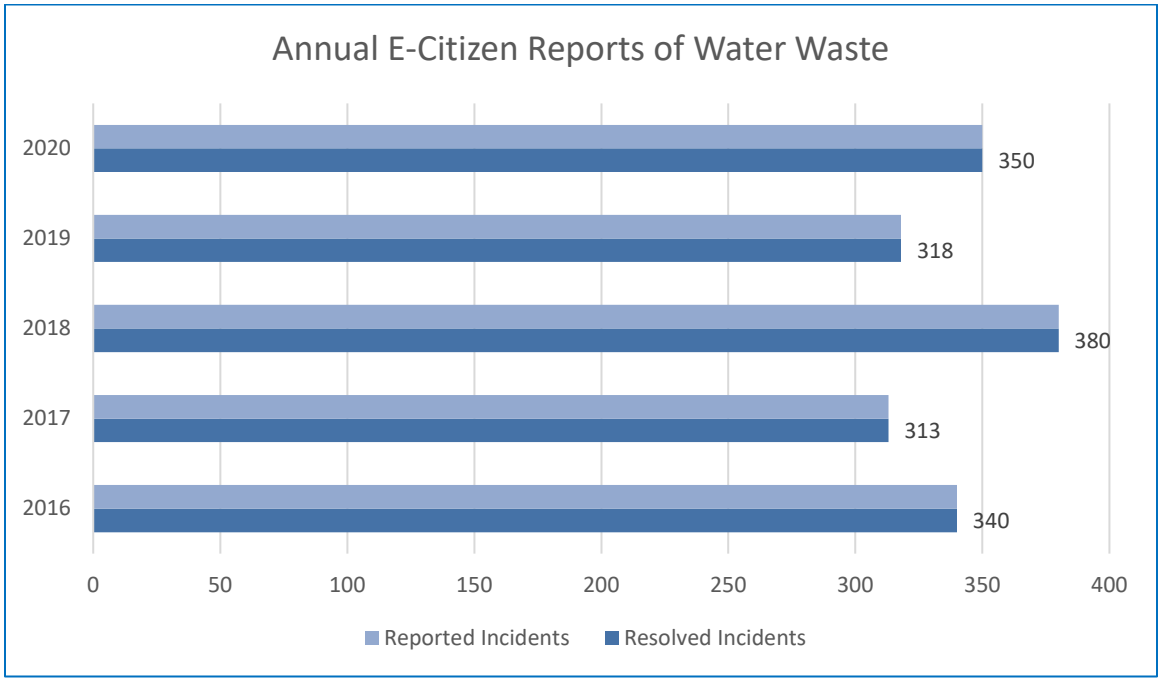
- **Implementation Over the Past Five Years**

  JCSD actively pursues incidents of water waste which are investigated by staff. Depending on the nature of the situation, the property owner may be notified, repairs conducted, or water disconnection in cases of excessive leakage and/or facility failures.

  Beginning in June of 2015, JCSD and the City of Eastvale partnered to offer "E-Citizen," a free smart phone application (app) for the public to report water waste and other non-emergency issues. The app has been particularly useful in identifying water waste activities specifically prohibited in Ordinance No. 389 such as fire hydrant leaks, irrigation runoff, sprinkler/irrigation leaks, washing driveways/sidewalks, water leaks, and watering between the hours of 8 a.m. and 8 p.m. Users can upload a photo or video of the issue and mark the geographic location on a map. Each request can then be tracked for follow-up by the District. Follow-up includes investigating the reported issue and working with the appropriate party to resolve the problem.

  Additional regional partners, including the City of Jurupa Valley and Jurupa Area Recreation and Parks District, have joined the platform. In 2020, the E-Citizen app was revised to create a better experience for the customer. Widely used by customers, JCSD receives multiple reports per day that are automatically routed to the appropriate department. As a result of the E-Citizen app, JCSD's water conservation team has addressed several hundred reports of water waste each year. **Chart 9-1** below, shows the number of reported incidents of water waste that were addressed and resolved by the District for the past five years.

Chart 9-1: JCSD E-Citizen Reports of Water Waste Resolved Annually, 2016-2020.



- **Planned Implementation to Achieve Future Water Use Targets**

Stopping water waste has always been a priority of JCSD and will continue to be a focus of their operations. The District allocates a portion of its annual Capital Improvement Plan budget for waterline replacement projects based on information from the 2020 JCSD Water Master Plan. The pipeline replacement program uses the following criteria to discern which pipes are replaced each year:

1. Leakage: District Water Operations data suggests leaking or ruptured pipes;
2. Size: Pipeline diameters that do not meet minimum State requirements;
3. Fire Flow: Maximum velocities that exceed 10 feet per second;
4. Inefficient System Operations: Old pipes that could rupture when water pumped in from a high-pressure zone is then depressurized;
5. Odd Sizes: Maintenance is problematic with oddly sized pipes (3 inch and 5-inch diameters) due to their nonconformity with standard water system sizes;
6. Age: Pipelines about to reach the age of their useful life; and
7. Material Type: Structural integrity of pipelines rely heavily on the material type and the method of installation used at the time of construction.

As part of the program, JCSD will be replacing aged pipelines and asbestos concrete pipe (ACP) along Reagan Road between El Palomino Drive and Lakaren Lane in the City of Jurupa Valley. The new pipelines will include approximately 2,056 feet of 8-inch diameter waterlines and 2,872 feet of 12-inch diameter waterlines. Construction is expected to begin June 2021.

JCSD is in the process of requesting the preparation of a saturation study to determine whether rebate opportunities are still available. JCSD currently prepares water budgets for commercial customers and sends them on a monthly basis.

9.1.2 Metering

JCSD is fully metered. Since the 2010 UWMP, the District replaced all residential and non-residential (potable and non-potable) water meters. JCSD uses Automatic Meter Reading (AMR) on all their service connections. AMR is a technology of automatically collecting consumption data from water meters and transferring that data to a central database for billing, troubleshooting, and analysis. AMR can reduce the cost of meter reading, provide real-time information, reduce billing errors, monitor tampering, and promotes conservation with time-of-use consumption.

JCSD has 572 dedicated irrigation meters for parks, road medians, playing fields, commercial landscape, and homeowner's associations. A dedicated landscape meter is a water meter that exclusively meters water used for outdoor watering and irrigation. More recently it has become common practice to install a separate meter in homeowner's associations to measure irrigation use in common landscape. JCSD continues its efforts to increase the number of dedicated landscape meters to monitor irrigation demand.

- **Implementation Over the Past Five Years**

  In addition to making sure all service connections are fully metered and a part of the AMR system, the District met its target in 2020 of conducting accuracy testing for 100 customer meters. In addition, more staff time and effort were allocated to the meter testing and meter change out program.

- **Planned Implementation to Achieve Future Water Use Targets**

  Over the next five years, the District plans to increase its meter accuracy testing target to 150 customer meters per year. The District will continue its efforts to ensure that all service connections are fully metered and a part of their AMR system. Meters will continue to be tested, replaced, and repaired as needed per District policy. Lastly, the District is looking into ways that rental hydrant meters can be tracked better and will continue considering the recommendations that come out of the annual water loss audit validation process.

9.1.3 Conservation Pricing

Conservation pricing incentivizes customers to regard their water use. For example, the rates might be tiered at progressively higher prices to encourage efficient water use. Like a water waste ordinance, a conservation pricing structure is always in place and is not dependent upon a water shortage for implementation; although, a conservation rate structure could include drought rate structures that are implemented upon a declaration of a drought.

JCSD Board of Directors adopted Resolution No. 3012 on March 9, 2020 that establishes rates for water service from 2020 through 2024. The complete Resolution is provided in **Appendix N**. A customers' monthly water bill is the combination of the monthly base charge according to the size of their meter(s) plus the volume consumed (Monthly Base Charge + Usage Rate = Monthly Water Charges).

The monthly base charge varies depending on the size of the meter. Most residences in the District have a 3/4-inch meter. Irrigation meters are either 1½-inch or 2-inch and commercial/institutional/industrial (CII) customers vary from the smallest (5/8x3/4-inch) to the largest (10-inch). According to Resolution No. 3012, the monthly service charges for 2020 range from $38.19 for a 5/8-inch meter to $4,355.25 for a 10-inch meter. The rates will receive an additional adjustment each January 1st from 2020 through 2024 (Appendix N).

The second monthly charge is based on the usage rate that is measured in hundred cubic feet (HCF). There are different rates depending on the land use type: a four-tier rate structure for single-family residential; one uniform rate for multi-family residential, institutional, commercial, and industrial customers; one uniform potable irrigation rate; one uniform non-potable irrigation

rate; and one uniform hydrant (construction) rate. The tiered volumetric rate structure for single-family residential reflects conservation pricing in that it charges progressively higher rates with increasing water use. JCSD's water rates currently do not include a drought rate structure.

Customers with private fire protection are also assigned a uniform monthly fixed service charge. These accounts are for emergency use only to provide fire suppression. As shown in Resolution No. 3012, there is an annual adjustment in the fee from 2020 to 2024.

- **Implementation Over the Past Five Years**

  The District engaged the services of a professional rate consultant to perform a study of the District's rates and charges for water and wastewater services. The JCSD *Water and Wastewater Rate Study* dated December 23, 2019 prepared by Raftelis provided recommendations to revise the District's rates and charges for water and wastewater services (a copy of the report is available at www.JCSD.us). This study was posted on the District's Web site beginning Jan. 13, 2020 and workshops were subsequently held to consider changes to the rates. Notices were mailed out to all property owners and customers who would be affected by the rate change. A public hearing was held on March 9, 2020 and the Board of Directors determined that the written protests filed with the District represent less than 50 percent of the affected parcels. As such, the Board of Directors approved Resolution No. 3012 to adjust the rates for water service as necessary to cover actual costs incurred by the District in providing water service to its customers.

- **Planned Implementation to Achieve Future Water Use Targets**

  The District will continue striving for conservation pricing that is on par with industry standard to be effective, yet fair and equitable.

9.1.4 Public Education and Outreach

JCSD continues to educate their customers about the importance of meeting water reduction targets and informs the public about water conservation programs through a number of outreach efforts including the Web site, YouTube channel, and social media, print materials, events, and neighborhood and school presentations. Education and outreach efforts are

typically divided into two groups: Residential/CII Outreach (commercial, industrial, and institutional) and School Outreach.

Residential/CII Outreach: Residential/CII outreach efforts include informational booths at community events including Independence Day and winter holiday celebrations in the City of Jurupa Valley and City of Eastvale, Healthy Jurupa Valley, parade entries, plant sales, neighborhood watch associations, and the Community Fall Festival. Additionally, JCSD's conservation department has hosted free bi-annual landscape classes (including virtual classes), free mulch give-away events, and low-cost rain barrel sales events. Conservation staff have also contacted CII customers and their employees to provide assistance on rebate programs and general water use reduction. This includes presentations to Homeowners Associations, local businesses, and church groups.

JCSD has recently begun a series of online videos hosted on the District's YouTube channel that illustrate some common water conservation issues to residents.[1] Currently, there are 10 "WaterWendy" videos showing some of JCSD's field work including a service line repair, sewer maintenance, fire hydrant painting, water testing, supply line repair, and water distribution. In addition, many videos have been posted about ways to conserve water, understanding where the water comes from, and landscaping tips. To date, a video demonstrating how to read a water meter has been completed in Spanish and English. Additional videos are planned for the future.

While an emphasis has been placed on digital communications, print media is still relevant to our customers. Informational materials are mailed to customers or handed out at outreach events. Newsletters, bill inserts, flyers, and direct mailing pieces are used to inform customers about water conservation and notify customers about water conservation events, projects, and programs including:

- Water conservation information;
- Fats, Oil, Grease (FOG) regulation information;
- Rebates for water-saving devices;
- Free water conservation kits;
- Free water audits;

[1] JCSD YouTube channel: https://www.youtube.com/channel/UCM30pqYN6pnzAvpg8dR-FpA

- Free *Water Wise* landscaping workshops;
- Turf replacement programs;
- EPA WaterSense Partnership;
- *Water Wise* violation door hangers;
- Community events;
- *Water Is Life* Poster Contest;
- Mulch giveaway events; and
- Low-cost rain barrel sale.

JCSD provides select printed materials available in multiple languages including English, Spanish, and Mandarin.

School Outreach: The JCSD Conservation Coordinator works with partners throughout the area to provide unique and meaningful educational content to the students within JCSD's service area. Such efforts include school assembly presentations, classroom presentations, curriculum, grant opportunities, and field trips. Through these school outreach events, JCSD introduces water conservation grants and programs. All programs are design to meet grade specific curriculum standards. In addition, School Outreach includes age-specific events including curriculum availability, programs, the Water Is Life Art Contest, the Santa Ana River Field Trip Program, and the Lois B. Krieger Grants for Educators.

- **Implementation Over the Past Five Years**

  Over the past five years, JCSD has increased its outreach and educational efforts. Except for the year 2020, which resulted in the cancellation of public events in California due to the COVID-19 pandemic, staff participated in approximately 18 events per year. Both printed and digital communication efforts increased effectively reaching all customers. Many of the water conservation outreach efforts and programs reported in the 2015 UWMP that remained successful have been retained, such as Picnic in the Park, mulch giveaways, and utility bill inserts. New outreach efforts and programs such as the Flume Pilot Project and a Drip Irrigation Rebate Program have been implemented since the 2015 UWMP. The public education and outreach conducted by the District between 2016 and 2020 are listed in **Table 9A**.

Table 9A - Public Education and Outreach, 2016-2020

Outreach Event	Status	Total Number Reached
Children's Poster Contest	JCSD has sponsored a *Water is Life* poster contest annually since 2011.	150-350 students annually from District area.
Bill Stuffer	Inserts with water reduction and rebate information	33,000 accounts every other month
JCSD Community News Newsletter	Distributed quarterly to JCSD customers and posted online.	33,000 accounts quarterly
JARPD 3rd of July	Independence Day Celebration annually on July 3rd.	5,000 attendees annually
Picnic in the Park Information Booth	Summer Celebration	3 days, 5,000 people per day
Web site	JCSD Web site continues to prominently display water conservation information.	500 daily online visitors
Social Media	JCSD maintains various social media profiles including Facebook, Twitter, YouTube, and Instagram that are regularly updated.	1,200 weekly reach
E-Citizen	Citizens can report water waste issues using JCSD's E-Citizen Web site and smart phone application.	Between 300 - 400 Annually
Mulch giveaway	Free mulch provided to JCSD customers.	500
Healthy Jurupa Valley	Ongoing quarterly meetings,	Approximately 75 per meeting
Ad in *Eastvale News*	Monthly advertisements	5,000 per month
Direct Mail	Ongoing distribution and postings on JCSD Web site since June 2015.	33,000 accounts
Hold Message	Hold message with water conservation information ongoing since June 2015.	Approximately 500 per day
Eastvale Edition (Parks and Recreation) Brochure	Quarterly distribution with water information since June 2015.	7,000 recipients

Over the past five years, JCSD has developed comprehensive educational programs such as:

- Partnering with Inland Empire Waterkeeper (a local nonprofit) to offer free field trips to schools and community groups within JCSD's service area. These field trips provide educational information on topics such as water-use efficiency, native fish and plants, and the importance of protecting our local resources.

- Offering Lois B. Krieger Water Project Grants for educators seeking to do creative classroom projects or go on field trips.
- Partnering with the Discovery Science Center to provide assembly-style interactive programs promoting water awareness and introducing simple water conservation practices for 4th and 5th grade students.
- Distributing curriculum and activity materials designed by Western to local educators at no cost. These materials correlate with current California state content standards, particularly related to science and history/social science.
- Providing the *Water Is Life* art contest to all students who live or go to school within JCSD's service area. The contest, sponsored by Metropolitan and Western, is a tradition within southern California and more than 500 students participate.
- JCSD staff assisting at local Science Fairs with coaching and judging at both the school and district levels.

➢ **Planned Implementation to Achieve Future Water Use Targets**

JCSD plans to continue core educational services. A new *Water We Reading Program* is in development to provide teacher driven requests for water education books and software.

9.1.5 Programs to Assess and Manage Distribution System Real Loss

System leaks are detected visually and through the AMR system and reported by employees and customers. The majority of leaks occur on water service laterals (i.e., the line between the meter and the main line), which are replaced completely instead of repaired.

JCSD is committed to limiting the amount of water loss and has also required that all temporary sales and construction waters be metered to minimize unaccounted-for water that is attributed to these uses.

➢ **Implementation Over the Past Five Years**

Water Code section 10608.34(i) (Senate Bill 555, 2015) directs the State Water Board to "adopt rules requiring urban retail water suppliers to meet performance standards for the volume of water losses." Pursuant to this law, urban retail water suppliers including

JCSD have been annually submitting water loss audits to DWR since October 2017 (refer to Chapter 4).

The meter and main repairs performed by the District for the past five years are detailed in **Table 9B** as evidence of JCSD's ongoing efforts to detect leaks quickly and minimize water loss.

Table 9B - JCSD Meter and Main Repairs, 2016-2020

Calendar Year	Service Connection Breaks or Leaks	Main Breaks or Leaks
2016	244	23
2017	255	18
2018	293	24
2019	340	15
2020	339	6

Source: JCSD's Large Water System Annual Report to the Drinking Water Program for the year ending (2016- 2020).

- **Planned Implementation to Achieve Future Water Use Targets**

JCSD staff will continue to check for leaks visually and respond to reports from the public to perform repairs quickly. Staff will continue to monitor production and consumption data to quickly detect a spike in loss and respond accordingly to locate the leak or break. JCSD will also continue its annual waterline replacement program described in Chapter 9.1.1 to replace aging main lines.

Pursuant to Water Code section 10608.34(i) (Senate Bill 555, 2015) urban retail water suppliers including JCSD are required to calculate an urban water use objective that includes indoor, outdoor, commercial, industrial and institutional irrigation uses and allowed water loss by 2024 (AB 1668 and SB 606, 2018). JCSD will respond to forthcoming regulations for meeting a future distribution system loss standard.

9.1.6 Water Conservation Program Coordination and Staffing Support

The Conservation Coordinator for JCSD is currently Clover Rogers. She began with the District in 2016 and was previously a Water Conservation Specialist at JCSD. The Conservation

Coordinator currently has assistance from a permanent part-time Conservation Aide. The Board of Director's continues to support conservation efforts by providing a sufficient budget to meet program and staffing needs.

- **Implementation Over the Past Five Years**

  Beginning in 2010, JCSD has made several efforts to implement a robust conservation plan in order to meet water use targets. This included hiring dedicated staff members and securing a sufficient budget to implement programs and projects. Beginning in 2011, JCSD achieved its goal of filling a Conservation Coordinator position and several programs were instituted to reduce water demand. These efforts continued throughout the ensuing years which resulted in a reduction of water demand which reflects the consistent decrease of JCSD's GPCD over the past five years. The current water reduction programs and projects include:

  Irrigation Audit: Residential and CII customers may receive a detailed landscape audit. The landscape audit includes running the irrigation system, checking the irrigation controller, documenting needed scheduling and irrigation changes, and water conservation education.

  Yardscapes: Designed by a local landscape architectural firm, this one-of-a-kind program was designed as a one-stop program to assist homeowners with their landscape. The program includes plant palettes, irrigation designs, landscape designs, how to guides, and troubleshooting guides. The Yardscapes program is hosted on JCSD's Web site and is available free of charge.

  Flume Project: In 2018, the JCSD conservation staff began implementing the Flume Pilot Project which provides real time water use data through a device on the meter and a smart phone app. Over 500 were installed within the first year. Preliminary findings provide evidence that customers saved water and found previously unknown leaks. Designed as a pilot program, sales were suspended in 2020. However, based on JCSD's research as well as the research of additional water purveyors, Metropolitan has adopted the program which will be available to all southern California residents, including JCSD customers. Metropolitan will begin providing rebates through *SoCal Water Smart* in 2021.

Turf Replacement*:* Funded through two different entities (Metropolitan and JCSD), the turf replacement program targets both CII and residential customers. During the five-year period from 2016-2020, 101 turf rebates were processed to remove a total of 442,858 square feet of turf. This equates to 17,714,320 gallons of water (54.4 acre-feet) saved annually when computed by the industry standard of 40 gallons per square foot.

Rebates: Different devices that are available for rebates include High Efficiency Toilets, High Efficiency Clothes Washers, Irrigation controllers, Rain Barrels, and Rotating Nozzles. From 2015 to 2020, a total of 1,516 different rebates were paid to residential customers. The corresponding amount for CII customers is 25. This does not include turf replacement programs.

Grants: JCSD participates in several grant programs. Generally, funding comes from DWR or the Bureau of Reclamation and is administered by Western or the Santa Ana Watershed Project Authority. Additionally, JCSD supports other agencies like the Inland Empire Utilities Agency in their grant process as many water projects are regional in nature. Grant funding received between 2016 and 2020 was used to provide landscape designs to residential customers (SAWPA grant), replace lawn and water fixtures for low-income communities (WECAN Grant), replace or retrofit turf publicly owned, institutional. and homeowner's association areas (High Visibility Grant), and fund creative water classroom projects (Lois B. Krieger Water Project Grant) grant.

CII Account Analysis: Conservation staff began tracking usage from high water users in the CII sector and contacting each company to review the findings and provide conservation advice. This generally led to water conservation methods to reduce demand. In 2020, conservation staff began providing customized information to high water-using CII customers to illustrate the appropriate amount of water use for landscaping. This was done with a water budget calculation that includes ETo, plant type, square footage, and effective precipitation.

Water Waste Procedures: JCSD has a water waste ordinance that remains a priority for the District. To ensure reporting ease, several methods were added:

- E-Citizen: A Web-based app allows anyone to report water waste on their smart phone.

- Email: Numerous residents and employees report water waste directly to the Conservation Coordinator.

Water Waste Reports: Water waste reports are assessed and acted on in the order of urgency. Main line leaks are reported to the maintenance department; all others are investigated and resolved by conservation staff. This is a component of the SWRCB drought report. Refer to Section 9.1, above.

Conservation Garden: To provide an example of a "water wise" landscape, JCSD removed 8,100 square feet of turf at their headquarters and replaced it with drought tolerant and native plants between 2011 and 2015. This area is scheduled for a garden refresh in 2021.

Park Audits: JCSD partnered with Western to audit JCSD parks in an effort to further improve irrigation efficiencies. To date, one park has been audited and the remaining parks are in the process of being scheduled for their respective audits.

Audits: JCSD will continue to offer and prepare water audits to both small residential and large commercial water users.

Drip Irrigation Rebate: JCSD-funded this program to offset the cost of drip irrigation to both CII and residential customers Administered and advertised in-house, it has gained momentum over the last three years.

- **Planned Implementation to Achieve Water Use Targets**

JCSD understands that drought conditions may become the new normal for Southern California and therefore plans to budget additional staff for the water conservation program to assist and expand the efforts of the Conservation Coordinator. Many of the currently existing programs will be continued, however, additional programs are currently in development, such as the Fix-A-Leak Program. The Fix-A-Leak Program will be a new program for JCSD that will provide no-cost irrigation repairs to customers on a limited basis. It is scheduled to begin in summer of 2021.

9.1.7 Other Demand Management Measures

JCSD does not have other DMMs that have a significant impact on water use to report.

9.2 Alliance For Water Efficiency and California Water Efficiency Partnership

JCSD has been an active member of the leading water use efficiency groups. Originally a member of the California Urban Water Conservation Council (CUWCC), the District submitted Best Management Practices reports every two years as required. In March 2018, the CUWCC was reorganized to reflect a new era in water use efficiency. The new organization is comprised of two separate sections: the California Water Efficiency Partnership (CalWEP) and its national partner the Alliance for Water Efficiency (AWE). The AWE is a nationally recognized consensus-based partnership of agencies and organizations concerned with water supply and conservation of natural resources. CalWEP's mission is to maximize urban water efficiency and conservation throughout California by supporting and integrating innovative technologies and practices; encouraging effective public policies; advancing research, training, and public education; and building collaborative approaches and partnerships. JCSD is an active member of both organizations and attends their events, as well as utilizes their resources. The JCSD Conservation Coordinator is currently Vice-Chair of the AWE's Education Committee.

9.3 Future Water Use Objectives

In 2018, Assembly Bill 1668 (AB1668) and Senate Bill 606 (SB606) were signed into law to develop a new framework for statewide long-term water conservation. Together, the programs of these laws are organized around four goals: to use water more wisely; eliminate water waste; strengthen local drought resilience; and improve agricultural water use efficiency and drought planning. Notably, the 2018 legislation applies to the actions of DWR, SWRCB, and water suppliers; it does not set any standards or rules for individual customer use.

DWR and SWRCB developed a handbook for the 2018 legislation entitled, *Making Water Conservation a California Way of Life – Primer of 2018 Legislation on Water Conservation and Drought Planning, Senate Bill 606 (Hertzberg) and Assembly Bill 1668 (Friedman)* (November 2018). To fully plan, develop and implement the new framework, DWR and the SWRCB will work closely together over the next few years to develop new standards for indoor residential water use, outdoor residential water use, CII water use for landscape irrigation with dedicated meters, and water loss.

Pursuant to the 2018 legislation, JCSD will develop a Water Shortage Contingency Plan and Drought Risk Assessment as part of the 2020 UWMP that is due July 1, 2021 and every five years thereafter. Further, the District will submit to DWR an annual water shortage assessment report beginning June 1, 2022. Beginning November 1, 2023 and annually thereafter, JCSD will submit a report to DWR on urban water use objectives, actual urban water use, implementation of CII water use performance measures, and progress toward an urban water use objective (yet to be determined). Lastly, by January 1, 2024 the District will submit to DWR a supplement to the 2020 UWMP that describes how demand management measures are implemented to achieve their urban water use objective (which is yet to be determined).

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CHAPTER 10 PLAN ADOPTION, SUBMITTAL & IMPLEMENTATION

This chapter provides guidance to address the Water Code requirements for a public hearing, the Plan adoption process, submitting an adopted Plan to DWR, Plan implementation, and the process for amending an adopted Plan.

Beginning in 2020, the Water Code requires that the Water Shortage Contingency Plan (WSCP) must have the same process for public hearing, adoption, submittal, and amendments as the UWMP.

10.1 INCLUSION OF ALL 2020 DATA

The Water Code requires current year water use and planning data to be included in the UWMP. Since JCSD is reporting on a calendar year basis, this UWMP and WSCP includes data through calendar year 2020 (January 1 through December 31). As such, this UWMP and WSCP could not be completed until after the end of calendar year 2020.

10.2 NOTICE OF PUBLIC HEARING

Water Code requires that a public hearing must be held by the District prior to adopting the UWMP and/or WSCP. All public input shall be considered by the Board of Directors. There are two audiences within the service area that are required to be noticed for the public hearing: cities and counties, and the general public.

10.2.1 Notice to Cities and Counties

60 Day Notification

All cities and counties within which the District provides water supplies must be notified that the District will be reviewing the UWMP and considering amendments or changes to the Plan. This notice must be sent at least 60 days prior to the public hearing. In order to provide ample opportunity to participate in the UWMP process, JCSD sent the first notice on March 4, 2021, well in advance of the required 60 days prior to the public hearing. The first notice included the date and time for the public hearing and when the draft document would become publicly available for review. Copies of all notifications are located in Appendix D. (CWC § 10621(b) and §10642)

Notice of Public Hearing

The District delivered a second notice to cities, the county, and interested entities on May 13, 2021 to reaffirm the time and place of the public hearing. The notice also reaffirmed that the Draft UWMP and Draft WSCP would be publicly available for viewing at the District Web site (www.jcsd.us) and a printed hardcopy at the District Headquarters no less than two weeks prior to the public hearing. The draft documents were posted on the District Web site and the District Headquarters beginning on June 1, 2021. Copies of all notifications are located in Appendix D. Notifications to the cities and the county within the District service area are listed in **Submittal Table 10-1** to confirm receipt of a 60-day notice and notice of public hearing.

Submittal Table 10-1 Retail: Notification to Cities and Counties

City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
City of Eastvale	Yes	Yes
City of Jurupa Valley	Yes	Yes
County Name *Drop Down List*	**60 Day Notice**	**Notice of Public Hearing**
Add additional rows as needed		
Riverside County	Yes	Yes
NOTES: Refer to Appendix D for copies of all notices.		

In addition to the cities and the county, JCSD also notified the following list of interested entities.

- Chino Basin Desalter Authority
- Chino Basin Watermaster
- City of Eastvale
- City of Jurupa Valley
- City of Norco
- City of Ontario
- City of Riverside Public Utilities Department
- Corona-Norco Unified School District
- Inland Empire Utilities Agency
- Jurupa Unified School District
- Rubidoux Community Services District
- Santa Ana River Water Company
- Western Municipal Water District
- Cucamonga Valley Water District

10.2.2 Notice to the Public

The public was notified of the public hearing and availability to review the draft UWMP and draft WSCP in the local newspaper (*The Press Enterprise)* once a week for two successive weeks pursuant to Government Code section 6066, on June 2 and June 9, 2021. The District also placed notifications on their Web site and the Spring 2021 newsletter. The draft UWMP and draft WSCP were posted on the District Web site and the District Headquarters beginning on June 1, 2021. Copies of all notifications are located in Appendix D. (CWC §10642)

10.3 PUBLIC HEARING AND ADOPTION

Pursuant to the Water Code, the JCSD Board of Directors held a public hearing on Monday, June 28, 2021 to receive public comment on the draft UWMP and the draft WSCP (CWC §10608.26(a)). The public hearing was included as an agenda item, which is included in Appendix A.

The Water Code requires the public hearing to accomplish all of the following in order to comply with the Water Conservation Act of 2009 (SB X7-7):

- Allow community input on the District's implementation plan;[1]
- Consider the economic impacts of the District's implementation plan; and
- Adopt a method for determining the District's urban water use target.[2]

Therefore, the public hearing provided information on the District's baseline values, water use targets and compliance, and implementation plan required in the Water Conservation Act of 2009 (SB X7-7).

[1] The term "implementation plan" as mentioned in the Water Conservation Act of 2009 (SB X7-7) is not defined. But according to DWR staff, it is meant to suggest the District's plans, as described in the UWMP, to continue meeting its water conservation target.
[2] The method chosen by JCSD to calculate the 2020 water use target has been, *Method 1: Eighty percent of the water supplier's baseline per capita water use,* as defined in CWC Section 10608.20(a)(1).

10.3.1 Document Adoption

The 2020 UWMP and WSCP were formally adopted by the JCSD Board of Directors on June 28, 2021 following a public hearing on June 28, 2021 (CWC § 10642). A copy of the adoption resolution is included in Appendix A.

10.4 PLAN SUBMITTAL

10.4.1 Document Submittal to DWR

The 2020 UWMP, including the WSCP must be submitted to DWR within 30 days of adoption and by July 1, 2021 (CWC §10621(e)). Document submittal to DWR is done electronically through WUEdata. After the UWMP and WSCP are submitted, DWR will review the plan utilizing the checklist provided in Appendix B and decide as to whether or not the documents address the requirements of the Water Code. The DWR reviewer will contact JCSD as needed during the review process. Upon completion of the Plan review, DWR will issue a letter to the District with results of the review.

10.4.2 Electronic Data Submittal

DWR developed an online submittal tool, WUEdata, which was used for the 2015 UWMPs. This tool has been updated for submitting the 2020 UWMPs. The tool accepts complete UWMPs, as well as tabular data from all the data tables. The WUE data online submittal tool is online at https://wuedata.water.ca.gov/. (CWC § 10644(a)(2))

JCSD submitted its electronic data via the WUEdata online submittal tool as shown in **Appendix O**.

10.4.3 Submittal to the California State Library

No later than 30 days after adoption, JCSD shall submit a CD or hardcopy of the adopted 2020 UWMP, including the adopted WSCP, to the California State Library (CWC § 10644(a)(1)) located at:

California State Library
Government Publications Section
Attention: Coordinator, Urban Water Management Plans

P.O. Box 942837
Sacramento, CA 94237-0001

Or by courier or overnight carrier to the State Library at:

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

Proof of submittals is provided in Appendix O.

10.4.4 Submittal to Cities and Counties

No later than 30 days after adoption of the 2020 UWMP, including the WSCP, the District shall submit a hard or electronic copy of the documents to the County of Riverside, City of Jurupa Valley, and the City of Eastvale (CWC §10635(c)). Proof of submittals is provided in Appendix O.

10.5 PUBLIC AVAILABILITY

The adopted 2020 UWMP, including the adopted WSCP, are available for public review at JCSD Headquarters, located at 11201 Harrel Street, Jurupa Valley, CA 91752 during normal business hours Monday through Friday 7:30 AM to 5:30 PM. In addition, a copy of the adopted UWMP and WSCP can be found on JCSD's Web site (www.jcsd.us) for public viewing anytime. (CWC § 10645(a) and 10645(b)) Proof of submittals is provided in Appendix O.

10.6 NOTIFICATION TO PUBLIC UTILITIES COMMISSION

Pursuant to Water Code, those water suppliers that are regulated by the California Public Utilities Commission (CPUC) must submit their UWMP and WSCP to the CPUC as part of its general rate case filings. Because JCSD is not regulated by the CPUC, the District will not be submitting their documents to the CPUC. (CWC §10621(c))

10.7 AMENDING AN ADOPTED PLAN

If JCSD decides to amend the adopted 2020 UWMP, then each of the steps for notification, public hearing, adoption, and submittal must also be followed for the amended plan. This includes providing copies of amendments or changes to the plan to DWR, California State Library, and any city or county within which the supplier provides water within 30 days of adoption. (CWC §10644(a)(1))

10.7.1 Amending a Water Shortage Contingency Plan

If JCSD decides to revise the adopted 2020 WSCP after DWR approves the 2020 UWMP, then JCSD must submit to DWR an electronic copy through the WUE Data Portal of its revised WSCP within 30 days of its adoption. (CWC § 10644(b))

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