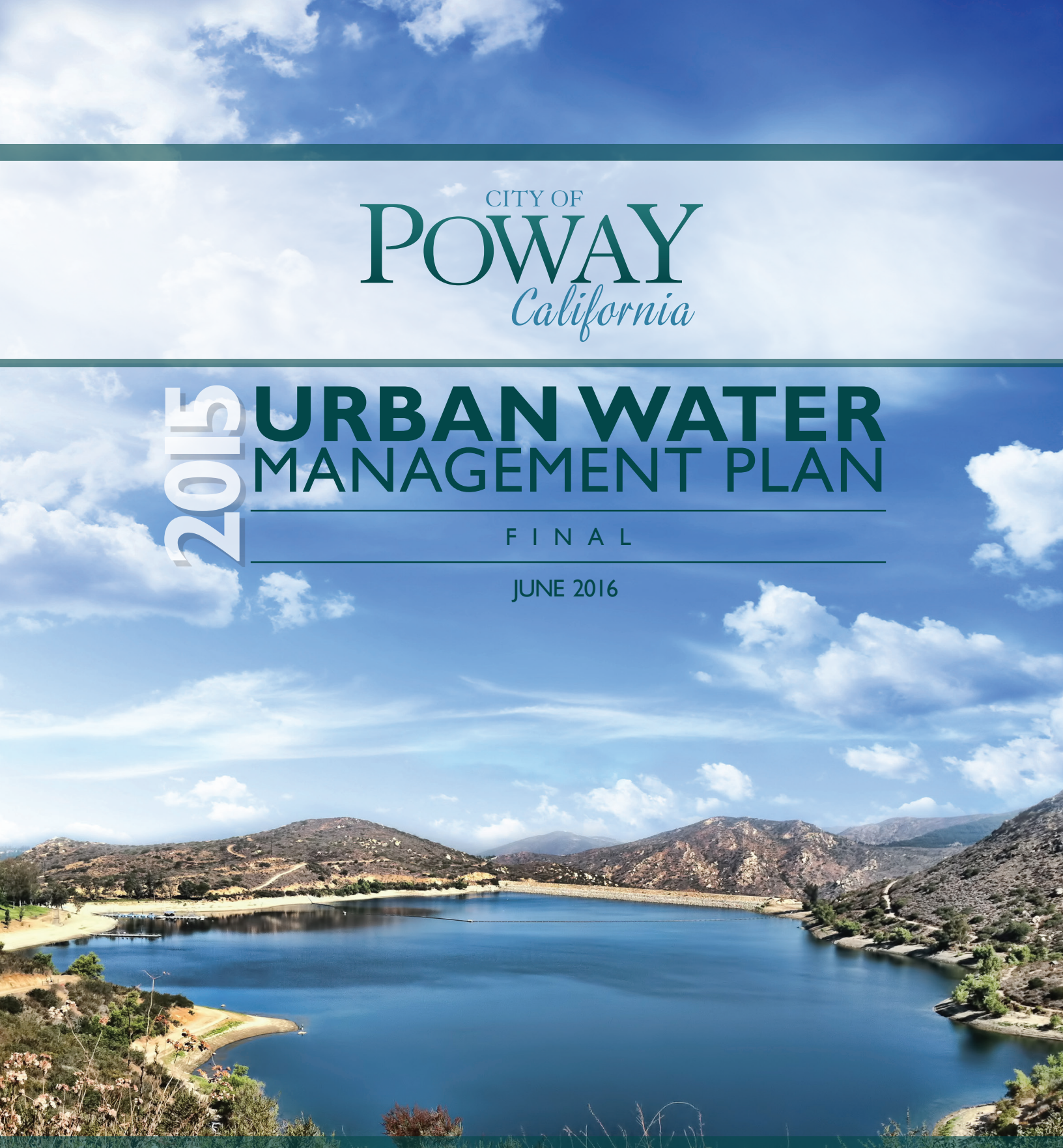
CITY OF
POWAY
California

2015 URBAN WATER MANAGEMENT PLAN

FINAL

JUNE 2016



Prepared By
RMC
water and environment

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City of Poway
2015 Urban Water Management Plan

Final

Prepared by:

June 2016

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List of Abbreviations

Act	Urban Water Management Planning Act
AF	acre-feet
AFY	acre-feet per year
AWWA	American Water Works Association
BMP	Best management practices
CDP	Census designated place
CEQA	California Environmental Quality Act
CII	Commercial, Industrial, and Institutional
CIP	Capital improvement program
City	City of Poway
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DMM	Demand Management Measure
DWR	California Department of Water Resources
ESP	Emergency Storage Project
GIS	Geographic Information System
GPCD	Gallons per capita per day
gpf	gallons per flush
Guidebook	2015 Urban Water Management Plans Guidebook for Urban Water Suppliers
HARRF	Hale Avenue Resource Recovery Facility
IID	Imperial Irrigation District
IPR	Indirect potable reuse
IRWM	Integrated Regional Water Management
LAFCO	San Diego County Local Agency Formation Commission
MAF	Million acre-feet
MG	million gallons
MGD	million gallons per day
MWD	Metropolitan Water District of Southern California
NCWRP	North City Water Reclamation Plant
NOAA	National Oceanic and Atmospheric Administration
PMC	Poway Municipal Code
Poseidon	Poseidon Resources Corporation
Poway	City of Poway
QSA	Quantification Settlement Agreement
Ramona MWD	Ramona Municipal Water District
Rincon del Diablo MWD	Rincon del Diablo Municipal Water District
SANDAG	San Diego Association of Governments
SBx7-7	Senate Bill x7-7 (The Water Conservation Act of 2009)
SCADA	Supervisory control and data acquisition
SDCWA	San Diego County Water Authority
SWP	State Water Project
TAF	Thousand acre-feet
TDS	Total Dissolved Solids
UWMP	Urban Water Management Plan
WSCP	Water Shortage Contingency Plan
WWTP	Wastewater Treatment Plant
WTP	Water Treatment Plant

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Executive Summary

ES 1. Introduction and Background

The California Water Code §10610 et sec. requires all urban water suppliers within the State of California to prepare an Urban Water Management Plan (UWMP) and update it every five years to satisfy requirements of the California Urban Water Management Planning Act of 1983 and its amendments. This 2015 UWMP satisfies the requirements of the Urban Water Management Planning Act (the Act) which defines an urban water supplier as a supplier, either publicly or privately owned, that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. DWR's *2015 Urban Water Management Plan Guidebook for Urban Water Suppliers* (Guidebook) was used in preparing this 2015 UWMP.

This 2015 UWMP is for the City of Poway (City), an urban water supplier that provides service to approximately 14,136 connections (potable and recycled), all metered. The City of Poway acts as the water supplier for customers within its jurisdiction. The City of Poway imports 99% of its water supply from the San Diego County Water Authority (SDCWA) in the form of raw, untreated water with the remaining water demands met with recycled water purchased from the City of San Diego. The City of Poway owns and operates the Lester J. Berglund Water Treatment Plant (WTP), which treats the raw, untreated imported water and rainfall to potable (drinking water) levels for the City. The City's distribution system includes approximately 267 miles of water mains, 18 pressure zones, one 10 million gallon clearwell, and 18 storage tank reservoirs, which range in capacity from 200,000 gallons to 2.5 million gallons (MG) and exist to maintain adequate supplies during peak demand, for fire flow, or other emergencies.

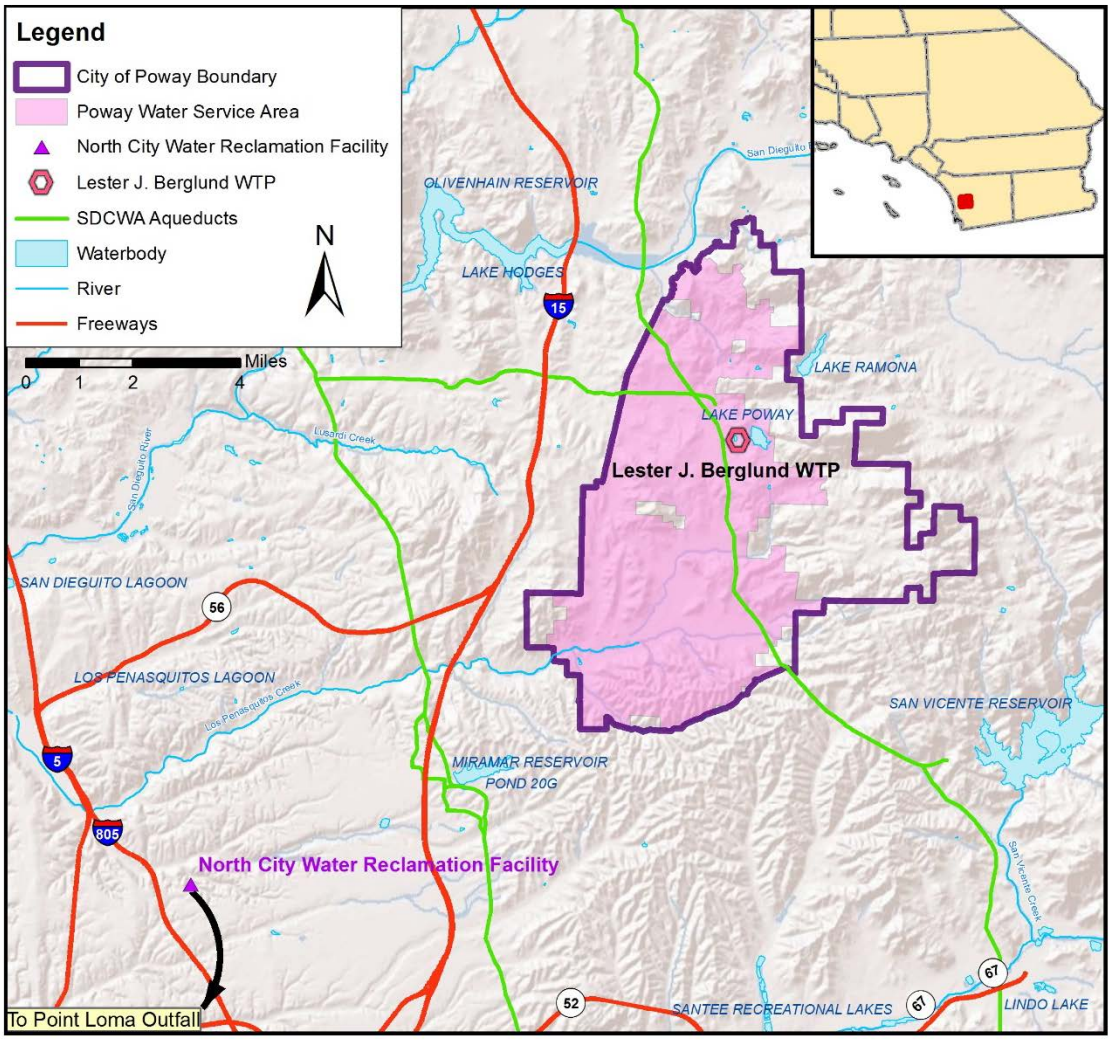
A map of the City of Poway is provided in **Figure ES-1**. The easternmost portion of the City of Poway is not connected to the municipal water system, and residents in that area receive water via private groundwater wells. As such, the map of Poway's service area in **Figure ES-1** delineates both the entire City of Poway and the portion of the City of Poway that is served municipal water (herein referred to as the City's Service Area).

While preparing the 2015 UWMP, the City of Poway coordinated its efforts with a number of agencies to ensure that data and issues are presented accurately, including: SDCWA, County of San Diego, City of San Diego Public Utilities Department, City of Escondido, and San Diego Association of Governments (SANDAG).

Population

The population of the entire City of Poway decreased slightly between 2000 and 2010, per data from the 2010 U.S. Census. The reported population for the City of Poway was 48,044 in 2000, dropping to 47,811 in 2010. The City used the final 2010 U.S. Census data for the City of Poway, together with housing unit counts from its Planning Department for the East Poway area not served by water service, to produce more accurate population values for the 2000-2010 decade. Population projections for the City were determined from SANDAG data with adjustments made to account for the unconnected eastern portion of the City. SANDAG is the regional land use and transportation planning agency which provides population projections for jurisdictions throughout San Diego County.

Figure ES-1: Poway Service Area and City Boundary



ES 2. Water Use

Water Use Baselines and Targets

As part of this UWMP, the City was required to update its baseline and target per capita water use numbers in compliance with the Water Conservation Act of 2009 (SBx7-7). Using the historical population of the City's service area and its historical water use, a 10-year baseline period was established from 1999 to 2008 and the baseline water usage was determined to be 263 gallons per capita per day (GPCD). The 2020 target was then calculated using DWR's *Method 1*, which is a 20% reduction from the 10-year baseline per capita water use value. The 2020 target was set at 210 GPCD and the 2015 interim target was set as the midpoint between the baseline and 2020 target (236 GPCD). The City's baselines and targets are summarized in **Table ES-1**.

Table ES-1: SBx7-7 Baselines and Targets

Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	1999	2008	263	236	210
5 Year	2003	2007	264		

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

2015 Demands and Target Compliance

Current water usage in the City of Poway includes primarily domestic use (serving residential and commercial users), with a small amount of industrial use and agricultural irrigation. The largest volume of the City's water use is the residential sector, comprised mainly of single-family detached and attached residences and multiple dwelling units. Additionally, recycled water is used for landscape irrigation in the Poway Business Park. A summary of the City's 2015 water use can be found in **Table ES-2**.

Table ES-2: Demands for Potable, Raw, and Recycled Water – 2015 Actual

Use Type	2015 Actual		
	Additional Description	Level of Treatment When Delivered	Volume
Single Family		Drinking Water	5,356
Multi-Family		Drinking Water	398
Commercial[1]		Drinking Water	1,162
Industrial		Drinking Water	107
Landscape[2]		Drinking Water	474
Landscape	Raw Water for Golf Course	Raw Water	445
Agricultural		Drinking Water	30
Water Losses		Drinking Water	304
Sales/Transfers/Exchanges to other Agencies	Sales to Ramona MWD	Drinking Water	98
		Potable Water Subtotal	**8,374**
		Recycled Water	363
		Total	**8,737**

NOTES:

1. Commercial use includes institutional use and special district facilities, such as schools, churches, and the hospital.
2. Landscape use includes metered irrigation, minus recycled water irrigation use, plus potable water added to supplement recycled water demands.

The City's potable water use for 2015 was 8,374 AF, which was an approximately 15% decrease from the 2010 water use of 9,913 AF. The City's 2015 daily per capita water usage was determined to be 160 GPCD, which is below the 2015 and 2020 targets. The City's conservation initiatives to decrease

water use to meet 2015 and 2020 GPCD targets and drought restrictions have been the biggest factors in the reduction in water usage from 2010 to 2015 water. While some water usage increase is expected when the drought ends, the City's conservation program and measures taken to reduce water use during the drought are expected to help keep the daily per capita water use number below the 2020 target of 210 GPCD.

Projected Demands

The City's projected water demands, broken down by customer sector, for 2020, 2025, 2030, 2035 and 2040 are shown in **Table ES-4** and **Figure ES-2**. The projections assume that average water use in the City from 2020 to 2040 is in line with the City's five-year average from 2010 to 2014, 196 GPCD. The City chose the 2010-2014 average to reflect a more recent period that includes the current drought (2012-2015 water years) and extraordinary conservation measures; it represents an estimate of future conditions based on recent improvements in demand management and assumes that these changes remain intact moving forward.

Table ES-4: Demands for Potable, Raw, and Recycled Water - Projected

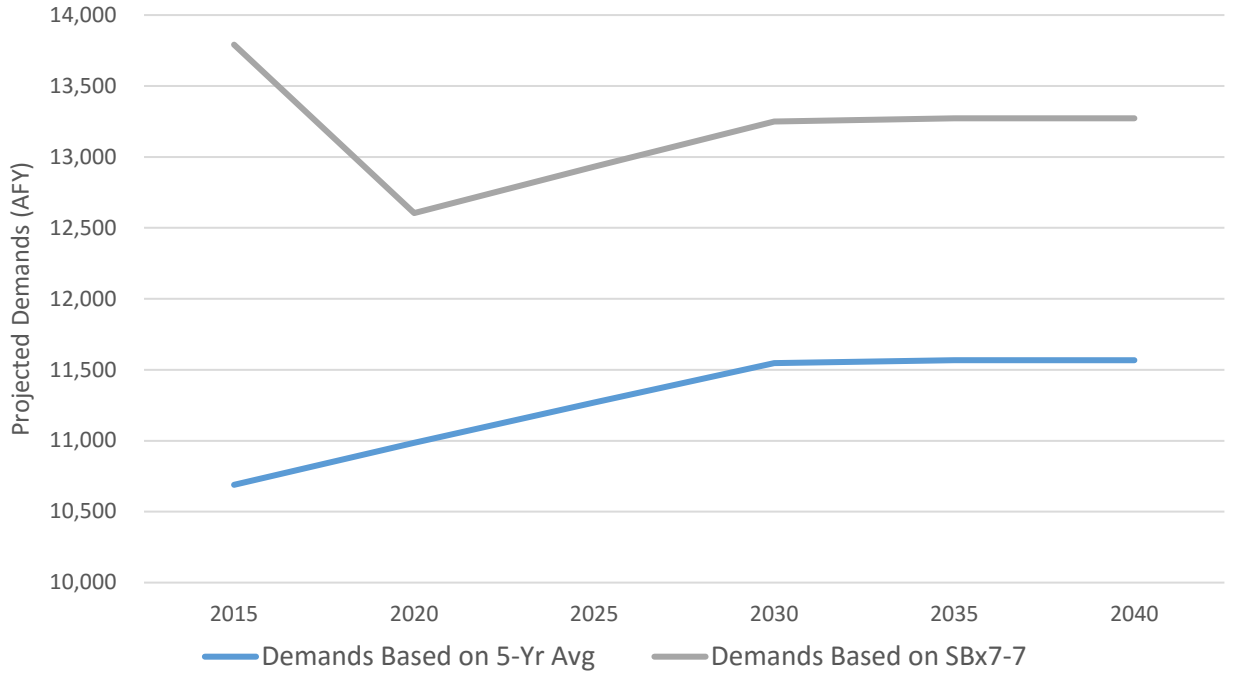
Use Type	Additional Description	Projected Water Use				
		2020	2025	2030	2035	2040
Single Family		7,577	7,826	8,079	8,129	8,115
Multi-Family		402	409	412	409	409
Commercial		1,153	1,162	1,170	1,172	1,173
Industrial		178	197	209	183	193
Landscape		510	504	497	494	496
Landscape	Raw Water Golf Course Use	445	445	445	445	445
Agricultural irrigation		30	30	30	30	30
Losses		304	304	304	304	304
Sales/Transfers/Exchanges to other agencies		98	98	98	98	98
Potable and Raw Water		**10,697**	**10,975**	**11,244**	**11,264**	**11,264**
Recycled Water		645	645	645	645	645
Total		**11,342**	**11,620**	**11,889**	**11,909**	**11,909**

NOTES: Average water use from 2020 onwards is assumed to be in-line with the City's 5-year average water use: 192 GPCD. Water Losses were assumed to increase proportionally with all other water use. Water use projections were based on 2015 water use data presented in DWR Table 4-1 and extrapolated by use type by:

a. Increasing water use in each use type proportionally by the increase from 2015 actual GPCD to 2020 anticipated GPCD.

b. Considering the SDCWA Regional Growth Forecast for the City of Poway and interpolating future use by relative acreage increase by use type. For example, between 2020 and 2025 single family lots are projected to increase by 3%% in total acreage. So it is assumed that single family water use will increase by 3%. The forecast showed a change in acreage for single family homes, multi-family homes, parks, industrial and commercial lots. The forecast did not show any changes in agricultural land, irrigated golf courses, or institutional/governmental lots, so these were assumed not to show increases by land area between 2020 and 2040.

Figure ES-2: Projected Water Demands (2015-2040)



ES 3. System Supplies and Reliability

The City of Poway imports 99% of its water supply from SDCWA in the form of raw, untreated water with the remaining water demands met with recycled water purchased from the City of San Diego. SDCWA is supplied water by MWD, but also obtains water from conserved agricultural irrigation and canal lining in the Imperial Valley, as well as desalinated water from the Carlsbad Desalination Plant. MWD's supplies are primarily the State Water Project (SWP) and the Colorado River.

Historically, SDCWA's raw water supplies have been of very high quality. However, raw water deliveries have lately been comprised of 100% Colorado River water which is more difficult to treat for total organic carbon removal. This decreasing water quality has impacted the operation of the Berglund WTP; however, all of the City's potable water still meets State and Federal drinking water requirements before delivery to customers. The City does not anticipate any reduction in supplies due to water quality impacts. Though if the imported water quality continues to degrade, the water becomes more difficult and expensive to treat. For this reason, MWD, SDCWA, and the City of Poway have programs to protect and continuously monitor source water quality, and to identify constituents that may be of concern, so management actions can be implemented if necessary.

As part of the UWMP, the City was required to consider supply conditions during an average water year, a single dry water year, and multiple dry water years. The water supplies available to the City from SDCWA during these water year scenarios are based on the historical dry periods presented in **Table ES-5** and are defined in SDCWA's 2015 UWMP. In general, SDCWA has adequate supplies to meet City (and its other member agencies) demands under normal and single dry year conditions. However, in the third year of a multi-year drought, SDCWA anticipates a supply shortfall in the years 2035 and 2040. That said, the City considers SDCWA's supply reliability analysis more conservative than the City's analysis because it only included consideration of "verifiable" supplies, which are

supplies that are sufficiently under development to be considered secure. The City considers SDCWA's analysis as representing a "worst case" scenario.

Table ES-5: Basis of Water Year Data

Year Type	Base Year	Available Supplies if Year Type Repeats	
		Volume Available	% of Average Supply
Average Year	1986-2015	-	100%
Single-Dry Year	2014	-	100%
Multiple-Dry Years 1st Year	2013	-	100%
Multiple-Dry Years 2nd Year	2014	-	100%
Multiple-Dry Years 3rd Year	2015	-	92% -100%

NOTES: The City selected base years that aligned with SDCWA's 2015 UWMP supply reliability assessment. The third year of a multiple-dry year scenario may result in deficits that must be met through extraordinary conservation or further expansion of the recycled water system. In years with supply reliability, additional purchases would be made from SDCWA to meet demands. As presented here, "% of Average Supply" indicates percent supply available to meet potable demands due to diversification and/or carryover storage.

Lake Poway is the City's largest reservoir. Finished in 1972, the reservoir has a maximum capacity of 3,300 AF and serves as the City's emergency storage supply as well as park and recreation facility.

In those years in which SDCWA projects a supply deficit, the City could reduce demands through the use of extraordinary conservation measures as described in *Section 8 Water Shortage Contingency Planning*. **Table ES-6** summarizes the potential potable water deficit in this scenario. The City has demonstrated its ability to reduce potable demands in the event of a supply deficit, as shown by its 24% reduction in demands between 2012 (the most recent normal year) and 2015 (third year of a multiple-dry year scenario). No non-potable water deficits are projected under any scenario.

Table ES-6: Potential Potable Water Deficit in Year 3 of Multiple-Dry Year Scenarios (AFY)

Multiple-Dry Year: Year 3	2020	2025	2030	2035	2040
Potable Supply	11,995	12,192	12,382	11,903	11,282
Potable Demand	11,995	12,192	12,382	12,398	12,398
Potential Deficit (AFY)	*0*	*0*	*0*	*496*	*1,116*
Extraordinary Conservation or Conversion to Recycled Water	0	0	0	496	1,116
Total Demand	11,995	12,192	12,382	11,903	11,282
Supply Deficit (AFY)	**0**	**0**	**0**	**0**	**0**

ES 4. Water Shortage Contingency Plan

The City's Water Conservation Plan was created to enable effective water supply planning, and assure reasonable and beneficial use of water. The plan is also meant to prevent waste of water, unreasonable use of water, and unreasonable methods of water use. The plan aims to assure adequate supplies of water to meet the needs of the public, and further the public health, safety, and welfare, recognizing water is a scarce natural resource requiring careful management not only in times of drought, but at all times. As the City receives almost all of its water from SDCWA, its Water Conservation Plan is inherently linked to the SDCWA's supply reliability.

The City's Water Conservation Plan is split into four stages of action depending on the level of supply shortage. Level 1 water conservation measures are voluntary and will be promoted through local and regional public education and awareness measures. During water conservation Levels 2 through 4, conservation measures and water-use restrictions are mandatory and become increasingly restrictive in order to attain escalating conservation goals. Violators of the mandatory use reductions may be subject to administrative, civil, and criminal penalties and remedies specified in the Poway Municipal Code. A summary of the four levels of the plan are presented in **Table ES-7**.

Table ES-7: Stages of Water Shortage Contingency Plan

Stage	Percent Supply Reduction	Water Supply Condition
Level 1	up to 10%	Water Shortage Watch
Level 2	up to 20%	Water Shortage Alert
Level 3	up to 40%	Water Shortage Critical
Level 4	above 40%	Water Shortage Emergency

ES 5. Demand Management Measures

The City of Poway is committed to water use efficiency and conservation and has been a signatory member of the California Urban Water Conservation Council (CUWCC) since 1997. As part of the CUWCC, the City has implemented a number of Demand Management Measures (DMMs) in order to promote and achieve water conservation. Poway has implemented the DMMs by participating in the conservation efforts of the City's two wholesale water suppliers, MWD and SDCWA. While Poway has offered some programs independently, most of Poway's water conservation programs have been offered in partnership with MWD and SDCWA. The City has implemented the following demand management measures:

- Water waste prevention ordinance
- Water metering
- Conservation pricing
- Public education and outreach
- Programs to manage distribution system real loss
- Water conservation program coordination and staffing

In response to the current drought and State emergency regulations, the City has conducted its own conservation activities to help support permanent changes in City water use over time:

- Removal of turf at 15 City parks and facilities, which saves approximately 13.7 MGY
- Replaced toilets to low-flush at City facilities
- Conversion of Library landscape from turf to a low-water use landscape (In-Progress)
- Conversion of the Sportsplex in the business park from potable water to recycled water (In-Progress)

ES 6. Plan Adoption and Submittal

As part of the preparation of this UWMP, the City provided notice of its preparation of the plan to San Diego County, SDCWA, and adjacent cities and other entities. The public was encouraged to review and submit questions and comments on the UWMP during the public review period of May 19 to June 7, 2016. The Poway City Council conducted a public hearing on June 7, 2016, and then considered adoption of this 2015 UWMP by Resolution No. 16-015.

The adopted 2015 UWMP will be submitted to DWR, the State of California Library, County of San Diego, and SDCWA by June 28, 2016. Poway's 2015 UWMP is available for review on the City's web site at www.poway.org and at the Public Works Administration Building, located at 14446 Lake Poway Road, Poway, CA, 92064.

Section 1 Introduction and Overview

1.1. Introduction

The California Water Code §10610 et sec. requires all urban water suppliers within the State of California to prepare an Urban Water Management Plan (UWMP) and update it every five years to satisfy requirements of the California Urban Water Management Planning Act of 1983 and its amendments. This 2015 UWMP satisfies the requirements of the Urban Water Management Planning Act (the Act) which defines an urban water supplier as a supplier, either publicly or privately owned, that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. The California Department of Water Resources' (DWR) UWMP checklist including the location of all required components of the UWMP is included in **Appendix A**.

This 2015 UWMP is for the City of Poway, an urban water supplier that provides service to approximately 14,136 connections (potable and recycled), all metered. The UWMP reviews water trends, supply, and demand projections for the next 25 years, and serves as a planning document for the City of Poway and regional decision makers, and provides the public with information about water supply within the Poway service area.

1.2. Coordination

San Diego County Water Authority (SDCWA) is the water wholesaler for the San Diego Region. SDCWA is comprised of 24 member agencies, including the City of Poway. SDCWA has prepared a 2015 UWMP in accordance with requirements for water wholesalers, which addresses the regional issues concerning San Diego County water demands and supplies. The Metropolitan Water District of Southern California (MWD), from which SDCWA purchases imported water, has also prepared a 2015 UWMP that provides data on projected imported water deliveries.

While preparing the 2015 UWMP, the City of Poway coordinated its efforts with a number of agencies to ensure that data and issues are presented accurately, including: SDCWA, the County of San Diego, the City of San Diego Public Utilities Department, the City of Escondido, and San Diego Association of Governments (SANDAG).

As required, the City of Poway notified the County of San Diego sixty days prior to the June 7, 2016 City Council Public Hearing regarding the 2015 UWMP. The City of Poway does not provide water service within any other municipal jurisdiction. As a courtesy, the City of Poway also provided sixty-day notice to the City of San Diego, SANDAG, San Diego County Local Agency Formation Commission (LAFCO), and Rincon del Diablo Municipal Water District (Rincon del Diablo MWD). Coordination efforts between Poway and other entities as part of the UWMP process are summarized in **Table 1-1, Table 1-2,** and **Table 1-3**.

DWR's *2015 Urban Water Management Plan Guidebook for Urban Water Suppliers* (Guidebook) was used in preparing this 2015 UWMP. Once finalized, the City of Poway will send a copy of its adopted 2015 UWMP to DWR, the California State Library, and SDCWA. DWR requires 38 data tables in a particular format be provided as part of the 2015 UWMP. **Appendix B** includes a complete set of the required tables, however, the majority of the required tables are incorporated within the body of this UWMP. The blue table headings in each table indicates whether or not the table is required by DWR, and also indicates the table numbering per DWR's Guidebook.

Table 1-1: Wholesale Information Exchange

DWR Table 2-4: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier of projected water use in accordance with CWC 10631
San Diego County Water Authority

Table 1-2: Notification to County of San Diego

DWR Table 10-1: Notification to Cities and Counties		
County Name	**60 Day Notice**	**Notice of Public Hearing**
County of San Diego	X	X

Table 1-3: Voluntary Notification for UWMP Preparation

Organization/Agency Name	**60 Day Notice**	**Notice of Public Hearing**
City of San Diego	X	X
City of Escondido	X	X
Rincon del Diablo MWD	X	X
San Diego Association of Governments	X	X
San Diego County Water Authority	X	X
Local Agency Formation Commission	X	X

1.3. Plan Preparation

This 2015 UWMP was prepared by the City of Poway, a retail water agency as defined by California Water Code (CWC) §10608.12, which provides water to its customers through a single public water system. This 2015 UWMP was prepared as an individual plan in coordination with appropriate agencies. **Table 1-4, Table 1-5**, and **Table 1-6** provide information about Poway and the structure of the 2015 UWMP, as required in the Guidebook.

Table 1-4: Retail: Public Water System

DWR Table 2-1: Public Water Systems			
Public Water System Number	**Public Water System Name**	**Number of Municipal Connections 2015**	**Volume of Water Supplied 2015**
CA3710015	Poway, City of	14,136	8,374

Table 1-5: Plan Identification

DWR Table 2-2: Plan Identification	
X	Individual UWMP
	Regional UWMP

Table 1-6: Agency Identification

DWR Table 2-3: Agency Identification	
Name of Agency	**City of Poway**
	Agency is a wholesaler
X	Agency is a retailer
Fiscal or Calendar Year	
X	UWMP Tables are in Calendar Years
	UWMP Tables are in Fiscal Years
Units of Measure	
X	Acre Feet (AF)
	Million Gallons (MG)
	Hundred Cubic Feet (CCF)

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Section 2 System Description

2.1. Introduction

The City of Poway acts as the water supplier for customers within its jurisdiction. The City of Poway imports 99% of its water supply from SDCWA in the form of raw, untreated water. When available, the City's water supply also includes local rainfall that is captured in Lake Poway. Poway also purchases recycled water (approximately 550 acre-feet per year [AFY]) from the City of San Diego for irrigation in the Poway Business Park.

The City of Poway owns and operates the Lester J. Berglund Water Treatment Plant (WTP), which treats the raw, untreated imported water and rainfall to potable (drinking water) levels for the City. The Berglund WTP has a peak design capacity of 24 million gallons per day (MGD) and typically produces on average 10.5 MGD, based on 2014 demands. The distribution system includes approximately 267 miles of water mains, 18 pressure zones, one 10 million gallon (MG) clearwell, and 18 storage tank reservoirs, which range in capacity from 200,000 gallons to 2.5 MG and exist to maintain adequate supplies during peak demand, for fire flow, or other emergencies. All of the storage reservoirs are covered to prevent losses from evaporation and reduce pollution or contamination risks. The City's surface water reservoir, Lake Poway, is a man-made surface storage reservoir with a maximum capacity of 3,300 acre-feet (AF) (or 1,075 MG). Lake Poway provides storage for emergencies, and buffers the effects of peak seasonal water demands.

The City's Lester J. Berglund WTP is located at Lake Poway, which stores raw water purchased from SDCWA.

Poway's water treatment and distribution system is continuously monitored to ensure compliance with State and Federal regulations. The City manages its water system 24-hours per day with staff and supervisory control and data acquisition (SCADA) systems to maximize water resources and minimize importation of raw water. The infrastructure is maintained daily and is regularly upgraded. The City's *2007 Potable Water Master Plan Update* describes the plans for modifications to existing infrastructure (e.g., pipelines, storage reservoirs, and pumping stations) and new infrastructure to accommodate the City's projected water demands.

2.2. Service Area

History and Formation

Water service became a municipal function in the Poway vicinity in 1954 when SDCWA's aqueduct was constructed and the Poway Municipal Water District was formed. In 1971, the directors of the Poway Municipal Water District made plans for expanded water treatment and emergency storage capacity, and subsequently, voters in the District approved a bond to construct the Lake Poway Dam.

Lake Poway became operational as a surface water reservoir and recreational area in 1972, and major modifications to the adjacent water treatment plant were completed in 1974. Poway incorporated as a general law city on December 1, 1980, and merged the Poway Municipal Water District and the Pomerado County Water District to establish a municipality. A Council-City Manager form of government administers the City. The Mayor and Council members are non-partisan and are elected to serve staggered four-year terms. The Council appoints the City Manager to run the daily municipal operations.

Physical Description

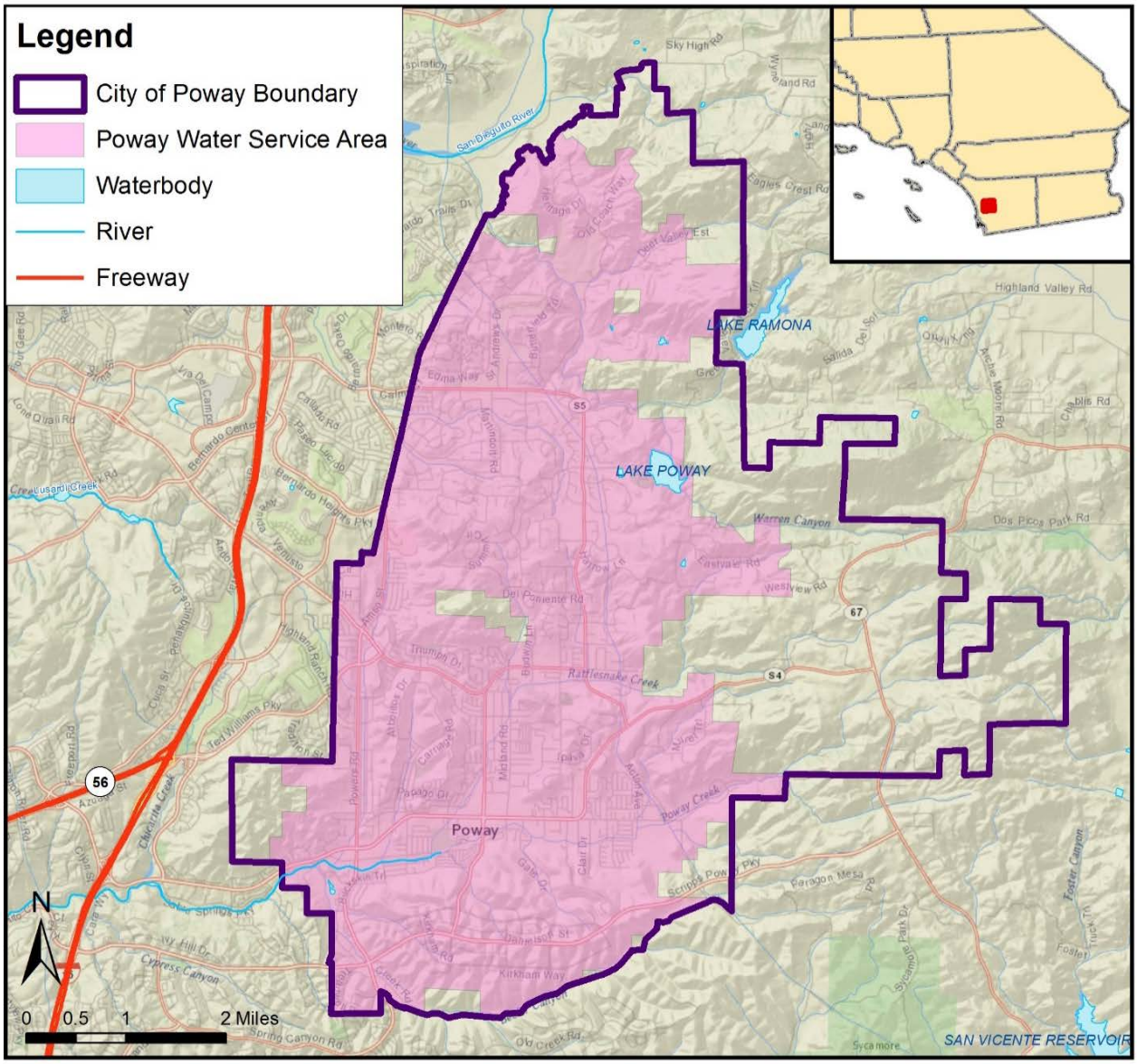
The City of Poway encompasses 39 square miles in San Diego County, 20 miles north of downtown San Diego. Poway borders the City of San Diego on two sides, including the communities of Scripps Ranch to the south and Sabre Springs, Rancho Peñasquitos, and Rancho Bernardo to the west. The City of Escondido is just north of Poway, and the unincorporated community of Ramona is to the east. Poway is one mile east of Interstate 15, which links San Diego, Riverside, Los Angeles and Orange Counties. The elevation of Poway ranges from 480 to 2,250 feet above sea level.

A map of the City of Poway is provided in **Figure 2-1**. The easternmost portion of the City of Poway is not connected to the municipal water system, and residents in that area receive water via private groundwater wells. As such, the map of Poway's service area in **Figure 2-1** delineates both the entire City of Poway and the portion of the City of Poway that is served municipal water (herein referred to as the City's Service Area).

Imported Water and Wholesale Information

The City of Poway is one of 24 member water agencies of the SDCWA, and purchases most of its water supply from SDCWA. SDCWA is a wholesaler of imported water, consisting of water purchases from MWD, water transfers from Imperial Irrigation District (IID) and canal lining projects that are wheeled through MWD's conveyance facilities, and spot water transfers that are pursued on an as-needed basis. Additionally, SDCWA recently began purchasing water from the Claude "Bud" Lewis Carlsbad Desalination Plant, which is a fully-permitted seawater desalination plant and conveyance pipeline that provides a highly-reliable local supply of 56,000 AFY for the San Diego Region. Imported water supplies are delivered to SDCWA member agencies through a system of large-diameter pipelines, pumping stations, and reservoirs. The pipelines deliver supplies from MWD are divided into two aqueduct alignments, both of which originate at Lake Skinner in southern Riverside County and run in a north to south direction through the SDCWA service area.

Figure 2-1: Poway Service Area and City Boundary

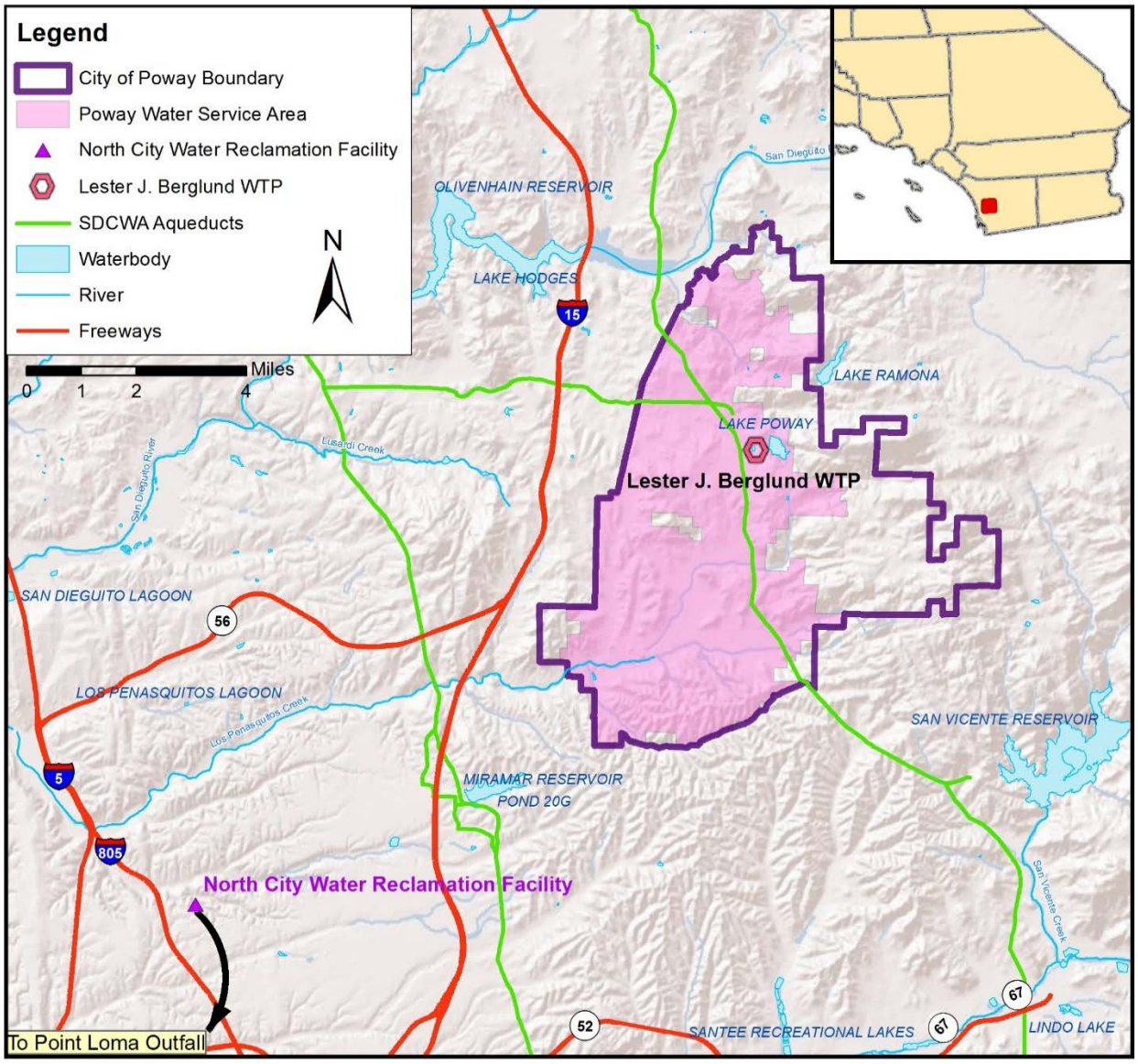


SDCWA was established pursuant to legislation adopted by the California State Legislature in 1943 to provide a supplemental supply of water as the San Diego region's civilian and military population expanded. Due to the strong military presence, the federal government arranged for water from the Colorado River to be delivered to San Diego in the 1940s. In 1947, water began to be imported from the Colorado River via a single pipeline that connected to MWD's Colorado River Aqueduct located in Riverside County. To meet the water demand for a growing population and economy, SDCWA constructed four additional pipelines between the 1950s and early 1980s that are all connected to MWD's conveyance system and deliver water to San Diego County. Pipelines 1 and 2 comprise the First San Diego Aqueduct, which reaches from MWD's delivery point to San Vicente Reservoir. Pipelines 3, 4, and 5 form the Second San Diego Aqueduct.

MWD, formed in 1928, supplies water to approximately 18.5 million people in a service area that includes portions of Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego counties. SDCWA is one of 27 MWD member agencies, and is the largest agency in terms of water deliveries.

Poway purchases raw, untreated water from SDCWA. The water is delivered via SDCWA's First San Diego Aqueduct from Lake Skinner in Riverside County and is then treated to potable levels at the City's Berglund WTP for distribution to Poway's customers. **Figure 2-2** provides an overview of Poway supply sources.

Figure 2-2: Poway Water Supplies and Facilities



2.3. Population

Historical Population

The population of the entire City of Poway decreased slightly between 2000 and 2010, per data from the 2010 U.S. Census. The reported population for the City of Poway was 48,044 in 2000, dropping to 47,811 in 2010.[1] According to the City of Poway's Housing Element Update, it is likely that this population decrease was due to the 2008 economic recession.

A small portion of the City of Poway is not connected to the water system, and therefore, residents in this area are not part of Poway's Service Area (refer to Figure 2-1). The City used the final 2010 U.S. Census data for the City of Poway, together with housing unit counts from its Planning Department for the East Poway area not served by water service, to produce more accurate population values for the 2000-2010 decade. For the Service Area, the final 2000 population was 47,914 and the final 2010 population was 47,697 (see 1999-2010 population in Table 4-1 in *Chapter 4 Baselines and Targets*).

In contrast, when Poway's Service Area was uploaded to DWR's Population Tool, the 2000 population was estimated to be 45,891 and the 2010 population was estimated to be 45,724. This analysis shows that because of the large lots present in East Poway, DWR's Population Tool was overestimating the number of residents that lived within the East Poway area outside of Poway's Service Area.

Future Population

SANDAG, the regional land use and transportation planning agency, provides population projections for jurisdictions throughout San Diego County. The population projections presented in **Table 2-1** are based upon SANDAG's 2050 Regional Growth Forecast, Series 13 Model. Population projections from SANDAG were obtained in January 2016 for the City of Poway.

The City's Planning Department estimates that Poway's Service Area represents approximately 68% of the total City boundary area. In order to convert SANDAG City population projections to Poway Service Area populations, the methodology described above to determine the historical population (City population minus East Poway population based on housing unit EDUs) was used to project the Service Area's population in the future. The City's Planning Department provided projections of housing unit growth within the East Poway area through 2040. Population projections for Poway's Service Area are shown in **Table 2-1**.

Table 2-1: Current and Projected Population

DWR Table 3-1: Population — Current and Projected							
	2015	2020	2025	2030	2035	2040	Data sources
City of Poway Population	49,041	50,011	51,310	52,568	52,663	52,660	SANDAG 2050 Regional Growth Forecast, Series 13; 2015 value from DOF
Service Area Population	48,773	49,737	51,029	52,280	52,375	52,372	SANDAG 2050 Regional Growth Forecast, Series 13 – modified to remove East Poway population not served by municipal system; 2015 value from DOF minus East Poway population

[1] United States Census Bureau. 2016. *State and County QuickFacts.* Available at: http://quickfacts.census.gov/qfd/states/06/0658520.html

2.4. Land Use

The City of Poway's General Plan and land use priority is to preserve a balance between the community's rural character and well-planned residential/commercial/industrial development. The General Plan, adopted in November 1991, calls for maintaining a majority of the City's land as open space to provide the community with a natural buffer. An additional 5% of the land is expected to continue being used for agriculture. The majority of open space is located in the foothills that surround Poway. Other open space areas include Lake Poway, the Blue Sky Ecological Reserve, and the Twin Peaks and Boulder Mountain areas. Residential growth is anticipated primarily within the low density single family category through 2040. However, the hilly topography and lack of municipal services in designated very low density areas generally results in minimal developed home sites.

Poway experienced a significant increase in commercial and light industrial development over the past twenty years, primarily in the Poway Business Park, a 900-acre complex offering tenants high-quality infrastructure, numerous amenities, and plenty of open space in keeping with the City's rural surroundings. The Business Park meets the needs of light industrial and manufacturing uses, warehousing and distribution, and research and development businesses. There are 9 million square feet of building space, and some development capacity remains. Currently, over 400 businesses with more than 17,000 employees are located in the Business Park. Landscaping in the Poway Business Park generally uses recycled water purchased from the City of San Diego and piped through a dedicated meter and distribution system. City staff routinely inspects the 12-mile recycled water distribution system for excess runoff and other discrepancies to ensure adherence to all regulatory requirements, including Poway's Rules and Regulations for Recycled Water Use, adopted by the City Council on September 30, 1997.

Significant amounts of new commercial and industrial development are not expected in Poway. There are some parcels remaining for development in the Business Park, but it has largely reached its maximum capacity. New commercial and industrial development is expected to be conversions of existing parcels and infill development, primarily along Poway Road.

2.5. Climate

Poway's climate is typical of a Southern California coastal valley. Located approximately 10 miles east of the Pacific Ocean, Poway enjoys mild-to-moderate temperatures, marine breezes, and low humidity. The average temperature is 72 degrees, and the average annual rainfall is 9 to 14 inches. However, in 1998, 2004, and 2010, rainfall exceeded 24 inches due to heavy winter storms. The past three years have been particularly dry in California, as evidenced in the below average rainfall data for the years 2013-2015 (see **Table 2-2**).

Table 2-2: Local Rainfall from 2010-2015

	2010	2011	2012	2013	2014	2015*
Total Rainfall (inches)	27.98	14.46	10.02	7.41	8.29	5.33

*2015 data available through June 2015

Source: National Oceanic & Atmospheric Administration (NOAA). Annual Climatological Summary for the Poway Valley Station, 2010-2015.

Variations in weather affect short-term water consumption and sales. Poway's Berglund WTP, reservoirs, distribution, and billing system are all designed to accommodate variations in weather-related demand. Average weather data on a month-by-month basis for the Poway area is provided below in **Table 2-3**.

Table 2-3: Average Monthly Climate Data for Poway Area

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Average Precipitation (inches)	2.8	2.7	2.3	0.95	0.37	0.08	0.04	0.07	0.19	0.52	1.36	1.87
Average Maximum Temperature (F)	67	66	67	72	74	81	86	86	84	79	72	67
Average Minimum Temperature (F)	41	43	44	48	54	56	60	62	58	50	43	39

Source: Western Regional Climate Center. 2016. Period of Record Monthly Climate Summary, Poway Valley, California, 1893-2015. Available: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7111

2.6. Other Planning Efforts

In order to plan for supply reliability and infrastructure needs, the City of Poway has developed multiple planning documents. In addition to City-specific planning documents, the City of Poway is an active participant in regional water resource management planning activities. The following sections explain key planning documents that were used to develop this 2015 UWMP.

2007 Potable Water Master Plan Update

The purpose of the *2007 Potable Water Master Plan Update* was to calibrate the City's hydraulic model and update the list of capital improvement programs (CIP) based on buildout land use and projected flows.

2012 Sanitary Sewer Master Plan

The *2012 Sanitary Sewer Master Plan* was used to develop the description of Poway's sewer conveyance system, and explain the preliminary assessment that was conducted on a potential satellite water reclamation plant in northern Poway.

2013 San Diego Integrated Regional Water Management Plan

The *2013 San Diego Integrated Regional Water Management Plan* (IRWM Plan) was a regional effort to establish water management issues and priorities, facilitate integration and collaboration among stakeholders, and move the Region toward in sustainable water resource management. The IRWM Plan included a detailed assessment of the region's vulnerability to climate change impacts as they relate to water resource management.

2015 Regional Agricultural Water Management Plan

The purpose of the *2015 Regional Agricultural Water Management Plan* was to review the water supply in San Diego County and determine the reliable supply available for agricultural use in the region. This plan was prepared as required by SB X7-7 and was prepared in parallel to the numerous UWMP efforts in the region.

2015 Lake Poway Watershed Sanitary Survey

The *2015 Lake Poway Watershed Sanitary Survey* was used to develop the description of water quality conditions at Lake Poway relative to the ability of the Berglund WTP to continue to provide customers with drinking water that meets all drinking water standards.

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Section 3 System Water Use

Water demand projections provide the basis for planning for future supplies and infrastructure. This section describes the City's historical, current, and projected water use. Historical water use and water treatment plant production records, combined with projections of population, provide the basis for estimating future water demands for the City's water service area.

Records of historical water treatment plant production, groundwater pumping, and metered customer use were obtained from the City's Public Works Department. Water treatment plant production is the volume of surface water treated at the City's Berglund WTP and conveyed in the distribution system. It includes all water delivered to residential, commercial, and industrial customers, but does not include recycled water. Recycled water is described in more detail in *Chapter 5 System Supplies*.

3.1. Water Use by Sector

Current water usage in the City of Poway includes primarily domestic use (serving residential and commercial users), with a small amount of industrial use and agricultural irrigation. Water consumption data for the City is separated into the following sectors: single-family residential; multi-family residential; commercial; industrial; institutional/governmental; landscape; agricultural and water losses. Up until mid-2015, Poway added supplemental potable water into the recycled water tank to meet peak recycled water demands, which is included in the landscape category. The City no longer supplements recycled water with potable water during peak demands but uses potable water as a back-up for unexpected shutdowns of the City of San Diego's recycled water system. Poway sells water to SDCWA, for transfer to Ramona Municipal Water District (Ramona MWD), as needed to meet their peak demands or during scheduled shutdowns. Water consumption in 2015 is summarized in **Table 3-1**.

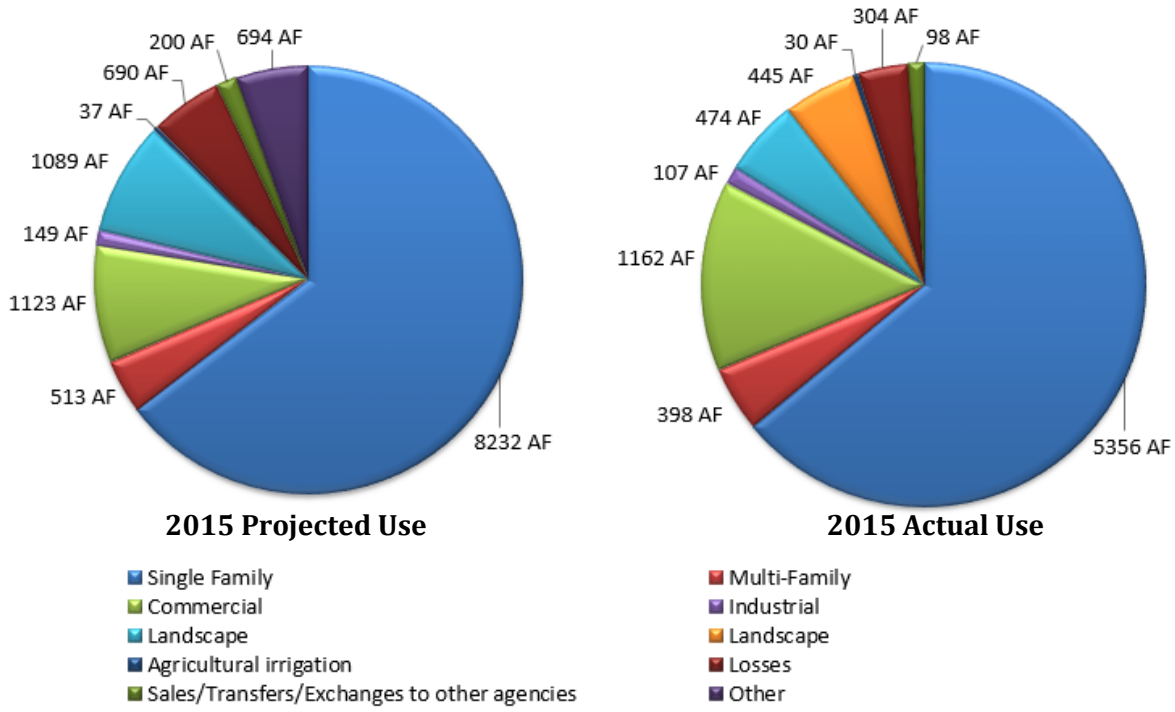
Table 3-1: Demands for Potable and Raw Water - Actual

DWR Table 4-1: Demands for Potable and Raw Water – Actual			
Use Type	**2015 Actual**		
	Additional Description	**Level of Treatment When Delivered**	**Volume**
Single Family		Drinking Water	5,356
Multi-Family		Drinking Water	398
Commercial[1]		Drinking Water	1,162
Industrial		Drinking Water	107
Landscape[2]		Drinking Water	474
Landscape	Raw Water for Golf Course	Raw Water	445
Agricultural		Drinking Water	30
Water Losses		Drinking Water	304
Sales/Transfers/Exchanges to other Agencies	Sales to SDCWA (for Ramona MWD)	Drinking Water	98
		TOTAL	**8,374**

NOTES: 1. Commercial use includes institutional use and special district facilities, such as schools, churches, and the hospital. 2. Landscape use includes metered irrigation, minus recycled water irrigation use, plus potable water added to supplement recycled water demands.

The City's water use for 2015 was 8,374 AF, which was an approximately 15% decrease from the 2010 water use of 9,913 AF. As part of the 2010 UWMP, the City projected that the water use in 2015 would be 12,727 AF, including system losses and sales to other agencies. The actual 2015 demand was almost 35% less than the projected 2015 demand. The City's initiatives to decrease water use to meet 2015 and 2020 GPCD targets and drought restrictions have been the biggest factors in the actual 2015 water demand being less than that projected in the 2010 UWMP. A comparison of the actual and projected 2015 water use is illustrated in **Figure 3-1**.

Figure 3-1: Breakdown of 2015 Projected Use vs. 2015 Actual Use



The largest volume of the City's water use is the residential sector. This sector is comprised mainly of single-family detached and attached residences and multiple dwelling units, such as apartments and condominiums. The residential demand, combining single- and multi-family housing, accounted for 69% of the total water consumption in 2015. The commercial sector (which includes institutional water use for government and special district facilities, such as schools, churches, and the hospital) has the next highest volume of water use, with 14% of total water consumption in 2015. The landscape sector accounted for 11% of total water use in 2015. The landscape sector includes raw water used to irrigate two commercial golf courses. Industrial water use represented 1% of total water use in 2015. Water use in the agricultural sector, used for commercial agricultural irrigation, was less than 1% in 2015.

The City's projected water demands, broken down by customer sector, for 2020, 2025, 2030, 2035 and 2040 are shown in **Table 3-2** and **Table 3-3**. The projections assume that the City's baseline water use (without conservation) from 2020 to 2040 will be in line with the City's fifteen-year average from 2000 to 2014, 235 GPCD. This baseline water use does not account for active and passive conservation activities that will be implemented within the service area. Conservation is estimated to result in approximately 17% reduction in water use through the planning horizon (e.g., changes in plumbing code and landscapes/turf removal). The projections assume that, with conservation, average water use in the City from 2020 to 2040 will be in line with the City's five-year average from 2010 to 2014, 192 GPCD. The City chose the 2010-2014 average to reflect a more recent period that includes the current drought (2012-2015 water years) and extraordinary conservation measures; it represents an estimate of future conditions based on recent improvements in demand management and assumes that these changes remain intact moving forward.

The City's 2015 water use was 160 GPCD. To formulate the projections the City used the following steps:

1. Increasing water use in each use type proportionally by the increase from 2015 actual GPCD to the 2010-2014 average GPCD. This resulted in a in a multiplication factor of 1.2 to get from 2015 water use to projected water use from 2020 to 2040.
2. In addition to adjusting use consistently across use types by using the 2020 GPCD target, the City considered the SANDAG 2050 Regional Growth Forecast, Series 13 Model for the City of Poway and interpolated future use (by use type) by relative acreage increase (by use type). For example, between 2020 and 2025 single family lots are projected to increase by 3% in total acreage, so it is assumed that single family water use will increase by 3%. The forecast showed a change in acreage for single family homes, multi-family homes, parks, industrial, and commercial lots. The forecast did not show any changes in agricultural land, irrigated golf courses, or institutional/governmental lots, so these were assumed not to show increases in land area or water use between 2020 and 2040.

Table 3-2: Projected Baseline and Conservation Forecast

	Projected Water Use				
	2020	**2025**	**2030**	**2035**	**2040**
Baseline Demands (Without Conservation)[1]	13,738	14,078	14,407	14,432	14,431
Active/Passive Conservation	2,396	2,458	2,518	2,523	2,523
Total Water Demands[2]	11,342	11,620	11,889	11,909	11,908

1 Baseline demands based on the City's fifteen-year average from 2000 to 2014, 235 GPCD.
2 Total water demands based on the City's five-year average from 2010 to 2014, 192 GPCD.

Table 3-3: Projected Demands for Potable and Raw Water

DWR Table 4-2: Demands for Potable and Raw Water - Projected						
Use Type	**Additional Description**	**Projected Water Use**				
		2020	**2025**	**2030**	**2035**	**2040**
Single Family		7,577	7,826	8,079	8,129	8,115
Multi-Family		402	409	412	409	409
Commercial		1,153	1,162	1,170	1,172	1,173
Industrial		178	197	209	183	193
Landscape		510	504	497	494	496
Landscape	Raw Water Golf Course Use	445	445	445	445	445
Agricultural irrigation		30	30	30	30	30
Losses		304	304	304	304	304
Sales/Transfers/Exchanges to other agencies		98	98	98	98	98
TOTAL		**10,697**	**10,975**	**11,244**	**11,264**	**11,264**

NOTES: Average water use from 2020 onwards is assumed to be in-line with the City's 5-year average water use: 192 GPCD. Water Losses were assumed to increase proportionally with all other water use. Water use projections were based on 2015 water use data presented in DWR Table 4-1 and extrapolated by use type by:

c. Increasing water use in each use type proportionally by the increase from 2015 actual GPCD to 2020 anticipated GPCD.

d. Considering the SDCWA Regional Growth Forecast for the City of Poway and interpolating future use by relative acreage increase by use type. For example, between 2020 and 2025 single family lots are projected to increase by 3%% in total acreage. So it is assumed that single family water use will increase by 3%. The forecast showed a change in acreage for single family homes, multi-family homes, parks, industrial and commercial lots. The forecast did not show any changes in agricultural land, irrigated golf courses, or institutional/governmental lots, so these were assumed not to show increases by land area between 2020 and 2040.

Total water demands in the City of Poway, combining potable and recycled water uses, for 2015 and projected forward to 2040 are outlined in **Table 3-4**. 2015 recycled water demand and projections to 2040 are explained in detail in *Chapter 5 System Supplies*.

Table 3-4: Total Water Demands

DWR Table 4-3: Total Water Demands						
	2015	**2020**	**2025**	**2030**	**2035**	**2040**
Potable and Raw Water	8,374	10,697	10,975	11,244	11,264	11,264
Recycled Water Demands	363	645	645	645	645	645
Total Water Demands	8,737	11,342	11,620	11,889	11,909	11,909

NOTES: Recycled water purchases based on future demand projections and contract with the City of San Diego.

3.2. Distribution System Water Losses

The City diligently monitors and controls water system losses. The City tracks "authorized unmetered" uses, such as firefighter training and firefighting; water, sewer, and stormwater system maintenance; recycled system makeup water; and water quality and other testing. The City also tracks "metered" flows for water quality maintenance and analysis, and the testing and disinfection associated with the installation of new water mains. To calculate "non-revenue" water, the City compares the quantity of water delivered to the system from the WTP clearwell to the volume of water sold to customers. Authorized unmetered flows (e.g., water for firefighting training and system flushing) is not considered to be a water loss according to the AWWA water loss audit, included as **Appendix C**. However, unmetered and unaccounted for flows (e.g., main leaks/breaks), known as "real losses" to the Guidebook in addition to apparent losses are accounted for in **Table 3-5** for 2014. The detailed water audit was not completed for 2015 as the necessary dataset was not yet finalized.

Table 3-5: 12 Month Water Loss Audit Reporting

DWR Table 4-4: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	**Volume of Water Loss**
01/2014	592

NOTES: Does not include authorized unmetered flows.

In 2015, estimated real loss, most likely as system leakage and evaporation, was under 4%, which is considered very good in the water industry. For calculating gross water use, a total water loss of 5.51% was used after 1998 (when the recycled water system was implemented because water used to flush the potable system is sometimes captured for reuse through the recycled system rather than being diverted to the storm drain system)

3.3. Water Savings from Codes, Standards, Ordinances, or Transportation and Land Use Plans

Water savings from codes, standards and ordinances, known as passive savings, were considered in the demand projections, as well as water demand from lower income residential demands. The projections assume that savings and lower income residential demands will increase proportionally with demand increases.

The City collaborates closely with its wholesaler, SDCWA, to encourage conservation and sustainable water use through ongoing customer outreach. SDCWA offers extensive resources to its wholesale service area customers through its Conservation Program. More detail about the SDCWA conservation programs and the City's conservation efforts are described in Chapter 8, Demand Management Measures.

In addition to active conservation activities implemented through SDCWA's conservation programs, passive conservation is also achieved through state and local efficiency codes. Efficiency codes that require efficient fixtures and appliances, grant funding to promote water conservation, residential weather-based irrigation controllers, and efficient landscape practices are expected to achieve additional water use reductions in the City's water service area.

The City also maintains a water conservation page (http://poway.org/332/Water-Conservation) that provides water conservation resources specific to Poway. The site includes water conservation information and a link to the Water Conservation Plan in the Poway Municipal Code.

Table 3-6: Inclusion in Water Use Projections

DWR Table 4-5: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections?	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc… utilized in demand projections are found.	Sections 3.3 and 3.4
Are Lower Income Residential Demands Included In Projections?	Yes

3.4. Estimated Demands for Lower Income Households

CWC Section 10631.1(a) requires suppliers to estimate projected water use for single-family and multi-family residential housing needed for lower income households, as identified in the Housing Element of the General Plan for the service area of the supplier. It does not require quantification of current water use by lower income households. According to the City's *Housing Element Update 2013-2020*, an estimated 22% of households in the City are lower-income, as defined as having income below 80% of the area median income.

In 2015, low income households used roughly 98 AF of water which translated to a rate of 0.14 AFY per household. Based on development plans, the City has estimated the number of low income housing units for 2020 and applied this water usage rate to estimate a use of 16.5 AF by low income households in 2020.

3.5. Climate Change

Poway's water use shows significant seasonality. For example, in 2015 the minimum monthly water use was 495 AF in December and increased to 962 AF in August, a nearly 100% increase from the minimum to maximum month, suggesting that water demand in the City, in particular for landscape irrigation and industrial purposes, will increase as a result of more frequent, longer, and more extreme heat waves; increased air temperatures; increased atmospheric carbon dioxide levels; changes in precipitation, winds, humidity, atmospheric aerosol and ozone levels; and population growth. In addition, in response to the current drought, much of Poway's water supply has been hardened – for example, with water efficient home appliances and turf replacements – making water demand less elastic and the City more vulnerable to climate change.

Section 4 Water Use Baselines and Targets

This chapter describes the City's compliance with the Water Conservation Act of 2009 (SBx7-7). The SBx7-7 legislation requires the calculation of three primary figures to determine compliance:

1. 2010 Base Daily per Capita Water Use: this provides the water use baseline against which compliance with the legislation is measured
2. 2020 Water Use Target: this is the agency's target water use by the year 2020
3. 2015 Interim Water Use Target: the mid-point between the 2010 baseline and the 2020 water use target, which is used as an interim target against which to evaluate compliance in 2015

SBx7-7 verification tables were completed as part of the 2015 UWMP. Some of those tables are included in this chapter and a complete set of the tables can be found in **Appendix D**.

4.1. Updating Calculations from 2010 UWMP

The Guidebook establishes the requirement to update baselines and targets for SB X7-7 compliance. Guidebook §5.2.2 requires that agencies re-calculate their baseline population using final 2010 U.S. Census data. The rationale behind this requirement is that the complete 2010 U.S. Census data was not available until 2012, and therefore population projections from the 2010 UWMPs may not be accurate.

The City's 2010 UWMP cited a 2010 population of 51,789. As discussed in *Section 2.3 Population*, there is a portion of the City which is not served by the water system. While the unconnected area is large (about 29% of the City's area), the unconnected population is relatively small (less than 1% of the City population). To estimate the historical population within Poway's Service Area, the population in the East Poway area was estimated and then subtracted from the 2010 U.S. Census data for the City of Poway. The City estimates that the average Equivalent Dwelling Unit (EDU) in Poway is 3.1 persons, based on the last 10 years average. The number of Non-Service Area housing units (which is tracked by the City's Planning Department) was then multiplied by 3.1 persons based upon Poway's EDUs, which results the total number of persons NOT within the Poway Service Area. Finally, this figure was subtracted from the City of Poway's Census-reported population. A comparison of the populations used in the 2010 UWMP and those used for this plan are presented in **Table 4-1**.

The difference between the population values reported in the 2010 UWMP and those listed above are due to refinement of the 2010 U.S. Census numbers. The City's population essentially remained static through the decade, rather than growing as SANDAG projected. Limited population growth between 2000 and 2010 was likely due to the recession that started in early 2008 and substantially reduced employment opportunities throughout the San Diego region.

Updating the 2010 UWMP population numbers will change the SBx7-7 baseline and targets from those previously reported. Using the updated population numbers, the SBx7-7 verification tables were completed to correct the City's baseline and target per capita water use. The results of these updated calculations are discussed further below and are summarized in **Table 4-6**.

Table 4-1: Poway Water Service Area Population

Year	Population Reported in 2010 UWMP	Population Updates for 2015 UWMP	
		City of Poway[1]	Water Service Area[2]
1999	47,321	48,072	47,828
2000	47,796	48,972	48,724
2001	48,758	49,011	48,761
2002	49,476	49,056	48,803
2003	49,858	49,658	49,403
2004	50,186	50,057	49,801
2005	50,250	50,249	49,991
2006	50,257	50,116	49,857
2007	50,440	50,404	50,144
2008	50,649	50,744	50,483
2009	51,062	51,322	51,062
2010	51,789	52,056	51,789

Sources: 1. 2010 U.S. Census; 2. 2010 U.S. Census, adjusted by City of Poway Planning Department

4.2. Baseline Periods

As stated in the Guidebook, all baselines must be calculated as "a 10- to 15-year continuous period ending between December 31, 2004, and December 31, 2010." Therefore, the revised population figures were used to calculate rolling baselines from 1999 to 2010. After revising the population figures, it was determined that the 10-year baseline period would remain 1999 to 2008, as it had been presented in the 2010 UWMP, and that the 5-year baseline would also remain the same, spanning from 2003-2007. Changes to the baseline and target per capita use numbers as a result of the updated population numbers are presented in **Table 4-6**.

4.3. Service Area Population

Per DWR recommendations, the City, whose service area does not correspond to a Census designated place (CDP), sought pre-approval for their population analysis. DWR granted Poway approval for their population projection methodology on April 13, 2016. For this UWMP, historical population numbers were derived from U.S. Census population data for the City boundaries and adjusted to remove the estimated East Poway population from the Service Area total. The difference between these populations is presented in above.

For calculation of the 2015 per capita water use number, the service area's 2015 population was determined using a similar methodology to that described above. The 2015 Department of Finance (DOF) population estimate for the City was adjusted to exclude the population of East Poway. To check this population value, the City utilized the person-per-connection factor (3.44) for 2010[2] and applied it to the number of connections (13,701) in 2015. The resulting population (47,116) is only

[2] 47,697 persons for 13,870 connections

3% lower than the City's figure, likely due to the change in housing trends in the City since 2010. The City's DOF adjusted population for 2015 was approved by DWR on April 13, 2016. **Table 4-2** has been included to present the populations used for the daily per capita water use calculations.

Table 4-2: Population Used for SBx7-7 Targets

SB X7-7 Table 3: Service Area Population			
Year		**Population**	**Notes**
10 to 15 Year Baseline Population			
Year 1	1999	47,828	From City population data – adjusted Census data (approved by DWR)
Year 2	2000	48,724	
Year 3	2001	48,761	
Year 4	2002	48,803	
Year 5	2003	49,403	
Year 6	2004	49,801	
Year 7	2005	49,991	
Year 8	2006	49,857	
Year 9	2007	50,144	
Year 10	2008	50,483	
5 Year Baseline Population			
Year 1	2003	49,403	From City population data – adjusted Census data (approved by DWR)
Year 2	2004	49,801	
Year 3	2005	49,991	
Year 4	2006	49,857	
Year 5	2007	50,144	
2015 Compliance Year Population			
2015		48,773	From City population data – adjusted DOF data (approved by DWR)

4.4. Gross Water Use

Over the baseline period, the City saw a lot of fluctuation in year-to-year water use with an underlying gradual rise in water consumption. The majority of water use in the City is associated with residential use (both single and multi-family), accounting for roughly 68%. The next major users of water are landscape and agricultural irrigators, combining to use about 14% of the gross water use. The City is not eligible for deductions for indirect recycled water use (though it does purchase about 400-500 AFY of recycled water from the City of San Diego for landscape irrigation) nor is its process water use great enough (only about 1% of gross use). The City also does not have a low enough non-industrial water use or is a disadvantage community to be eligible for related deductions; however, the City's agricultural water use (roughly 350 AFY over the baseline period) was removed from the water use figure prior to per capita water use calculations. **Table 4-3** summarizes the City's annual gross water use.

While the breakdown of City's water use (percentage per consumer type) was fairly consistent with previous years, the gross water usage dropped significantly. This decline in water use can be attributed to drought-related water use reductions.

Table 4-3: Annual Gross Water Use for SBx7-7 Targets (AFY)

SB X7-7 Table 4: Annual Gross Water Use								
	Baseline Year	Volume Into Distribution System	Deductions					Annual Gross Water Use
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water	Water Delivered for Agricultural Use	Process Water	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1999	14,358	0	0	0	618	0	13,740
Year 2	2000	15,537	0	0	0	550	0	14,987
Year 3	2001	13,977	0	0	0	420	0	13,556
Year 4	2002	15,265	0	0	0	59	0	15,206
Year 5	2003	14,411	0	0	0	376	0	14,035
Year 6	2004	15,470	0	0	0	57	0	15,413
Year 7	2005	14,172	0	0	0	28	0	14,145
Year 8	2006	15,873	0	0	0	764	0	15,109
Year 9	2007	15,679	0	0	0	586	0	15,093
Year 10	2008	14,150	0	0	0	194	0	13,956
10 - 15 year baseline average gross water use								**14,524**
5 Year Baseline - Gross Water Use								
Year 1	2003	14,411	0	0	0	376	0	14,035
Year 2	2004	15,470	0	0	0	57	0	15,413
Year 3	2005	14,172	0	0	0	28	0	14,145
Year 4	2006	15,873	0	0	0	764	0	15,109
Year 5	2007	15,679	0	0	0	586	0	15,093
5 year baseline average gross water use								**14,759**
2015 Compliance Year - Gross Water Use								
2015		8,774	0	0	0	30	0	**8,744**

4.5. Baseline and Target Daily Per Capita Water Use

To calculate the City's baseline daily per capita water use, the gross water use was divided by the population for each year of the baseline period. The daily per capita water use for each year in the baseline period was then averaged to determine the baseline use in GPCD. As discussed earlier in this section, the City's 10-year baseline period did not change since the 2010 UWMP; however the baseline population adjustments resulted in a change in baseline per capita water use numbers.

In the 2010 UWMP, the 10-year baseline was calculated as 269 GPCD and the 5-year baseline was 237. With the updated service area population numbers, the 10-year baseline was determined to be 263 GPCD and the 5-year baseline was calculated as 264 GPCD.

Table 4-4: GPCD Baseline

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year		**Service Area Population**	**Annual Gross Water Use (AFY)**	**Daily Per Capita Water Use (GPCD)**
10 to 15 Year Baseline GPCD				
Year 1	1999	47,828	13,740	256
Year 2	2000	48,724	14,987	275
Year 3	2001	48,761	13,556	248
Year 4	2002	48,803	15,206	278
Year 5	2003	49,403	14,035	254
Year 6	2004	49,801	15,413	276
Year 7	2005	49,991	14,145	253
Year 8	2006	49,857	15,109	271
Year 9	2007	50,144	15,093	269
Year 10	2008	50,483	13,956	247
10-15 Year Average Baseline GPCD				**263**
5 Year Baseline GPCD				
Year 1	2003	49,403	14,035	254
Year 2	2004	49,801	15,413	276
Year 3	2005	49,991	14,145	253
Year 4	2006	49,857	15,109	271
Year 5	2007	50,144	15,093	269
5 Year Average Baseline GPCD				**264**
2015 Compliance Year GPCD				
2015		48,773	8,744	**160**

The 2020 target was then calculated using Method 1, which is a 20% reduction from the 10-year baseline per capita water use value (210 GPCD). The 2020 target was confirmed to be less than 95% of the 5-year baseline water use figure. The 2015 interim target was set as the midpoint between the baseline and 2020 target (236 GPCD). The targets are summarized in **Table 4-5** and a comparison of the targets from the 2010 UWMP is presented in **Table 4-6**.

Table 4-5: SBx7-7 Baselines and Targets

DWR Table 5-1: Baselines and Targets Summary					
Baseline Period	**Start Year**	**End Year**	**Average Baseline GPCD***	**2015 Interim Target***	**Confirmed 2020 Target***
10-15 year	1999	2008	263	236	210
5 Year	2003	2007	264		

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

Table 4-6: Changes in Baseline and Targets since 2010 UWMP (GPCD)

	2010 UWMP	**2015 UWMP (Updated)**
Average Baseline GPCD*	269	263
2015 Interim Target*	242	236
Confirmed 2020 Target*	215	210

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

4.6. 2015 Compliance Daily per Capita Water Use (GPCD)

As presented above, the 2015 water usage figure was calculated from the adjusted 2015 DOF population values and gross water usage. The City's 2015 daily per capita water use number (160 GPCD) is below their 2015 target and therefore no usage adjustments (such as weather normalization or economic adjustments) were conducted. In addition to meeting the 2015 target, this water usage number is well below the City's 2020 target. While some water usage increase is expected when the drought ends, the City's conservation program and measures taken to reduce water use during the drought are expected to help keep the daily per capita water use number below the 2020 target of 210 GPCD. A summary of the City's compliance with its 2015 target can be found in **Table 4-7**.

Table 4-7: 2015 GPCD Compliance

Table 5-2: 2015 Compliance*								
Actual 2015 GPCD	**2015 Interim Target GPCD**	**Optional Adjustments to 2015 GPCD**					**2015 GPCD**	**Did Supplier Achieve Targeted Reduction for 2015? Y/N**
		Extraordinary Events	**Economic Adjustment**	**Weather Normalization**	**TOTAL Adjustments**	**Adjusted 2015 GPCD**		
160	236	0	0	0	0	160	160	Yes

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

Section 5 System Supplies

This section identifies existing and planned water supply sources for the City of Poway, including current and planned quantities. Poway imports about 99% of its water supply. The City's main water supply is raw water purchased from SDCWA, which is treated at the Berglund WTP for distribution in the City's potable water system. Lake Poway captures a small amount of rain and surface runoff during rain events. Since the quantity of Lake Poway runoff is relatively minimal and not reliable (as well as off-set by naturally-occurring evaporation and seepage), it is not considered as a planned water supply source. Additionally, the City of Poway purchases a small quantity of recycled water from the City of San Diego for irrigation in the Poway Business Park.

SDCWA's 2015 UWMP indicates there will be adequate water supplies to meet demand in the SDCWA service area through 2040 during normal water years and single dry years. During the last year of a multiple dry year scenario, management actions may be needed to manage demand within available supplies. SDCWA is also pursuing development of potential additional supplies including seawater desalination, construction of storage facilities, and acquiring out-of-region supplies. The status of these alternative sources is detailed in SDCWA's 2015 UWMP.

5.1. Purchased or Imported Water

SDCWA's 2015 UWMP reports it will have enough raw water to meet the projected needs of its member agencies. SDCWA is supplied water by MWD, but also obtains water from conserved agricultural irrigation and canal lining in the Imperial Valley. MWD's supplies are primarily the State Water Project (SWP) and the Colorado River. SDCWA recently began purchasing water from the Carlsbad Desalination Project, which is a fully-permitted seawater desalination plant that provides a highly-reliable local supply of 56,000 AFY for the San Diego region. More information on sources, new supply projects, and their reliability can be found in SDCWA's and MWD's 2015 UWMPs.

To date, it has not made economic sense for Poway to develop additional supply projects for potable water, beyond the existing raw water treatment of SDCWA imported supplies.

Lester J. Berglund Water Treatment Plant

The City operates the Berglund WTP, a conventional water filtration plant, transmission and storage system infrastructure with a peak design capacity of 24 MGD. The City has the capability to provide some treated water to SDCWA in the event of shutdowns of SDCWA's treated water aqueduct. The maximum amount of water that Poway could deliver to SDCWA would depend on Berglund WTP flow. In most cases, Poway would be able to deliver up to four MGD of treated water for a short time through an emergency use agreement with SDCWA.

The raw water delivered to Poway from SDCWA has historically been a blend of 60% Colorado River Water and 40% SWP water. This blending of water dilutes the high salt concentration of the former and high nutrient content of the latter. Significantly, the quality of raw water purchased from SDCWA has changed since 2010. As reported in the City's *2015 Lake Poway Watershed Sanitary Survey*, raw imported water has recently been comprised of 100% Colorado River water. Colorado River water is more challenging to achieve total organic carbon removal due to higher fulvic content, and consequently, its higher solubility in water. These changes are noted as they impact the operation of the Berglund WTP. Once treated at the Berglund WTP, the product water substantially surpasses federal and state water quality standards.

The City has also experienced water quality challenges due to low flow in water pipes and lack of "turnover" in storage reservoirs, both due to significantly reduced water use. City system operators have worked to modify operations to maintain water quality during periods of low use. The City completed an initial distribution system evaluation with a calibrated hydraulic model to gain further insight into possible problems and develop solutions. SDCWA reports no anticipated reductions in supply due to water quality.

Due to Poway's varied topography, distribution service zones range in elevation between 420 feet and 1,420 feet above sea level. This elevation range requires pumping and pressure regulating zones to provide average service pressures of approximately 80 pounds per square inch. There are eighteen pressure zones and about 267 miles of water mains (greater than four-inch diameter) and distribution pipelines serving approximately 14,136 connections. All water services are metered.

5.2. Groundwater

The City of Poway currently does not have any groundwater supplies. The geology of Poway does not include any large alluvial aquifers with the coarse-grained materials that support efficient groundwater extraction and recharge. Poway's aquifers are small, located along creeks and streams, and contain more fine-grained materials. Groundwater is also available in fractured bedrock, although it is difficult to locate and normally requires deep wells.

For these reasons, groundwater is not a significant supply for Poway, and it is not used in the community water treatment and distribution system. Private wells are privately constructed and not subject to monitoring by the City. They are used for potable supply in some areas that are not served by the community water system and in other areas as a secondary source for domestic use and landscape/crop irrigation. The absence of a community water distribution infrastructure in the undeveloped areas, together with minimal groundwater supply, prevents dense development in that area. The City closely monitors and regulates all land use applications in these areas, but is not required to monitor the volume of water pumped.

5.3. Surface Water

The City of Poway collects a limited amount of surface water via runoff into Lake Poway from local precipitation; however, local runoff is minor and not included in the City's supply portfolio. The City primarily utilized Lake Poway for raw water storage. Poway lies amidst a regional drainage system of westward-tending streams, which convey surface water toward the Pacific Ocean. There are two major watersheds in Poway. Surface water flows into the San Dieguito River and Lake Hodges from the northern portion of Poway, while water from the southern areas of the city flows into Los Peñasquitos Creek. These channels not only carry floodwaters, but also serve as natural recreational and open space linkages within the community.

Poway has an arid climate with average annual rainfall of approximately 13 inches. Runoff is intermittent, ranging from several years of little or no runoff to flooding during major storm events. With this type of rainfall/runoff pattern, development of surface water supplies is generally not cost effective. Dams are very expensive, it is difficult to obtain environmental permitting, infrastructure to convey the water to the treatment plant is expensive, and the annual yield is low. In addition, historic water rights agreements award rights to most of the larger watersheds in the vicinity of Poway to the City of San Diego making it difficult to secure water rights. A further impediment to surface water development is the need to maintain low flows for riparian biological communities.

Storage Reservoirs and Lake Poway

The City of Poway has 18 storage tank reservoirs ranging in size from 200,000 gallons to 2.5 MG, plus a 10 MG clearwell. Lake Poway is the City's largest reservoir. It was originally built by the Poway Municipal Water District in 1971-1972 and serves the City of Poway as a raw water storage reservoir and regional park and recreation facility. It has a 160-foot high earthen dam that contains a maximum of 3,300 AF (about 1,075 MG) of water in 60 surface acres. The Lake is normally maintained between an elevation of 930 and 933 feet, a few feet below the spillway. The Lake level fluctuates around the 933-foot elevation mark throughout the year, except during summer months when it is drawn down for operational reasons. It is estimated that depending on the volume of water in the Lake, the season, and conservation levels, the Lake would have adequate water supplies for the City for up to seven months.

Minimal surface run-off occurs in the 1,200-acre watershed upstream of Lake Poway. The City of San Diego has water rights in this watershed. The Berglund WTP normally treats water from Lake Poway only for a four to six consecutive week period beginning in early June, and typically treats raw imported water from the SDCWA for the remainder of the year. By agreement, 50% of seasonal stream flow into Lake Poway must be passed on to the City of San Diego unless San Diego's Lake Hodges spills. Lake Poway's ecologic conditions are monitored daily by WTP staff to assure maximum water quality.

Lake Poway, utilized for raw water storage, has adequate emergency water supplies for the City for up to seven months.

In May 2010, the City of Poway identified the presence of Quagga Mussels in Lake Poway. Quagga Mussels are a hindrance to water facilities throughout the western United States. Some of MWD's and SDCWA's facilities have been impacted by Quagga Mussels, but with eradication and control strategies, there has been no reduction in deliveries. While Quagga Mussels do not negatively harm water quality like some contaminants, they are a highly-invasive species. Their presence requires careful attention, including ongoing testing procedures and implementation of eradication and control strategies, because they can be highly destructive to water system infrastructure. In the future, more significant operational adjustments to mitigate Quagga Mussels may be required.

5.4. Stormwater

The City of Poway currently does not have any stormwater capture and reuse systems, nor does it plan to develop any in the planning horizon of this UWMP.

5.5. Wastewater and Recycled Water

The City of Poway provides sewer collection service within its city limits, predominantly serving the western half of Poway. In general, developments in the eastern half of Poway are served by on-site septic systems. Additionally, Poway provides pass-through sewer collection service to some neighborhoods located within City of San Diego boundaries.

The *2012 Sanitary Sewer Master Plan* (City of Poway, 2012) conducted an evaluation of possible opportunities and economic feasibility of developing additional sources of reclaimed water to create a local recycled water supply for irrigation.

Recycled Water Coordination

Poway coordinated this UWMP with the City of San Diego, its current supplier of recycled water. Potential sources of future recycled water for Poway include the cities of San Diego and Escondido and Rincon del Diablo MWD. Poway plans to explore opportunities for collaboration with these agencies on recycled water projects in northern areas of Poway as opportunities arise.

Wastewater Collection and Treatment Systems

Poway owns, operates, and maintains 186 miles of collection system piping (gravity mains), five sewage lift stations, and the Oak Knoll Siphon, which has three barrels (City of Poway, 2012). The collection system piping is a combination of vitrified clay and plastic (PVC) pipe. Each pump station is designed to lift sewage from a low-lying service area through a force main to a connection to the gravity system. The sewage lift stations are monitored by City staff 24-hours per day with a computer SCADA system to track flow, wet-well levels, and other data. In addition, the City maintains approximately 4,100 manholes.

Poway's wastewater collection system services developed parcels within the city boundary, along with several neighborhoods within the City of San Diego. Approximately 90% of Poway's developed parcels are connected to the sewer system, with the remaining parcels either vacant or on septic systems. Approximately 25% of the City's wastewater flows are received from City of San Diego neighborhoods located to the south and west of Poway. The *2012 Sanitary Sewer Master Plan* addresses future impacts of existing private septic system connections to the sanitary sewer system.

Poway does not own or operate a wastewater treatment facility. A majority of Poway's wastewater is treated by the City of San Diego's Metropolitan Wastewater System (Metro System) under a comprehensive Regional Wastewater Disposal Agreement and are metered at Meter PO-2 along Poway Road. Most of Poway's sewage leaves the City to the southwest along Poway Road and then to the Peñasquitos Trunk Sewer. The Peñasquitos Trunk Sewer delivers the flow to the City of San Diego's North City Water Reclamation Plant (NCWRP). At NCWRP, flow that is not recycled is discharged to the City of San Diego's Point Loma Wastewater Treatment Plant (WWTP). Poway's conveyance capacity within the Metro System was 5.05 mgd in 2011 (City of Poway, 2012). Two small northwestern areas of Poway (approximately 1% of Poway's total sanitary sewer flow) send flow northwesterly through the East Bernardo Trunk Sewer to the Hale Avenue Resource Recovery Facility (HARRF) in Escondido (City of Poway, 2012). Poway has 5.89 mgd of contracted treatment capacity within the Metro System, and 0.05 mgd of treatment capacity at HARRF.

Table 5-1 provides detailed information about the City's wastewater flows. At NCWRP, a portion of Poway's wastewater is treated to tertiary standards for recycling. Depending on the demands placed on the City of San Diego's recycled distribution system, up to 100% of Poway's wastewater can be treated to become recycled water. The portion of Poway's wastewater that is not treated, is diverted to the Point Loma WWTP and discharged to the Pacific Ocean. The small portions of Poway's wastewater flows that are not treated at NCWRP go to the City of Escondido's HARRF, where a portion of the wastewater is treated to become recycled water. **Table 5-2** provides information regarding the treatment of Poway's wastewater at NCWRP and the volume of water returned to the City (as recycled water) for irrigation use.

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Table 5-1: Wastewater Collected Within Service Area in 2015

DWR Table 6-2: Wastewater Collected Within Service Area in 2015						
n/a	Percentage of 2015 service area covered by wastewater collection system *(optional)*					
n/a	Percentage of 2015 service area population covered by wastewater collection system *(optional)*					
Wastewater Collection			**Recipient of Collected Wastewater**			
Name of Wastewater Collection Agency	**Wastewater Volume Metered or Estimated?**	**Volume of Wastewater Collected in 2015**	**Name of Wastewater Treatment Agency Receiving Collected Wastewater**	**Treatment Plant Name**	**Is WWTP Located Within UWMP Area?**	**Is WWTP Operation Contracted to a Third Party? *(optional)***
City of Poway	Metered	924	San Diego Metropolitan Wastewater Department	North City Water Reclamation Plant (NCWRP)	No	
City of Poway	Estimated	22	City of Escondido	Hale Avenue Resource Recovery Facility (HARRF)	No	
Total Wastewater Collected from Service Area in 2015:		**946**				

Table 5-2: Wastewater Treatment and Discharged Within Service Area in 2015

DWR Table 6-3: Wastewater Treatment and Discharge within Service Area in 2015										
☒	No wastewater is treated or disposed of within the UWMP service area.									
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Descriptions	Wastewater Discharge ID Number *(optional)*	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2015 volumes (AFY)			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
North City Water Reclamation Plant (NCWRP)	Point Loma Ocean Outfall	1-Point Loma Ocean Outfall 2-Recycled Water		Ocean Outfall	Yes	1-Primary 2-Tertiary	924	561	363	--
Hale Avenue Resource Recovery Facility (HARRF)	Escondido Ocean Outfall	1-Escondido Ocean Outfall 2-Recycled Water		Ocean Outfall	Yes	1-Secondary 2-Tertiary	22	22	0	--
						Total:	**946**	**583**	**363**	**--**

NOTES: The NCWRP is operated by the San Diego Metropolitan Wastewater Department and treats roughly 98% of Poway's wastewater flows. Poway then purchases up to 750 AFY (contract maximum) from the plant for irrigation use around the City.

Recycled Water System

Poway purchases recycled water from the City of San Diego. The recycled water is produced at the NCWRP (where a majority of Poway's sewage is sent) and piped back to Poway.

Approximately 5% of total water use in Poway is recycled water for landscape irrigation. Recycled water is currently used solely in the Poway Business Park, distributed through dedicated pipes and meters. The developers of the Business Park paid for the recycled water infrastructure at the time of construction, and the City maintains the system. The recycled water system began construction in the 1990s and the first recycled water was received in 1997.

The City's 12-mile recycled water distribution system is heavily regulated and routinely inspected for excess runoff and other discrepancies to ensure that all sites adhere to all legal requirements, including Poway's *Rules and Regulations for Recycled Water Use* adopted by the City Council on September 30, 1997. All irrigation in the Business Park is required to use recycled water, with the exception of a small portion of the Business Park not yet connected to the system. The unit cost charged to customers for recycled water is 90% of the potable water rate. Poway estimates purchases will grow to approximately 645 AF per year over the next 25 years.

Recycled Water Beneficial Uses

In general, areas of Poway not currently served with recycled water are a long distance from recycled water supplies and would require expensive infrastructure. Poway is largely "built-out" so the opportunity to require dual piping systems during development is limited. However, as supplies and infrastructure become available, the City will consider serving these markets. The City will continue to seek cost-effective recycled sources and conveyance for these markets.

Potential opportunities to expand recycled water use include:

- ***Build-Out of the Poway Business Park*** – Within the Poway Business Park are remaining undeveloped parcels, expected to develop within the next 15 years. Upon development, these sites will be connected to the recycled water system for landscape irrigation. Use of recycled water for indoor purposes, such as process water, cooling systems, and dual-plumbing for toilet flushing, may also be explored. The City might also consider extending recycled water main lines to the remaining small developed area of the Business Park not currently connected to recycled water.
- ***Extension from Business Park along Community Road*** – An extension of the recycled water mainline from the Business Park north along Community Road down into the central area of Poway would provide additional demands for recycled water. Estimates show potentially 24 existing dedicated irrigation meters could be connected and converted to recycled water for a combined annual potable water savings of approximately 85 AFY. This concept needs further study to better estimate construction costs, conversion costs, and water savings.
- ***Extension from Business Park along Pomerado Road*** – An extension of the recycled water mainline from the Business Park north along Pomerado Road down into the western area of Poway would provide additional demands for recycled water. Primary customers would be the City's Landscape Maintenance District, Arbolitos Park, City owned facilities, and Poway Unified School District, for a combined demand of 92 AFY. This concept needs further study to better estimate construction costs, conversion costs, and water savings.

- ***Future Partnership with Neighboring Agencies*** – Another long-term option to explore is a partnership between Poway's neighboring agencies. This option would coordinate recycled water resources between the Rincon del Diablo MWD, City of Escondido, City of San Diego, and Poway. This option also explores multiple opportunities in the San Pasqual Valley Basin.

The City of San Diego's *Recycled Water Study* evaluated recycled water expansion opportunities for the Rancho Bernardo-area of San Diego, west of Poway, including a possible connection to Poway. However, this option was determined infeasible due to the high cost of conveyance infrastructure. The City of San Diego is actively pursuing PureWater, a large-scale indirect potable reuse project (advanced water purification with surface water augmentation at San Vicente Reservoir).

Table 5-3 (on the following page) shows the potential future uses for recycled water in Poway. Currently, only the continuation of recycled water for irrigation in the Business Park is considered feasible. The remaining categories in **Table 5-3** are technically feasible, but not economically feasible. Landscape irrigation in the Community Park, Civic Center area, Arbolitos Park, and industrial reuse in the Business Park are potentially economically feasible and Poway will continue to consider these opportunities. Other landscape irrigation is not currently economically feasible because of the cost to construct pipelines to serve relatively few users. There is almost no commercial agriculture remaining in Poway. There are no wildlife habitat, wetlands, groundwater recharge, seawater barrier, or geothermal/energy uses for recycled water. **Table 5-4** shows actual recycled water use in 2015.

Table 5-4: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual

DWR Table 6-5: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual		
Use Type	**2010 Projection for 2015**	**2015 actual use**
Landscape irrigation (excludes golf courses)	584[a]	363
TOTAL	**584**	**363**

NOTES: [a] 2010 UWMP projected 85AF of potential use in 2015, in addition to actual 2010 use of 499 AF.

Table 5-3: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

DWR Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area								
Name of Agency Producing (Treating) the Recycled Water:		City of San Diego, North City Water Reclamation Plant						
Name of Agency Operating the Recycled Water Distribution System:		City of Poway						
Supplemental Water Added in 2015		114 AFY						
Source of 2015 Supplemental Water		City of Poway, potable water						
Beneficial Use Type	**General Description of 2015 Uses**	**Level of Treatment**	**2015**	**2020**	**2025**	**2030**	**2035**	**2040 (opt)**
Landscape irrigation (excludes golf courses)	Irrigation in Business Park	Tertiary	363	645	645	645	645	645
		TOTAL	**363**	**645**	**645**	**645**	**645**	**645**

NOTES: Recycled water purchases based on contract agreement with the City of San Diego and potential for development of additional areas of the business park.

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Actions to Encourage and Optimize Future Recycled Water Use

As a financial incentive, the City uses the regional model and sells recycled water at 90% of the potable water commodity rate. In addition, when the City is in a water shortage condition declared by the City Council, recycled water irrigation is exempt from mandatory watering restrictions. The City may also consider assisting customers with retrofit costs, which could be an incentive (**Table 5-5**).

Table 5-5: Methods to Expand Future Recycled Water Use

DWR Table 6-6: 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.		
5-11	Provide page location of narrative in UWMP		
Name of Action	**Description**	**Planned Implementation Year**	**Expected Increase in Recycled Water Use**
Assist customers with retrofit costs	The City may offer rebates or financing to offset the cost of switching to recycled water use	2020-2035	177
		TOTAL	**177**

NOTES: Based on planned Community Road and Pomerado Road expansion projects.

5.6. Desalinated Water

Since 1999, a large-scale seawater desalination facility has been actively explored as a potential local supply for the San Diego region. After exploring the feasibility of a variety of purchase agreements and delivery structures, Poseidon Resources Corporation (Poseidon), SDCWA, and SDCWA's member agencies came to agreement to move forward with implementation of a desalination facility for the region known as the Carlsbad Desalination Project. In 2015, Poseidon completed construction of the Claude "Bud" Lewis Desalination Plant, located at the Encina Power Plant site adjacent to Agua Hedionda Lagoon, and began deliveries of desalinated seawater. The plant can provide a highly reliable supply of up to 56,000 AFY, designated a local supply, which is blended with the treated water delivered via SDCWA's Twin Oaks Water Treatment Plant. As a member agency, Poway receives the supply reliability benefits (and costs) associated with the desalinated water supply, although no desalinated water is directly delivered to the City in the raw water supply.

5.7. Exchanges or Transfers

The City of Poway does not have its own water resources, and therefore, does not have (or project to have) transfers or exchanges with neighboring agencies.

5.8. Future Water Projects

The City of Poway has an ongoing capital improvement program to improve and maintain its water infrastructure. Water system improvements are based on the Water System Master Plan and projects identified by staff working in the field. The City's planned water system improvements are not anticipated to increase supply, but are important to maintain existing supply and reliability. The City's CIP includes the rehabilitation of eight reservoirs over the next five years (included in **Table 5-6** on the following page).

5.9. Summary of Existing and Planned Sources of Water

The City's primary water supplies include purchased raw water and recycled water. As described above, Poway's raw water is purchased from SDCWA. Lake Poway captures a small amount of rain and surface runoff during rain events. Since this quantity of Lake Poway runoff is relatively minimal and not reliable, however, it is not considered as a planned water supply source. Additionally, the City of Poway purchases a small quantity of recycled water from the City of San Diego for irrigation in the Poway Business Park. **Table 5-7** outlines the City's 2015 water supply.

Table 5-7: Water Supplies - Actual

DWR Table 6-8: Water Supplies — Actual				
Water Supply	**Additional Detail on Water Supply**	**2015**		
		Actual Volume	**Water Quality**	**Total Right or Safe Yield *(optional)***
Purchased or Imported Water	Purchased raw water from SDCWA	8,712[a]	Raw Water	--
Recycled Water	Purchased Recycled Water from the City of San Diego	363	Recycled Water	--
	TOTAL	**9,075**		--

NOTES: [a] Represents total volume imported from SDCWA, not total volume distributed to customers.

Table 5-8 outlines the projected water supplies for the City of Poway as provided by SDCWA for raw water and the City of San Diego for recycled water.

Table 5-6: Expected Future Water Supply Projects

DWR Table 6-7: 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.				
5-12	Provide page location of narrative in the UWMP				
Name of Future Projects or Programs	**Joint Project with other agencies?**	**Description**	**Planned Implementation Year**	**Planned for Use in Year Type**	**Expected Increase in Water Supply to Agency**
Blue Crystal reservoir Rehabilitation	No	Perform various upgrades to Blue Crystal Reservoir	2016	All Year Types	n/a
Welton Reservoir Rehabilitation	No	Perform various upgrades to Welton Reservoir	2016	All Year Types	n/a
Buehler Reservoir Rehabilitation	No	Perform various upgrades to Buehler Reservoir	2017	All Year Types	n/a
Sagecrest Reservoir Rehabilitation	No	Perform various upgrades to Sagecrest Reservoir	2017	All Year Types	n/a
Boulder Mountain Reservoir 1 Rehabilitation	No	Perform various upgrades to Boulder Mountain Reservoir 1	2017/2018	All Year Types	n/a
Boulder Mountain Reservoir 2 Rehabilitation	No	Perform various upgrades to Boulder Mountain Reservoir 2	2017/2018	All Year Types	n/a
Boulder Mountain Reservoir 3 Rehabilitation	No	Perform various upgrades to Boulder Mountain Reservoir 3	2019/2020	All Year Types	n/a
Gregg Street Reclaimed Reservoir rehabilitation	No	Perform various upgrades to Gregg Street Reclaimed Reservoir	2019/2020	All Year Types	n/a

Table 5-8: Water Supplies – Projected

DWR Table 6-9 Retail: Water Supplies — Projected										
Water Supply	**Additional Detail on Water Supply**	**Projected Water Supply**									
		2020		**2025**		**2030**		**2035**		**2040 *(opt)***	
		Reasonably Available Volume	**Total Right or Safe Yield *(optional)***	**Reasonably Available Volume**	**Total Right or Safe Yield *(optional)***	**Reasonably Available Volume**	**Total Right or Safe Yield *(optional)***	**Reasonably Available Volume**	**Total Right or Safe Yield *(optional)***	**Reasonably Available Volume**	**Total Right or Safe Yield *(optional)***
Purchased or Imported Water	Purchased raw water from SDCWA	13,356	--	14,306	--	14,482	--	14,557	--	15,033	--
Recycled Water	Purchased Recycled Water from the City of San Diego	645	--	645	--	645	--	645	--	645	--
TOTAL		**14,001**	**--**	**14,951**	**--**	**15,127**	**--**	**15,202**	**--**	**15,678**	**--**

NOTES: Purchased water supply based on projected water available per the SDCWA UWMP. Recycled water supply based on the agreement with the City of San Diego.

5.10. Climate Change Impacts To Supply

According to San Diego's *2013 IRWM Plan Update*, climate change may affect the water supply in Poway and the greater San Diego region. Climate change may cause increased frequency of droughts, seawater intrusion, changes in precipitation volumes and timing, altered fire and weather regimes, and potential changes in the availability of imported water supplies. Climate change may impact the beneficial uses of water as well as water quality. In addition, uncertainties caused by climate changes complicate mitigation and emergency response planning.

Hydrologic conditions in the San Diego IRWM Region, in all of California, and in the Colorado River Basin, all of which impact the City's water supply, will likely be altered as a result of global climate change. Key changes in hydrologic conditions outlined by the IRWM plan that could affect the supplies for the City include but are not limited to:

- ***Snowpack Change*** **–** California is heavily dependent on snowpack in the Sierra Nevada Mountains. Reduction in snowpack would result in decreased stored water available to the state and could adversely impact imported water available to the City and the San Diego IRWM region.
- ***Hydrologic Patterns*** **–** Storms and precipitation patterns have changed over the past century throughout California. Climate change could lead to further changes in precipitation patterns and result in varying water availability in the state and the region. Flood management issues, increased erosion, and water quality impacts could occur with increased frequency and intensity of storm events.
- ***Water Temperatures*** **–** Increased air temperatures may result in increased reservoir water temperatures, adversely affecting regional water quality and the City's imported raw water. Increased air temperatures would also lead to greater evaporation of reservoirs and lakes, higher demand in energy for cooling, and greater demand for agriculture.

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Section 6 Water Supply Reliability

This section addresses the overall reliability of Poway's water supplies. As noted in *Section 5 System Supplies*, the City of Poway currently obtains all of its potable water supply from SDCWA. This is expected to continue in the future. Therefore, the City's water supply reliability is directly linked to SDCWA's water supply reliability.

Most of the information in this section is based upon SDCWA's member agency draft 2015 UWMP, dated April 2016. Because SDCWA obtains a large portion of its supply from MWD, SDCWA also coordinated its demands and expected supplies with MWD.

6.1. Constraints on Water Sources

This section discusses the reliability of the City's water supplies with respect to water quality and service reliability. Imported treated water and recycled water quality and service reliability are each discussed in the following sections. While there are water quality challenges associated with each source, the City and SDCWA are taking steps to address these challenges and the City does not anticipate decreases in water supply over the UWMP planning horizon due to water quality concerns.

Imported Potable Water

Water Quality

SDCWA supplies raw water to the City of Poway. SDCWA's 2015 UWMP addresses water quality and water management strategies for the region. SDCWA purchases the majority of its water supply from MWD, which also administers water quality programs for its imported water supplies.

Historically, SDCWA's raw water supplies have been of very high quality. However, as noted in the City's *2015 Lake Poway Watershed Sanitary Survey*, raw water deliveries have lately been comprised of 100% Colorado River water. Colorado River water is more challenging to achieve total organic carbon removal due to higher fulvic content, and consequently, its higher solubility in water. These changes are noted as they impact the operation of the Berglund WTP, which treats all of the City's potable water to meet State and Federal drinking water requirements before delivery to customers. The City does not anticipate any reduction in supplies due to water quality impacts. However, if the imported water quality continues to degrade, the water becomes more difficult and expensive to treat. For this reason, MWD, SDCWA, and the City of Poway have programs to protect and continuously monitor source water quality, and to identify constituents that may be of concern, so management actions can be implemented if necessary.

MWD's and SDCWA's main sources of water are the Colorado River and the SWP. The water quality challenges and management actions for these sources are described below:

- ***Colorado River*** **-** The Colorado River has several areas of water quality concern: salinity, perchlorate, and uranium. Sediments in the River's watershed are saline, and these salts are easily leached into the River. In response, MWD adopted a Salinity Management Policy in 1999 that sets a target of 500 parts per million total dissolved solids (TDS) for water delivered to customers, and achieves this by blending Colorado River water with State Water Project water that has a much lower TDS level. In addition, the seven states that use water from the River have formed the Colorado River Salinity Control Forum with a focus on preventing salt from entering the river.

  Perchlorate is the main component in rocket fuel and can be found in other munitions. It is found in low levels in the Colorado River. The source of the perchlorate has been traced to two chemical manufacturing sites near Henderson, Nevada, adjacent to the Las Vegas Wash,

a tributary to the River. The Nevada Department of Environmental Protection manages groundwater remediation projects for both sites and the perchlorate levels have been reduced. MWD and the Southern Nevada Water Authority monitor the progress closely.

While uranium occurs naturally in the Colorado River Watershed, agencies were also concerned about the potential for additional uranium to enter the River from mine tailings in Moab, Utah. The U.S. Department of Energy is moving the tailings away from the River and also improving the groundwater quality. This process is expected to be complete between 2019 and 2025.

- ***State Water Project -*** Areas of water quality concern for the SWP include salinity, bromide, total organic carbon, and nutrients that result from seawater intrusion and agricultural runoff. Bromide and total organic carbon are a concern because when combined with disinfectants used in typical treatment processes, potentially harmful byproducts can be formed. The nutrients can increase nuisance algal and aquatic weed production and lead to taste and odor issues. There are State and Federal programs working to address these issues. In addition, MWD, SDCWA, and the City of Poway closely monitor imported water quality and adjust treatment processes accordingly.

Local Water Supplies

The quality of local surface waters is enhanced through a "source water protection approach." The City of Poway prepares source water assessments and sanitary surveys to identify and address potential contaminants. In May 2010, the City of Poway identified the presence of Quagga Mussels in Lake Poway. Quagga Mussels are a challenge throughout the western United States. It is believed that Quagga Mussels entered the MWD system through water from the Colorado River. While Quagga Mussels do not negatively harm water quality like some contaminants, they are considered a highly-invasive species. Their presence requires careful attention, including ongoing testing procedures and implementation of eradication and control strategies, because they can be highly destructive to water system infrastructure. In the future, more significant operational adjustments to mitigate Quagga Mussels may be required.

Locally within the City of Poway, as a result of recent significant reductions in water use, some pipelines flow at very low velocity and some distribution system storage tanks remain at relatively constant levels. Under these conditions, the disinfectant in the water can decline. The City of Poway completed a comprehensive modeling study of the entire distribution system to identify potential problems and adjusted operations to mitigate potential problems.

Service Reliability

As described in *Section 5 System Supplies*, because of the semi-arid climate, location, local geology, and the water rights of other agencies, it has not been feasible or cost-effective for the City of Poway to develop local water resources, such as surface water, groundwater, or desalinated seawater. The City is open to evaluating opportunities for water supply diversification as they may arise.

SDCWA and its member agencies have developed and continue to develop a variety of other water resources to provide a diverse water supply mix and increased supply reliability. Examples include desalinated seawater projects in California and Mexico; local surface water; local groundwater and groundwater recovery; exchanges and transfers, including conserved irrigation water; and recycled water.

SDCWA will monitor the reliability of existing sources and development progress of new sources to provide long-term reliability. SDCWA's UWMP states "Results from the reliability assessment demonstrate that the region's existing and projected water resource mix is drought-resilient…" To

replace or supplement an existing supply, SDCWA could implement transfers or additional seawater desalination, and member agencies could increase development of recycled water, groundwater, or potable reuse.

To develop a reliable estimate of supplies, SDCWA divided planned projects into "verifiable" and "planned" categories. A "verifiable" supply has achieved a level of certainty where the California Environmental Quality Act (CEQA) has been satisfied, permits are in hand, or contracts have been executed. "Planned" supplies are not as certain, but have progressed to a point where significant financial actions have been taken to pursue the project.

While all of SDCWA's sources are potentially subject to limitations for various reasons, no specific quantifiable limitations are currently in place. In addition, SDCWA's supplies are buffered because of diversity. SDCWA's UWMP includes a comprehensive discussion of reliability issues, environmental considerations, and water quality considerations. Therefore, they are mostly not repeated herein. Two examples are listed below:

- ***MWD's Colorado River Supply*** – Prior to 2003, MWD's typical deliveries from the Colorado River were 1.2 million AF (MAF) because MWD had access to large volumes of water that was unused by other states. In 2003, as a result of the U.S. Supreme Court Decision in Arizona vs. California, their firm annual supply was set at 550 thousand AF (TAF). Since 2003, MWD has developed a variety of programs to provide a maximum Colorado River supply capability of 950 TAF during average, single, and multiple dry years through 2035. Current programs include agricultural water conservation, agricultural land management, Lake Mead storage, Colorado River flow balancing facilities, and transfer agreements with the Southern Nevada Water Authority. Future programs under development include agricultural crop stressing and land fallowing, transfer agreements with the Central Arizona Water Conservancy District and the Coachella Valley Water District, and groundwater banking along the Colorado River Aqueduct.
- ***MWD's SWP Supplies*** – While MWD is entitled to about 1.9 MAF, actual deliveries are considerably less due to the level of SWP Development, pumping restrictions due to state and federal environmental regulations, and annual hydrologic conditions. Similar to the Colorado River, MWD has developed/participated in a number of programs to improve supply reliability, the most notable of which is the Bay Delta Conservation Plan to restore and protect Delta water supply, water quality, and ecosystem health. Other current and future programs include surface and groundwater storage and water transfers. By 2020, with these programs, MWD's maximum supply capability is approximately 1.2, 1.3, and 2.4 MAF for multiple dry years, a single dry year, and an average year, respectively.

Recycled Water

Water Quality

The City's recycled water supply comes from the City of San Diego. The City of San Diego ensures a consistent water quality standard is met for the Poway's recycled water supply through compliance with Title 22 standards. Although the City has historically supplemented recycled water deliveries with potable water, that practice was recently curtailed to achieve compliance with the SWRCB emergency regulations, and recycled water quality may become more saline.

Service Reliability

The City has a recycled water distribution system and will continue to consider expanding the system where cost- effective. Purchased recycled water from the City of San Diego has been essentially a "drought-proof" supply. Recycled water production capacity is affected by the permitted capacity,

the use patterns of recycled water customers, wastewater influent diurnal flow pattern, influent average dry weather flow, and storage/equalization capacity. The City of San Diego continues to assess these factors through various measures to ensure the continued reliability of the supply and increase the potential for future recycled water use. However, with development of the City of San Diego's PureWater Program, which seeks to advance treat wastewater from the Metro System and either directly or indirectly reuse them for potable supply, the future availability of recycled water from the City of San Diego for non-potable purposes may be limited.

6.2. Reliability by Type of Year

CWC §10631 (c)(1) requires water suppliers to consider supply conditions during an average water year, a single dry water year, and multiple dry water years. The water supplies available to the City from SDCWA during these water year scenarios are based on the historical dry periods presented in **Table 6-1** and are defined in SDCWA's 2015 UWMP.

Table 6-1: Basis of Water Year Data

DWR Table 7-1 Retail: Basis of Water Year Data			
Year Type	**Base Year**	**Available Supplies if Year Type Repeats**	
		Volume Available	**% of Average Supply**
Average Year	1986-2015	--	100%
Single-Dry Year	2014	--	100%
Multiple-Dry Years 1st Year	2013	--	100%
Multiple-Dry Years 2nd Year	2014	--	100%
Multiple-Dry Years 3rd Year	2015	--	92% -100%

NOTES: The City selected base years that aligned with SDCWA's 2015 UWMP supply reliability assessment. The third year of a multiple-dry year scenario may result in deficits that must be met through extraordinary conservation or further expansion of the recycled water system. In years with supply reliability, additional purchases would be made from SDCWA to meet demands. As presented here, "% of Average Supply" indicates percent supply available to meet potable demands due to diversification and/or carryover storage.

SDCWA's 2015 UWMP projected overall demands would increase over time and across scenarios, with some variability depending on the time frame and hydrologic scenario. The City anticipates that its demands would generally increase in dry year scenarios consistent with SDCWA's overall demand increases in corresponding scenarios. Due to uncertainty inherent to projecting demands during dry hydrologic conditions, the City's demand projections increase over dry year scenarios at a consistent rate across time frames (2020, 2025, 2030, 2035, and 2040), calculated as the average increase presented in SDCWA's 2015 UWMP. **Table 6-2** identifies how Poway's demands are projected to change, as a percent of normal, for different scenarios.

Although demands are projected to increase, SDCWA has the right to purchase additional water from MWD in years where local supplies are insufficient to meet demands. Per SDCWA's purchase agreement with MWD, SDCWA has sufficient preferential rights to water from MWD to meet demands not met by other sources. Leveraging this ability, SDCWA anticipates being able to meet demands in all scenarios aside from the third year of a multiple-dry year scenario in 2035 and 2040. These potential shortfalls would be addressed through increased conservation. SDCWA has noted that their estimates for future reliability are conservative, so these shortfalls may be non-existent as future supply projects and demand management measures are implemented.

Table 6-2: Demand and Supply Assumptions, as Percent of Normal

Source	Normal Water Year	Single-Dry Water Year	Multiple-Dry Water Years		
			Year 1	Year 2	Year 3
Demands					
Potable Water	100%	107%	106%	111%	116%
Recycled Water	100%	107%	106%	111%	116%
Total Percent of Normal Demands		**107%**	**106%**	**111%**	**116%**
Supplies					
SDCWA Purchases	100%	108%	103%	105%	107%
Recycled Water	100%	100%	100%	100%	100%
Total Percent of Normal Potable Supplies		**107%**	**106%**	**111%**	**Variable *(107%-116%)***
Total Percent of Overall Normal Supplies		**104%**	**104%**	**107%**	**Variable *(104%-111%)***

6.3. Supply and Demand Assessment

For the City's water supply assessment, raw water provided from SDCWA and recycled water provided by the City of San Diego were considered. For more information on demand projections used for the demand assessment, please refer to *Section 3.1 Water Use by Sector*. Projected available recycled water supply is based on Poway's projected recycled water demands, which the existing recycled water facilities in the City of San Diego can meet. Projected raw water supply is based on percentage of City's total potable water demand SDCWA can meet.

A comparison of projected supplies against projected demands helps to identify potential reliability issues during the hydrologic scenarios identified in **Table 6-1**. As indicated in **Table 6-2**, demands will vary depending on the hydrologic conditions. During dry years, demands are projected to increase to varying degrees based on the prior year hydrologic conditions. Demand increases are projected consistently for potable and non-potable demands because they will primarily be driven by irrigation needs. Note that these demand projections do not assume implementation of the City's Water Shortage Contingency Plan with its mandatory conservation measures; demands are assumed to increase as climactic conditions get hotter and drier. However, as demonstrated in 2014 and 2015, implementation of the Water Shortage Contingency Plan will significantly reduce water use across Poway's service area and can be levied as necessary if a supply shortage is identified.

Supply availability will also vary within each hydrologic scenario, as identified in **Table 6-2**. Supply from SDCWA will vary depending on SDCWA's supply mix and demands from its member agencies. Because demands are projected to increase during dry years, the City's purchases from SDCWA would also increase in those years, to the extent available.

The City has no long-term potable water storage, and only purchases as much potable water as necessary from SDCWA. As a result, no potable water surpluses are expected during any hydrologic scenario as shown in **Tables 6-4**, **6-5**, and **6-6**.

Because the City's demand projections in various scenarios are consistent with SDCWA's projections for member agency demands, and SDCWA has accounted for all member agency local supplies, SDCWA's supply reliability analysis documents that regional water supplies are generally reliable. For the City, potable supply reliability is assumed for any year in which SDCWA projects sufficient

supplies to meet demands. SDCWA projects a potential shortfall in the third year of a multiple-dry year scenario for 2035 and 2040, however, which results in a potential potable supply deficit for the City. In these years, the City could reduce demands through the use of extraordinary conservation measures as described in *Section 8 Water Shortage Contingency Planning*. **Table 6-3** summarizes the potential potable water deficit in this scenario. The City has demonstrated its ability to reduce potable demands in the event of a supply deficit, as shown by its 24% reduction in demands between 2012 (the most recent normal year) and 2015 (third year of a multiple-dry year scenario). No non-potable water deficits are projected under any scenario.

Table 6-3: Potential Potable Water Deficit in Year 3 of Multiple-Dry Year Scenarios

Multiple-Dry Year: Year 3	2020	2025	2030	2035	2040
Potable Supply	11,995	12,192	12,382	11,903	11,282
Potable Demand	11,995	12,192	12,382	12,398	12,398
Potential Deficit (AFY)	*0*	*0*	*0*	*496*	*1,116*
Extraordinary Conservation or Conversion to Recycled Water	0	0	0	496	1,116
Total Demand	11,995	12,192	12,382	11,903	11,282
Supply Deficit (AFY)	**0**	**0**	**0**	**0**	**0**

SDCWA's supply reliability analysis is more conservative than the City's analysis because it only included consideration of "verifiable" supplies, which are supplies that are sufficiently under development to be considered secure. The City considers SDCWA's analysis as representing a "worst case" scenario.

Normal Year

SDCWA's 2015 UWMP states, "If Metropolitan, the Water Authority and member agency supplies are maintained and developed as planned, along with achievement of the additional water conservation, no shortages are anticipated within the Water Authority's service area in a normal year through 2040." SDCWA projects more supply available to the City during a normal year than the City anticipates using (thus the surplus of supply). **Table 6-4** compares total supply available in a normal year to projected demand totals.

Table 6-4: Normal Year Supply and Demand Comparison

DWR Table 7-2: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040
Supply totals	14,001	14,951	15,127	15,202	15,678
Demand totals	11,342	11,620	11,889	11,909	11,909
Difference	2,659	3,331	3,238	3,293	3,769

Single Dry Year

For a single dry year condition, SDCWA projected groundwater and surface water yields based upon 2014 supplies during the 2012-2015 drought. The supplies available from projected recycled projects were assumed to have little, if any, reduction during a single dry year. SDCWA's supplies

from the IID conserved water transfers, canal lining, and desalinated seawater from the Carlsbad Desalination Plant were considered "drought proof." It was assumed that MWD would have adequate supplies in storage and would not be allocating supplies. With these assumptions, SDCWA's 2015 UWMP states, "If Metropolitan, the Water Authority and member agency supplies are maintained and developed as planned, along with achievement of the additional conservation target, no shortages are anticipated within the Water Authority's service area in a single dry-year through 2040." In 2014, Poway's demand was approximately 6% greater than normal; this was used to project single dry year demands. **Table 6-5** compares total supply available in a dry year to projected demand totals.

Table 6-4: Single Dry Year Supply and Demand Comparison

DWR Table 7-3: Single Dry Year Supply and Demand Comparison					
	2020	**2025**	**2030**	**2035**	**2040**
Supply totals	11,715	11,896	12,070	12,066	12,098
Demand totals	11,715	11,896	12,070	12,066	12,098
Difference	0	0	0	0	0

Multiple Dry Years

During a multiple-dry year scenario, the region experiences on-going dry hydrologic conditions, such as in a multi-year drought. SDCWA's 2015 UWMP states that in a multiple-dry year scenario, water from carryover storage would be used to help address potential supply deficits. Similar to the single-dry year scenario, demands during a multiple-dry year scenario are projected to increase over normal. In each year of a multiple-dry year scenario demands are anticipate to increase by approximately 6% (year 1), 11% (year 2), and 16% (year 3).

SDCWA concludes that there is sufficient local, imported, and carryover storage supplies to meet demands in each year of a multiple-dry year scenario for 2020 through 2030. However, there is potential for a deficit in the third year of a multiple-dry year in 2035 and 2040. This deficit is due to regional demand growth outpacing verifiable supply growth. Any deficit experienced by SDCWA would result in a deficit in available supplies to its member agencies, including the City. While SDCWA's analysis was conservative, and only includes "verifiable" supplies, the City has elected to be consistent with SDCWA's analysis.

In the third year of a multiple-dry year scenario, SDCWA anticipates extraordinary conservation will be implemented by its member agencies. As needed, the City will implement its Water Shortage Contingency Plan (refer to *Section 8 Water Shortage Contingency Plan*). Additional conservation efforts would reduce the City's demand and supplies would again be sufficient to meet demands. **Table 6-5** compares total supply available in multiple dry years to projected demand totals.

Table 6-5: Multiple Dry Years Supply and Demand Comparison

DWR Table 7-4: Multiple Dry Years Supply and Demand Comparison						
		2020	2025	2030	2035	2040
First year	Supply totals	11,667	11,847	12,021	12,043	12,042
	Demand totals	11,667	11,847	12,021	12,043	12,042
	Difference	0	0	0	0	0
Second year	Supply totals	12,195	12,383	12,565	12,581	12,587
	Demand totals	12,195	12,383	12,565	12,581	12,587
	Difference	0	0	0	0	0
Third year	Supply totals	12,743	12,940	13,130	12,651	12,037
	Demand totals	12,743	12,940	13,130	13,147	13,152
	Difference	0	0	0	-496	-1,115

NOTES: Potential deficits in potable supplies in the third year of a multiple-dry year would be addressed with extraordinary conservation and/or expansion of recycled water.

6.4. Regional Water Supply Reliability

The City continues to evaluate supply enhancement options, including additional water recycling, conjunctive use, water transfers, and additional imported water supplies through its collaboration with SDCWA.

Section 7 Water Shortage Contingency Plan

7.1. Introduction

This section addresses water supply contingency planning and drought planning. As noted in *Section 5, System Supplies*, the City of Poway currently obtains all of its potable water supply from SDCWA. This is expected to continue in the future. Therefore, the City's water contingency plan and subsequent actions are directly linked to SDCWA's water supply reliability.

Water Shortage Contingency Legislation

Poway's Water Conservation Plan, Chapter 8.94 of the Poway Municipal Code (PMC), is attached as **Appendix E**. It was initially adopted by the City Council on November 18, 2008, as Ordinance 682. The attached Chapter 8.94 is current through Ordinance 784, passed January 12, 2016.

The purpose of the Water Conservation Plan is to establish water management requirements necessary to conserve water, enable effective water supply planning, and assure reasonable and beneficial use of water. The plan is also meant to prevent waste of water, unreasonable use of water, and unreasonable methods of water use. The plan aims to assure adequate supplies of water to meet the needs of the public, and further the public health, safety, and welfare, recognizing water is a scarce natural resource requiring careful management not only in times of drought, but at all times.

The Water Conservation Plan identifies four levels of action in response to a water supply shortage. The Water Conservation Plan also includes water use efficiency measures applicable at all times to all persons or businesses using City of Poway water, though the measures are not mandatory until Level 2 (or by separate, specific action of the Poway City Council at Level 1). Level 1 water conservation measures are voluntary and will be promoted through local and regional public education and awareness measures. During water conservation Levels 2 through 4, conservation measures and water-use restrictions are mandatory and become increasingly restrictive in order to attain escalating conservation goals. Level 4 includes mandatory use restrictions and a conservation target above 40%. Violations may be subject to administrative, civil, and criminal penalties and remedies specified in Chapter 8.94 and as provided elsewhere in the PMC.

The Water Conservation Plan specifies procedural and administrative requirements to implement a water shortage condition. Examples of situations that could trigger implementation of a water shortage condition include:

- General water supply shortage;
- Limited capacity in the San Diego County Water Authority distribution facilities;
- Potential for a major failure of the supply or distribution facilities belonging to MWD, SDCWA, and/or the City; or
- Conditions prevailing in San Diego County that require water resources available be put to maximum beneficial use.

7.2. Stages of Action

In 2008, SDCWA developed a Model Drought Response Conservation Program Ordinance for use by SDCWA Member Agencies. DWR's *2008 Updated Urban Drought Guidebook* was used as a reference. SDCWA's model drought ordinance is an appendix to their 2015 UWMP. The City of Poway used the SDCWA model ordinance to develop a Water Conservation Plan, adopted by the Poway City Council

on December 2, 2008 as PMC Chapter 8.94 (**Appendix E**). Poway's ordinance identifies four water shortage response levels, described in detail below.

The Water Conservation Plan encourages efficient water use, discouraging wasteful water use practices and establishes water use efficiency measures. The water use efficiency measures apply on a voluntary basis at all times, are mandatory upon declaration of a Water Shortage Response Level 1 based on separate action of the City Council, and automatically remain mandatory with the declaration of a Response Level 2, 3, or 4. The water use efficiency measures that are encouraged at all times as listed in the PMC Section 8.94.040 are as follows:

- Do not wash down paved surfaces
- Do not allow water waste from inefficient landscape irrigation
- Irrigate residential and commercial landscapes before 10 a.m. and after 6 p.m. only
- Use a hand-held hose equipped with a positive shut-off nozzle or bucket for watering landscaped areas not irrigated by a landscape irrigation system
- Irrigate nursery and commercial grower's products before 10 a.m. and after 6 p.m. only. Water is permitted at any time using a hand-held hose equipped with a positive shut-off nozzle or bucket
- Use only recirculated water to operate ornamental fountains
- Wash vehicles only using a hand-held hose equipped with a positive shut-off nozzle and a bucket, or a high pressure/low volume wash system
- Offer guests in hotels the option of not laundering towels and linens daily
- Do not use single-pass cooling equipment in new commercial applications
- Use a water recirculation system for commercial conveyor car washes and all new commercial laundry systems
- Run only fully loaded dishwashers and washing machines
- Repair all water leaks within five days of notification by the City of Poway
- Use recycled or non-potable water for construction purposes when available

Table 7-1 provides the water shortage response levels of the Water Conservation Plan. A description of each level is provided following the table.

Table 7-1: Stages of Water Shortage Contingency Plan

DWR Table 8-1: Retail - Stages of Water Shortage Contingency Plan		
Stage	**Percent Supply Reduction[1]**	**Water Supply Condition**
Level 1	up to 10%	Water Shortage Watch
Level 2	up to 20%	Water Shortage Alert
Level 3	up to 40%	Water Shortage Critical
Level 4	above 40%	Water Shortage Emergency

Level 1 – Water Shortage Watch

The City of Poway will enter into a Water Shortage Response Level 1 when SDCWA notifies its member agencies that a demand reduction of up to 10% is required due to water supply shortages resulting from drought in order to ensure sufficient supplies will be available to meet anticipated demands. The City Manager may declare a Level 1 condition upon a written determination of the existence of facts and circumstances supporting the determination. During a Water Shortage Response Level 1, the City of Poway will increase public outreach efforts to encourage the following voluntary water conservation measures:

- Reset irrigation clocks as necessary to water once per week in winter and not more than three times per week in summer
- Add water to maintain the level of water in swimming pools and spas only when necessary. A pool cover shall be installed on all single-family residential pools and spas
- Serve and refill water in restaurants only upon request

Additionally, the water use efficiency measures in PMC Section 8.94.040, and additional measures under the Level 1 Response may become mandatory upon separate action by the City Council. Mandatory measures are subject to enforcement provisions, which are described below in Section 7.1.3, Penalties and Charges.

Level 2 – Water Shortage Alert

The City of Poway will enter into a Water Shortage Response Level 2 when SDCWA notifies its member agencies that a demand reduction of up to 20% is required due to water supply shortages resulting from drought in order to ensure sufficient supplies will be available to meet anticipated demands. The City Manager may declare a Level 2 Response, implementing mandatory water use restrictions, with ratification by the City Council by resolution. During a Water Shortage Response Level 2, all water conservation measures under PMC section 8.94.040, and under Level 1, become mandatory with the addition of the following measures:

- Landscape watering shall be conducted only in conformance with landscape watering schedules and restrictions for commercial and residential properties as approved by the City Manager
- All leaks must be repaired within 72 hours of notification by the City of Poway
- If the mandatory reduction level is less than 15 percent, ornamental fountains or similar water features shall not be operated for more than six hours per day. If the mandatory reduction level is more than 15 percent, ornamental fountains shall not be operated unless reclaimed water is used
- If the mandatory reduction level is less than 15 percent, pool covers shall be encouraged but not required. If the mandatory reduction level is more than 15 percent, pool covers will be required

During a Level 2 condition, the City of Poway's City Council may establish a water allocation for property receiving water service from the City of Poway. Additionally, the City Council may implement a conservation rate structure designed to encourage water conservation.

Level 3 – Water Shortage Critical

The City of Poway will enter into a Water Shortage Response Level 3 when SDCWA notifies its member agencies that a demand reduction of up to 40% is required due to water supply shortages resulting from drought in order to ensure sufficient supplies will be available to meet anticipated demands. The City Manager may declare a Level 3 Response with ratification by the City Council by resolution. During a Water Shortage Response Level 3, all water conservation measures under PMC Section 8.94.040, Level 1 and Level 2 are mandatory with the addition of the following mandatory measures:

- Landscape watering shall be conducted only in conformance with landscape watering schedules and restrictions for commercial and residential properties as approved by the City Manager
- Vehicles shall not be washed except at commercial carwashes that recirculate water or by high pressure/low volume wash systems
- Emptying and refilling of swimming pools and spas is prohibited
- All leaks must be repaired within 48 hours of notification by the City of Poway

Upon declaration of a Water Shortage Response Level 3 and by separate action of the City Council, the City of Poway may suspend consideration of annexation to its service area. The City Council may establish a water allocation for property receiving water service from the City of Poway and the City is authorized to implement a conservation rate structure, including penalties for using water in excess of set allocations. Additionally, the City can, by separate Council action, mandate that no new water service shall be provided and no new meters will be installed.

Level 4 – Water Shortage Emergency

The City of Poway will enter into a Water Shortage Response Level 4 when SDCWA notifies its member agencies that a demand reduction greater than 40% is required due to water supply shortages resulting from drought in order to ensure sufficient supplies will be available to meet anticipated demands. The City of Poway may declare a Level 4 condition in the manner and on the grounds provided in CWC Section 350. All conservation measures under Levels 1-3 must be adhered to with the addition of the following measures:

- All landscape irrigation is prohibited with the exception of crops and landscape products of commercial growers and nurseries
- All leaks must be repaired within 24 hours of notification by the City of Poway

Upon declaration of a water shortage emergency, the City Council may establish a water allocation for property receiving water service from the City of Poway. Additionally, the City Council may implement a conservation rate structure, including penalties for using water in excess of set allocations.

7.3. Prohibitions on End Uses

The City's Municipal Code includes mandatory prohibitions on the waste of water. **Table 7-2** provides the restrictions and prohibitions associated with each water shortage response level and whether the City of Poway enforces the measure with a penalty or charge. Each of the four water shortage response levels identified in the Water Conservation Plan identifies water use restrictions of increasing severity. As described above, measures under a Level 1 condition are

voluntary with no penalty, unless a separate action is taken by the City Council to make the measures mandatory and enforceable by penalty or fines as described under Section 7.4.

Table 7-2: Restrictions and Prohibitions on End Users

DWR Table 8-2 Retail: Restrictions and Prohibitions on End Uses			
Stage	**Restrictions and Prohibitions on End Users**	**Additional Explanation or Reference**	**Penalty, Charge, or Other Enforcement?**
Level 1	Other - Prohibit use of potable water for washing hard surfaces		No[1]
Level 1	Landscape - Restrict or prohibit runoff from landscape irrigation		No
Level 1	Landscape - Limit landscape irrigation to specific times	Irrigate residential and commercial landscapes, and nursery or commercial grower's products before 10 a.m. and after 6 p.m. only.	No
Level 1	Other - Require automatic shut of hoses		No
Level 1	Water Features - Restrict water use for decorative water features, such as fountains		No
Level 1	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Wash vehicles only using a hand-held hose equipped with a positive shut-off nozzle and a bucket, or a high pressure/low volume wash system	No
Level 1	CII - Lodging establishment must offer opt out of linen service		No
Level 1	CII - Other CII restriction or prohibition	Do not use single-pass cooling equipment in new commercial applications	No
Level 1	CII - Other CII restriction or prohibition	Use a water recirculation system for commercial conveyor car washes and all new commercial laundry systems	No
Level 1	Other	Run only fully loaded dishwashers and washing machines	No
Level 1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Repair all water leaks within five days of notification by the City of Poway	No
Level 1	Other - Prohibit use of potable water for construction and dust control	Use recycled or nonpotable water for construction purposes when available	No
Level 1	Landscape - Limit landscape irrigation to specific days	Reset irrigation clocks as necessary to water once per week in winter and not more than three times per week in summer	No
Level 1	Pools - Allow filling of swimming pools only when an appropriate cover is in place.	Add water to maintain the level of water in swimming pools and spas only when necessary. A pool cover shall be installed on all single-family residential pools and spas	No
Level 1	CII - Restaurants may only serve water upon request		No
Level 2	Landscape - Limit landscape irrigation to specific days	Landscape watering shall be conducted only in conformance with landscape watering schedules	Yes

DWR Table 8-2 Retail: Restrictions and Prohibitions on End Uses			
Stage	**Restrictions and Prohibitions on End Users**	**Additional Explanation or Reference**	**Penalty, Charge, or Other Enforcement?**
		and restrictions for residential and commercial properties	
Level 2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	All leaks must be repaired within 72 hours of notification	Yes
Level 2	Water Features - Restrict water use for decorative water features, such as fountains	If the mandatory reduction level is less than 15 percent, ornamental fountains or similar water features shall not be operated for more than six hours per day. If the mandatory reduction level is more than 15 percent, ornamental fountains shall not be operated unless reclaimed water is used	Yes
Level 2	Pools and Spas - Require covers for pools and spas	If the mandatory reduction level is less than 15 percent, pool covers shall be encouraged but not required. If the mandatory reduction level is more than 15 percent, pool covers will be required	Yes
Level 3	Landscape - Limit landscape irrigation to specific days	Landscape watering shall be conducted only in conformance with landscape watering schedules and restrictions for residential and commercial properties	Yes
Level 3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Vehicles shall not be washed except at commercial carwashes that recirculate water or by high pressure/low volume wash systems	Yes
Level 3	Other water feature or swimming pool restriction	Emptying and refilling of swimming pools and spas is prohibited	Yes
Level 3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	All leaks must be repaired within 48 hours of notification	Yes
Level 4	Landscape - Prohibit all landscape irrigation	With the exception of crops and landscape products of commercial growers or nurseries	Yes
Level 4	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	All leaks must be repaired within 24 hours of notification	Yes

NOTES: [1] Level 1 measures may be mandatory with a penalty when separate action is taken by City Council. Level 1 measures are mandatory under Level 2 through 4 water supply conditions.

7.4. Penalties, Charges, Other Enforcement of Prohibitions

PMC Section 8.94.140 (**Appendix E**) addresses enforcement provisions associated with the City's water shortage response plan, including penalties for violating the water use restrictions. A summary of the penalties for violation of any provisions of the Water Conservation Plan is provided in **Table 7-3**. Additional penalties for violation of a City ordinance may apply, as set forth in Chapters 1.08 and 1.10 of the Municipal Code.

Table 7-3: Summary of Water Conservation Plan Enforcement Provisions

Violation	Penalty
First	Letter of Warning
Second	$100 fine
Third	$200 fine
Fourth and above	$500 fine and possible installation of a flow restrictor
Further Violation	Termination of water service

7.5. Consumption Reduction Methods

The Water Conservation Plan includes water use efficiency measures applicable at all times to all persons or businesses using City of Poway water, though the measures are not mandatory until Level 2 (or by separate, specific action of the Poway City Council at Level 1). **Table 7-4** provides the consumption reduction measure implemented by the City of Poway to reduce water demands throughout its service area.

Table 7-4: Consumption Reduction Methods

DWR Table 8-3: Stages of Water Shortage Contingency Plan - Consumption Reduction Methods		
Stage	**Consumption Reduction Methods by Water Supplier**	**Additional Explanation or Reference**
All Levels	Offer Water Use Surveys	
All Levels	Provide Rebates on Plumbing Fixtures and Devices	
All Levels	Provide Rebates for Landscape Irrigation Efficiency	
All Levels	Provide Rebates for Turf Replacement	
Level 1	Expand Public Information Campaign	Ask customers to voluntarily reduce water by 10 percent, inform customers of the water use efficiency measures, and encourage customers to utilize the water conservation incentives and programs offered by the City of Poway.
Levels 2, 3, and 4	Other	The City Council may establish water allocations for property receiving water service from the City of Poway.
Levels 2, 3, and 4	Implement or Modify Drought Rate Structure or Surcharge	The City Council may implement a conservation rate structure
Levels 3, and 4	Moratorium or Net Zero Demand Increase on New Connections	

7.6. Determining Water Shortage Reductions

Should the City of Poway need to implement measures to reduce water use, an analysis of water use data would be completed, including an assessment of metered water deliveries by customer sector (e.g., customer water sales). Customer water meters are read bi-monthly, divided throughout the City into four billing cycles. Other ways to measure water use include comparisons of the amount of water purchased monthly from SDCWA and the volume of water treated at the City's WTP and placed into the distribution system.

7.7. Revenue and Expenditure Impacts

This section describes how water shortages in Poway would likely impact revenues. It also describes how the implementation of a water shortage program would impact expenditures for additional supply of raw water, changes to computer programs, and changes to the billing process.

Poway's Water Conservation Plan includes four water shortage response levels, including three levels of mandatory conservation, from up to 20% to more than 40%. Reductions in potable water sales would result in a reduction in revenue. The impact would depend on the amount of sales reduction and the length of water shortage conditions. For example, if sales declined by 10% for several months, the impact on revenue and operations would be mild. If a severe water shortage occurred, necessitating that the City declare a Level 4 Water Shortage Emergency, requiring mandatory reduced water use of greater than 40%, the revenue impact would be substantial, particularly during high water usage times of the year and for an extended duration.

Measures to overcome revenue impacts would include purchasing less raw water from SDCWA and processing less water at the Water Treatment Plant (potentially resulting in decreased chemical and energy costs). Potable water in reservoirs would be sold first, and the raw water in the Lake Poway reservoir would be accessed for treatment. The City Council could consider adjustments to water rates and billing strategy. Rates are adopted by Resolution of the City Council following an extensive public notification process as required by Proposition 218.

All water sales in Poway, both potable and recycled, are metered. Customers receive water bills bi-monthly and are charged based on metered use. The rate includes components for treatment, delivery, pumping, capital replacement, debt service, and administration. Millions of dollars have been invested in the Water Treatment Plant, reservoirs, and distribution system. Fixed costs and maintenance expenses occur regardless of customer usage. The "capacity" and "commodity" billing structure provides financial stability for the water system even in times of drought or heavy rain. Conservation, even during a water shortage, will not have a long-term significant financial impact because the City Council adjusts rates to balance "capacity" costs and "commodity" costs. As a result, use of financial reserves to address decreased water sales during a water shortage is minimized. Often, use of financial reserves are not necessary; however, during the recent prolonged drought, reserves have been used on a limited basis due to extended periods of reduced consumption levels.

Financial analysis of revenues and expenditures associated with the City's water system occurs continuously in several ways:

- ***Rate Adjustments*** **–** Periodically the City conducts a thorough analysis of water system revenues and expenditures related to establishing water rates. Water rates must be set to recover operating and capital costs, while at the same time, not over-collecting revenue. When the City's cost to purchase water from SDCWA is adjusted, the rate model must be evaluated to determine if any adjustments are necessary. The process of reviewing rates includes detailed analysis of water sales. The financial impact of significantly decreased water sales as a result of a water shortage would be evaluated.

- ***Annual Operating Budget, Capital Infrastructure Plan, and Water Fund Reserves*** – Annually as the City prepares the operating budget for the water system and manages the budget during the year, staff assesses the current water supply situation and consumption patterns to assess revenue impacts. Based on reduced water sales, City staff makes adjustments to capital, replacement and rehabilitation, and operation and maintenance expenditures. The City also establishes reserve funds which may be accessed in an emergency or other type of unexpected financial situation. The City's formally adopted reserve policy calls for maintaining a Water Fund reserve balance at 20% of the total Water Operating budget.

During years when the City experiences higher than average rainfall, water sales tend to decrease, which also impacts actual revenue compared to projections.

7.8. Resolution or Ordinance

CWC Section 10632(h) requires the inclusion of the City's water shortage contingency ordinance. PMC Chapter 8.94, passed in Ordinance 784 on January 12, 2016, addresses the Water Conservation Plan for the City of Poway. Chapter 8.94 of the municipal code can be found here: http://www.codepublishing.com/CA/Poway/html/poway08/poway0894.html

7.9. Catastrophic Supply Interruption

This section addresses contingency planning for catastrophic water supply interruption, including a review of the agency's interruption plan, water shortage response ordinance, and specific methods to reduce water use by 50% or more if necessary.

The City of Poway meets federal and state guidelines for planning for potential hazards. CWC Section 10632 (a)(3) requires the UWMP to describe actions that would be taken by the water supplier to prepare for a catastrophic interruption of water supply including, but not limited to, a regional power outage, earthquake, or other disaster. The City of Poway has a catastrophic supply interruption plan that includes: interruption of raw water from SDCWA, interruption of Poway's delivery and distribution systems, and non-drought related events. A summary of the City's catastrophic supply interruption plan is provided below in **Table 7-5**.

Table 7-5: Catastrophic Supply Interruption Plan

Catastrophic Event	Plan
Regional Power Outage	Use emergency generators at critical facilities.
Earthquake affecting Poway's Raw Water Supply	Use stored water in Lake Poway and implement Water Conservation Plan
System Failure affecting Poway's Raw Water Supply	Use stored water in Lake Poway and implement Water Conservation Plan
System Failure at Poway Water Treatment Plant	Isolate problem areas of plant and operate plant manually
System Failure in Poway Distribution System	Isolate problem areas and restore service outward from the Treatment Plant

In 1970-1971, the Poway Municipal Water District constructed Lake Poway to store 3,300 AF (about 1,075 MG) of raw water for catastrophic interruptions of the water supply. The dam is inspected and monitored on a regular basis. This volume is approximately 25% of the City's average annual deliveries over the past 10 years and would provide the City with adequate water supplies for three to six months, depending on the season and conservation levels.

In 2004, the City completed a Hazard Mitigation Plan as part of the County of San Diego's Hazard Mitigation Plan submitted to the State of California Office of Emergency Services. The City of Poway also completed a vulnerability assessment of its water system and submitted it and the emergency response plan to the Environmental Protection Agency and the State of California.

If a major catastrophe affected the ability of SDCWA to provide Poway with raw water, Poway would still have raw water in Lake Poway and some potable water in storage reservoirs. For example, assuming Lake Poway is at its maximum operating level, and the City Council activated the 20% level of the Water Conservation Plan, the City could provide water to its customers for up to four months (6.1 MGD). If major regional raw water supply deficiencies occurred, the extent to which Poway could meet water demand from its customers would be proportional to conservation. For example, if Poway's supply of imported raw water was totally disrupted and Poway instituted 50% conservation, it is estimated that the City could supply potable water to Poway customers for up to seven months (3.8 MGD).

Currently, Poway's WTP is its only source of potable water. The City of Poway's long-range plan includes exploring construction of a SDCWA connection to bring potable water to Poway in times of emergency. To date, this has not been a viable option. Poway's active leadership and participation with SDCWA ensures that the priority water needs of the City and the region are adequately met.

SDCWA has developed its Emergency Storage Project (ESP) to reduce the risk of potential catastrophic damage that could result from a prolonged interruption of imported water due to earthquake, drought, or other natural disasters. The ESP is a system of reservoirs, pipelines, and other facilities. The San Vicente Dam raise was the last major component and was completed in 2014. The ESP provides up to six months of emergency water storage in the San Diego region, and a 75% level of service to the member agencies during a catastrophic interruption.

The City also maintains diesel generators at the WTP so it can continue operating in the event of a power outage.

In response to regional wildfires in 2003 and 2007, Poway implemented a comprehensive plan to ensure backup power and redundant water sources for pumped zones. Every pump station now has provisions to operate using mobile and stationary generators purchased by the City.

7.10. Estimate of Minimum Available Water Supply During Next Three Years

As required by DWR, SDCWA completed this estimate using the same assumptions contained in the multiple dry year analysis described in *Section 6, Water Supply Reliability*. **Table 7-6** is provided to comply with the UWMP requirements, showing the minimum City of Poway supplies calculated based on Poway's future projected allocation of SDCWA's supplies (2.22% of total SDCWA supplies). It is important to note that based on current supply and storage conditions statewide, SDCWA is not currently forecasting this supply scenario. Based on this analysis, the City of Poway expects to have adequate supplies for normal demands in 2016 through 2018.

Table 7-6: Minimum Supply Next Three Years (AF)

DWR Table 8-4: Minimum Supply Next Three Years			
	2016	**2017**	**2018**
Available Water Supply	14,491	14,768	15,299

NOTES: Supply calculated based upon SDCWA supply over next three years, in addition to recycled water from the City of San Diego

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Section 8 Demand Management Measures

The City of Poway is committed to water use efficiency and conservation. Water conservation is a key component in Southern California's strategy to meet water demand. The City of Poway has proactively supported water conservation through City and SDCWA programs since the early 1990s. Poway has water conservation and reclamation measures in the development review process in order to implement strategies set forth in the Poway General Plan.

Poway's efforts to promote and achieve water conservation have included the Demand Management Measures specified by the California Water Code, as well as other programs tailored to meet the specific needs of Poway water customers.

The City of Poway has been a signatory member of the California Urban Water Conservation Council (CUWCC) since 1997. Poway has implemented the Demand Management Measures (DMMs) by adhering to the CUWCC Best Management Practices (BMPs) and participating in the conservation efforts of the City's two wholesale water suppliers, MWD and SDCWA. While Poway has offered some programs independently, most of Poway's water conservation programs have been offered in partnership with MWD and SDCWA.

Since the 2010 UWMP was prepared, many changes have been made to the CWC addressing DMMs. The previous DMMs have been consolidated into six core DMMs including: water waste prevention ordinances, metering, conservation pricing, public education and outreach, programs to assess and manage distribution system real loss, water conservation program coordination and staffing support and other demand management measures that have a significant impact on water use. **Appendix F** includes the City of Poway's 2013 and 2014 BMP Reports prepared for the CUWCC and the coverage reports from the CUWCC showing the City of Poway's compliance with the BMPs for 2013 and 2014. The final reports for 2015 were not available at the time this plan was prepared.

8.1. Demand Management Measures

The Water Code defines "Demand Management" as water conservation measures, programs, and incentives that prevent the waste of water and promote reasonable and efficient use and reuse of available supplies. Water conservation can be a relatively low-cost way to augment water supply. It is a critical part to the region's long-term strategy for meeting water demand. Section 10631(i) of the Water Code states "Urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivisions (f) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation," in California, dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum." Poway's Annual BMP Reports for 2013 and 2014 and the coverage reports from the CUWCC are included in **Appendix F**.

In 2009, the CUWCC significantly amended the structure of its BMPs and compliance strategies. In addition to complying with the Foundational BMPs, the City of Poway intends to use the "Gallon per Capita per Day" compliance option. The City of Poway has implemented the demand management measures as described in the following sections.

Water Waste Prevention Ordinances

Poway Municipal Code Chapter 8.94 – Water Conservation Plan establishes water use efficiency measures to prohibit wasteful water use. Amendments were made to the ordinance and adopted by the Poway City Council in December 2008 and is current through Ordinance 784, passed January 12, 2016. Details of the Water Conservation Plan can be found in Section 7, Water Shortage Contingency Planning, and in **Appendix E**.

Implementation over the Past Five Years

In response to the historic drought, the City declared a Level 2 Water Shortage Alert which imposed the mandatory water waste prohibitions described in the previous section for Stages 2 to 4 of water shortage.

Planned Implementation to Achieve Water Use Targets

The City plans to continue enforcing mandatory water waste prohibitions in Stages 2 to 4 of water shortage.

Water Metering

All City of Poway service connections are metered and billed by volume of use. Meters are read and customers are charged bi-monthly. In addition to a variable commodity rate, there is also a fixed charge. In summer 2009, for single-family residential customers, the City implemented an inclining block rate structure; the rate per unit of water (one hundred cubic feet) increases as the amount of water use increases. Initially, there were five blocks, adjusted to two blocks in December 2010.

Implementation over the Past Five Years

The City has continued to meter all new connections. Additionally, The City is in the process of installing meters with remote reading capabilities. This allows the City to more effectively and efficiently read water meters. Currently there are more than 1,300 of these meters installed across the City.

Planned Implementation to Achieve Water Use Targets

The City plans to continue metering all new connections.

Conservation Pricing

Water and sewer rates for City of Poway customers are set volumetrically based on quantity of water use. Single-family residential water rates are charged according to an inclining two-block rate structure to further encourage efficient water use. Sewer charges are also based on volume of water use.

Implementation over the Past Five Years

In January 2016, the City Council adopted Resolution 16-001, implementing a drought recovery charge of $0.75 per unit of water used.

Planned Implementation to Achieve Water Use Targets

The City plans to continue implementing conservation pricing.

Public Education and Outreach

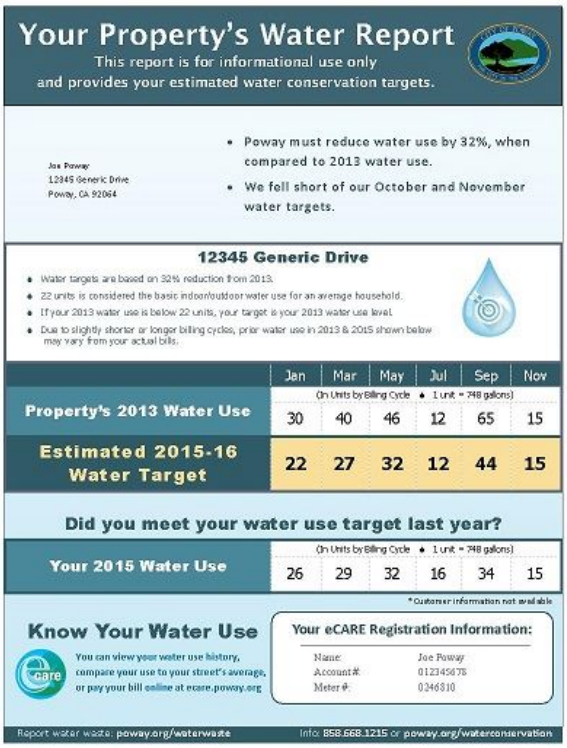
The SDCWA and MWD offer public education and outreach regionally. The City of Poway has its own tailored public outreach program which can be scaled in scope depending on need. Local public outreach efforts include newsletter articles, a detailed web site, street fair booths, landscape classes, a landscape contest, classroom visits, and presentations to community groups. In addition, the City of Poway has offered its own school education programs, including fourth-grade classroom presentations, a poster contest, water quality testing kits for sixth-grade through twelfth-grade classroom use, and funding of Splash Lab visits to local schools (a mobile water science laboratory).

Implementation over the Past Five Years

In 2013 and 2014, 80,000 contacts were made via fliers, brochures, or bill stuffers, 80,000 contacts were made via newsletter articles on conservation, and four news releases were distributed. In response to the drought, the City's outreach campaign has included the creation of customized water reports for single-family homes, meetings with multi-family and affordable housing properties, and direct outreach to the City's largest water consumers such as local schools.

Planned Implementation to Achieve Water Use Targets

The City plans to continue its public education and outreach program.



Your Property's Water Report

This report is for informational use only and provides your estimated water conservation targets.

Joe Poway
12345 Generic Drive
Poway, CA 92064

- Poway must reduce water use by 32%, when compared to 2013 water use.
- We fell short of our October and November water targets.

12345 Generic Drive

- Water targets are based on 32% reduction from 2013.
- 22 units is considered the basic indoor/outdoor water use for an average household.
- If your 2013 water use is below 22 units, your target is your 2013 water use level.
- Due to slightly shorter or longer billing cycles, prior water use in 2013 & 2015 shown below may vary from your actual bills.

	Jan	Mar	May	Jul	Sep	Nov
	(In Units by Billing Cycle ♦ 1 unit = 748 gallons)					
Property's 2013 Water Use	30	40	46	12	65	15
Estimated 2015-16 Water Target	22	27	32	12	44	15

Did you meet your water use target last year?

	(In Units by Billing Cycle ♦ 1 unit = 748 gallons)					
Your 2015 Water Use	26	29	32	16	34	15

*Customer information not available

Know Your Water Use

You can view your water use history, compare your use to your street's average, or pay your bill online at ecare.poway.org

Your eCARE Registration Information:

Name:	Joe Poway
Account #:	012345678
Meter #:	0346310

Report water waste: poway.org/waterwaste Info: 858.668.1215 or poway.org/waterconservation

In January 2016, the City began mailing water reports for every residential property as part of our water conservation outreach efforts. The informational report provides the property's 2013 water use, an estimated water target (32% reduction of the property's 2013 water use), and actual 2015 water use. This information was provided to empower customers to easily compare current water use against Poway's State-mandated conservation target.

Programs to Manage Distribution System Real Loss

The City diligently monitors and controls water system losses using standards set by the American Water Works Association (AWWA). The City also has a program for meter testing and replacement.

Implementation over the Past Five Years

Water loss as potential system leakage was 3.63% over the last ten years and 3.33% over the last three years, which is considered very good in the water industry. In 2013, the City of Poway fixed 72 leaks, and 62 leaks were repaired in 2014.

Planned Implementation to Achieve Water Use Targets

The City plans to continue it water loss monitoring and meter testing and replacement.

Water Conservation Program Coordination and Staffing Support

A City of Poway employee from the Public Works Department is designated as the Water Conservation Coordinator.

Implementation over the Past Five Years

The coordinator's position has been active at the City since 1997, as a part-time responsibility. The City's conservation coordinator is Alexander Heide, aheide@poway.org, (858) 668-4703.

Planned Implementation to Achieve Water Use Targets

The City plans to continue designating an employee from its Public Works Department as the Water Conservation Coordinator.

Other Demand Management Measures

The City offers a variety of residential rebate programs. Indoor and outdoor water surveys for single-family residential customers are offered at no cost. Outdoor water use surveys are available to multi-family residential properties. Discounts on artificial turf are offered in partnership with SDCWA. Discounts are provided directly from participating artificial turf companies. The City has also been able to offer turf replacement rebates through SDCWA's Prop 50 grant funding.

Between 1991 and 2002, SDCWA and its member agencies distributed over 550,000 water-efficient showerheads. Data from the 2001-2002 Residential Survey Program administered by SDCWA showed 80- 95% saturation for high-efficiency showerheads. Since January 1, 1994, showerheads manufactured in the United States have a maximum 2.5 gallon per minute flow.

Several conservation programs are available in partnership with SDCWA and MWD for Commercial, Industrial, and Institutional (CII) accounts, including rebate programs for water efficient equipment and plumbing devices and outdoor water use evaluations/irrigation check-ups. Using geographic information system computer software created by SDCWA (WaterSmart Target), the City of Poway created informational water targets for approximately 50 properties with large areas of landscaping and dedicated potable water irrigation meters (out of about 200). These water use targets are for informational purposes only and are not used to set pricing for these customers. Water use surveys oriented to large landscape customers were also offered to a mobile home park, cemetery, and a golf course.

SDCWA's WaterSmart Landscape classes and design workshops are being hosted in Poway.

MWD's SoCal WaterSmart Program has initiated numerous other rebates for residents of the City of Poway. Turf removal rebates were available through the Program, but funds were exhausted and MWD stopped accepting applications on November 1, 2015. Additional funding for this program may become available in the future. Rebates for high-efficiency clothes washers with a water factor of 3.7 or less are available, starting at $85. Rebates are offered for high-efficiency toilets that use 1.06 gallons per flush (gpf) or less. High-efficiency toilets save 20% more water than standard toilets, reducing indoor water use.

Rain barrel rebates are also available. Rain barrels allow residents to collect and re-use rainwater reduces that potable water use for landscape irrigation and reduces the amount of water flowing into storm drains, sewer systems and waterways. The program offers rebates to assist in the reduction of outdoor water use. These rebates include rotating sprinkler nozzles (a minimum of 15 nozzles required), weather-based irrigation controllers, and soil moisture sensors. These devices allow for more accurate and customized irrigation, including response to weather condition changes, to minimize water use for landscape irrigation.

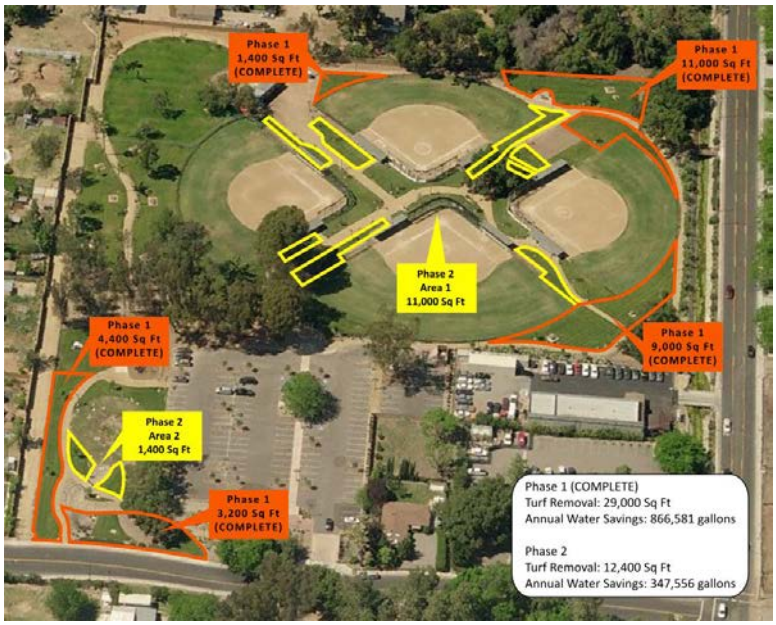
Implementation over the Past Five Years

Participation for each of the residential rebate programs offered by the City of Poway and the MWD WaterSmart Program over the last five years includes:

- **MWD Turf Rebate Program:** 490 rebates issued in Poway, replacing over 1,127,000 square feet of turf. The rebate total to date is $2,251,300, of which $99,000 was contributed by the City as a supplemental rebate incentive.
- **SDCWA Turf Rebate Program (Prop 50 Grant)**: 45 sites utilized rebates from SDCWA's Prop 50 grant funding to convert over 68,000 square feet of turf.
- **SDCWA WaterSmart Program:** Poway participates in the SDCWA program and committed $4,300 in FY 16 for its cost share of Water Smart Field Services, including irrigation check-ups, home water use evaluations, and audits.
- Number of home water use evaluations in FY 16 (to date): 15

In response to the current drought and State emergency regulations, the City has conducted its own conservation activities to help support permanent changes in City water use over time:

- Removal of turf at 15 City parks and facilities (almost 210,000 square feet total), which saves roughly 13.7 MGY
- Replaced toilets with low-flow models at City facilities, reducing water use per flush by roughly half
- Conversion of Library landscape from turf to a low-water use landscape (In-Progress), which should save about 1.3 MGY
- Conversion of the Sportsplex in the business park from potable water to recycled water (In Progress), which will save around 4.2 MGY



The City has identified areas at City facilities and parks – such as Aubrey Park (shown) – where turf can be removed to reduce water use.

Planned Implementation to Achieve Water Use Targets

The City plans to continue its residential rebate programs and MWD plans to continue its SoCal WaterSmart programs, so long as funding allows. Additionally, the City has plans to acquire a NO-DES Unit, which would allow for the recovery of water used to flush water mains and potentially save 5.3 MGY.

Section 9 Plan Adoption, Submittal, and Implementation

This section of the 2015 UWMP addresses the planned steps the City of Poway will take to adopt this UWMP, submit it to DWR, and steps that will be taken should it prove necessary to amend this UWMP.

9.1. 2015 Water Use Data

This UWMP includes 2015 water use and planning data for the calendar year.

9.2. Plan Noticing

On Tuesday, June 7, 2016 at 7:00pm at the City Council Chambers, 13325 Civic Center Drive, Poway, California 92064, the City Council will conduct a public hearing to receive input on the Draft 2015 UWMP. The UWMP will be considered for adoption immediately following the public hearing. A 60-day notice of the public hearing was provided to San Diego County and adjacent cities and other entities on March 31, 2016. The notification list is included in **Appendix G** and is summarized in **Table 9-1**.

Table 9-1: Notification of UWMP Preparation

Organization/Agency Name	60 Day Notice and Notice of Public Hearing
City of Escondido	X
City of San Diego	X
County of San Diego	X
Local Agency Formation Commission	X
Rincon del Diablo MWD	X
San Diego Association of Governments	X
San Diego County Water Authority	X

The Draft UWMP was made available for review from May 19 to June 7, 2016 at the City of Poway, Public Works Administration, 14467 Lake Poway Road, Poway, CA or by visiting the City's website at www.poway.org. A Notice of Public Hearing was published in the *Poway News Chieftain* on May 19, 2016 and May 26, 2016 to notify interested parties that the UWMP was available and the date/time of the public hearing.

9.3. Plan Adoption

The Poway City Council adopted the 2015 UWMP by Resolution No. 16-015 at a public hearing on June 7, 2016. City Council meetings are open to the public and information on all agenda items is available in advance of the meeting. During the notification process, the public was encouraged to participate in the review of the UWMP and to submit questions or comments to the City Council. Copies of the Notice of Public Hearing published in the Poway News Chieftain, the City Council agenda report, and the signed resolution of adoption are included in **Appendix G**.

9.4. Plan Submittal

The adopted 2015 UWMP will be submitted to DWR, the State of California Library, the County of San Diego, and SDCWA by July 1, 2016. Poway's 2015 UWMP will be available for review on the City's web site at www.poway.org and at the Public Works Administration Building, located at 14446 Lake Poway Road, Poway, CA, 92064.

9.5. Plan Amendment

If an amendment to this UWMP is necessary due to changing water supply conditions within the City and/or comments from DWR, the City Council will recirculate all required public notices and host a public hearing to consider public comments prior to approval of the amendment.

Section 10 References

City of Poway. 2007. *Potable Water Master Plan Update*. Prepared by Boyle Engineering Corporation.

City of Poway. 2012. *Sanitary Sewer Master Plan*. October. Prepared by Atkins.

City of Poway. 2013. *2013-2020 Housing Element Update*. May 2013.

Department of Water Resources (DWR). 2015. *2015 Urban Water Management Plans Guidebook for Urban Water Suppliers*. January 2016. (DWR 2016)

National Oceanic & Atmospheric Administration (NOAA). *Annual Climatological Summary for the Poway Valley Station, 2010-2015*.

San Diego County Water Authority. 2016. *2015 Urban Water Management Plan*. Member Agency Draft. April.

San Diego Regional Water Management Group (RWMG). 2013. *2013 San Diego Integrated Regional Water Management Plan*. September.

United States Census Bureau. 2016. *State and County QuickFacts*. Available at: http://quickfacts.census.gov/qfd/states/06/0658520.html

Western Regional Climate Center. 2016. *Period of Record Monthly Climate Summary, Poway Valley, California, 1893-2015*. Available: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7111

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Appendices

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Appendix A. UWMP Checklist

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Department of Water Resources UWMP Checklist

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location *(Optional Column for Agency Use)*
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	**Page 1-1**
10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5.2	**Page 1-1**
10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	Plan Preparation	Section 2.5.2	**Page 1-1 / Page 9-1 / Appendix H**
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	**Page 2-1**
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	**Page 2-6**
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	**Page 2-5**
10631(a)	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	**Page 2-5**
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	**Page 2-5**
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	**Page 3-1**
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	**Page 3-5**
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	**Page 3-6**
10608.20(b)	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	**Page 4-4**

10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5 and App E	**Page 4-4**
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply is the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	**Page 4-5**
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	**Page 4-6**
1608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.8.2	**n/a**
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted water use reductions.	Baselines and Targets	Section 5.1	**n/a**
10608.40	Retail suppliers shall report on their progress in meeting their water use targets. The data shall be reported using a standardized form.	Baselines and Targets	Section 5.8 and App E	**Page 4-6**
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	**Page 5-14**
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	**Page 5-2**
10631(b)(1)	Indicate whether a groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2	**Page 5-2**
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section 6.2.1	**Page 5-2**
10631(b)(2)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	**Page 5-2**
10631(b)(2)	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	**Page 5-2**

10631(b)(3)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.2.4	**Page 5-2**
10631(b)(4)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections 6.2 and 6.9	**Page 5-2**
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	**Page 5-13**
10631(g)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years.	System Supplies	Section 6.8	**Page 5-14**
10631(i)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	**Page 5-13**
10631(j)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use projections from that source.	System Supplies	Section 2.5.1	**Page 9-1**
10631(j)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	**n/a**
10633	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	**Page 5-4**
10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	System Supplies (Recycled Water)	Section 6.5.2	**Page 5-4**
10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2.2	**Page 5-9**
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.3 and 6.5.4	**Page 5-9**
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	**Page 5-9**

10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4	**Page 5-9**
10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.5	**Page 5-13**
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	**Page 5-13**
10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	**Page 6-8**
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	**Page 6-1**
10631(c)(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	**Page 6-4**
10631(c)(2)	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	**Page 6-8**
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	**Page 6-1**
10635(a)	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.3	**Page 6-5**
10632(a) and 10632(a)(1)	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	**Page 7-1**
10632(a)(2)	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency.	Water Shortage Contingency Planning	Section 8.9	**Page 7-10**
10632(a)(3)	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	**Page 7-9**
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	**Page 7-2**

10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	**Page 7-7**
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	**Page 7-7**
10632(a)(7)	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	**Page7-8**
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	**Page 7-9**
10632(a)(9)	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	**Page 7-8**
10631(f)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Sections 9.2 and 9.3	**Page 8-1**
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management Measures	Sections 9.1 and 9.3	**n/a**
10631(j)	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	**Page 8-1**
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	**Page 9-1**
10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	**Page 9-1**
10621(d)	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	**Page 9-2**

10635(b)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 60 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	**Page 9-2**
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan.	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, 10.3, and 10.5	**Page 9-1 / Appendix H**
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Sections 10.2.1	**Page 9-1**
10642	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	**Page 9-1 / Appendix G**
10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	**Page 9-2**
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	**Page 9-2**
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	**Page 9-2**
10645	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	**Page 9-2**

Appendix B. UWMP Required Tables

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Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015
CA3710015	Poway, City of	14,136	8,374
	TOTAL	14136	8,374

Table 2-2: Plan Identification (Select One)		
☑	Individual UWMP	
☐	Regional UWMP (RUWMP) *(checking this triggers the next line to appear)*	
	Select One:	
	☐	RUWMP includes a Regional Alliance
	☐	RUWMP does not include a Regional Alliance
NOTES:		

Table 2-3: Agency Identification	
Type of Agency (select one or both)	
☐	Agency is a wholesaler
☑	Agency is a retailer
Fiscal or Calendar Year (select one)	
☑	UWMP Tables Are in Calendar Years
☐	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Day that the Fiscal Year Begins (dd/mm)	
dd/mm	
Units of Measure Used in UWMP (select from Drop down)	
Unit	AF
NOTES:	

Table 2-4 Retail: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name *(Add additional rows as needed)*
San Diego County Water Authority

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040*(opt)*
	48,773	49,737	51,029	52,280	52,375	52,372
NOTES: The 2015 population was determined using Department of Finance data with an adjustment made to remove the unserved population of Poway (tracked by the City's Planning Department). The population projections are modified from SANDAG projections to remove the unserved population of Poway. It was assumed that the unserved population of Poway grew at the same rate as the general City population as estimated by SANDAG.						

Table 4-1 Retail: Demands for Potable and Raw Water - Actual			
Use Type *(Add additional rows as needed)*	2015 Actual		
	Additional Description *(as needed)*	Level of Treatment When Delivered	Volume
Single Family		Drinking Water	5,356
Multi-Family		Drinking Water	398
Commercial		Drinking Water	1,162
Industrial		Drinking Water	107
Landscape		Drinking Water	874
Landscape	Raw Water for Golf Course	Raw Water	445
Agricultural irrigation		Drinking Water	30
Losses		Drinking Water	304
Sales/Transfers/Exchanges to other agencies	Sales to SDCWA and Ramona Municipal Water District	Drinking Water	98
		TOTAL	8,774
NOTES: 1. Commercial use includes institutional use and special district facilities, such as schools, churches, and the hospital. 2. Landscape use includes metered irrigation, minus recycled water irrigation use, plus potable water added to supplement recycled water demands.			

Table 4-2 Retail: Demands for Potable and Raw Water - Projected

Use Type *(Add additional rows as needed)* ***Use 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)*	Projected Water Use *Report To the Extent that Records are Available*				
		2020	2025	2030	2035	2040-opt
Single Family		7,577	7,826	8,079	8,129	8,115
Multi-Family		402	409	412	409	409
Commercial		1,153	1,162	1,170	1,172	1,173
Industrial		178	197	209	183	193
Landscape		510	504	497	494	496
Landscape	Raw Water Golf Course Use	445	445	445	445	445
Agricultural irrigation		30	30	30	30	30
Losses		304	304	304	304	304
Sales/Transfers/Exchanges to other agencies		98	98	98	98	98
TOTAL		10,697	10,975	11,244	11,264	11,264

NOTES:

Average water use from 2020 onwards is assumed to be in-line with the City's 5-year average water use: 192 GPCD

Water use projections were based on 2015 water use data presented in DWR Table 4-1 and were extrapolated by use type by:

1. Increasing water use in each use type proportionally by the increase from 2015 actual GPCD to 2020 anticipated GPCD.

2. Considering the SDCWA Regional Growth Forecast for the City of Poway and interpolating future use by relative acreage increase by use type. For example, between 2020 and 2025 single family lots are projected to increase by 3%% in total acreage. So it is assumed that single family water use will increase by 3%. The forecast showed a change in acreage for single family homes, multi-family homes, parks, industrial and commercial lots. The forecast did not show any changes in agricultural land, irrigated golf courses, or institutional/governmental lots, so these were assumed not to show increases by land area between 2020 and 2040.

Water Losses: Assumed to increase proportionally with all other water use

Table 4-3 Retail: Total Water Demands

	2015	2020	2025	2030	2035	2040 *(opt)*
Potable and Raw Water *From Tables 4-1 and 4-2*	8,774	10,697	10,975	11,244	11,264	11,264
Recycled Water Demand *From Table 6-4*	363	645	645	645	645	645
TOTAL WATER DEMAND	9,137	11,342	11,620	11,889	11,909	11,909

NOTES: Recycled water purchases based on 2010-2014 average purchases from City of San Diego

Table 4-4 Retail: 12 Month Water Loss Audit Reporting

Reporting Period Start Date (mm/yyyy)	Volume of Water Loss
01/2014	592

Table 4-5 Retail Only: Inclusion in Water Use Projections	
Are Future Water Savings Included in Projections? (Refer to Appendix K of UWMP Guidebook) *Drop down list (y/n)*	Yes
If "Yes" to above, state the section or page number, in the cell to the right, where citations of the codes, ordinances, etc… utilized in demand projections are found.	Section 3.3 and 3.4
Are Lower Income Residential Demands Included In Projections? *Drop down list (y/n)*	Yes

Table 5-1 Baselines and Targets Summary
Retail Agency or Regional Alliance Only

Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	*1999*	*2008*	*263*	*236*	*210*
5 Year	*2003*	*2007*	*264*		

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

Table 5-2: 2015 Compliance
*Retail Agency or Regional Alliance Only**

Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments to 2015 GPCD Enter "0" for adjustments not used *From Methodology 8*					2015 GPCD *(Adjusted if applicable)*	Did Supplier Achieve Targeted Reduction for 2015? Y/N
		Extraordinary Events	Economic Adjustment	Weather Normalization	TOTAL Adjustments	Adjusted 2015 GPCD		
160	236	0	0	0	0	160	160	Yes

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

Table 6-1 Retail: Groundwater Volume Pumped						
☑	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type *Drop Down List* *May use each category multiple times*	Location or Basin Name	2011	2012	2013	2014	2015
Add additional rows as needed						
TOTAL		0	0	0	0	0

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015						
☐	There is no wastewater collection system. The supplier will not complete the table below.					
n/a	Percentage of 2015 service area covered by wastewater collection system *(optional)*					
n/a	Percentage of 2015 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 in 2015	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*
Add additional rows as needed						
City of Poway	Metered	923.88	San Diego Metropolitan Wastewater Department	North City Water Reclamation Plant (NCWRP)	No	
City of Poway	Estimated	22.4	City of Escondido	Hale Avenue Resource Recovery Facility (HARRF)	No	
Total Wastewater Collected from Service Area in 2015:		946				

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015

☐ No wastewater is treated or disposed of within the UWMP service area.
The supplier will not complete the table below.

Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number *(optional)*	Method of Disposal *Drop down list*	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level *Drop down list*	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Add additional rows as needed										
North City Water Reclamation Plant (NCWRP)	Point Loma Ocean Outfall	1-Point Loma Ocean Outfall		Ocean outfall	Yes	Secondary, Undisinfected	924	561	363	
		2-Recycled Water				Tertiary				
Hale Avenue Resource Recovery Facility	Escondido Ocean Outfall	1-Escondido Ocean		Ocean outfall	Yes	Secondary, Disinfected -	22	22		
		2-Recycled Water				Tertiary				
						Total	946	583	363	0

NOTES: The NCWRP is operated by the San Diego Metropolitan Wastewater Department and treats roughly 98% of Poway's wastewater flows. Poway then purchases up to 750 AFY (contract maximum) from the plant for irrigation use around the City.

Table 6-4 Retail: Current and Projected 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 Agency Producing (Treating) the Recycled Water:	City of San Diego, North City Water Reclamation Plant
Name of Agency Operating the Recycled Water Distribution System:	City of Poway
Supplemental Water Added in 2015	114 AFY
Source of 2015 Supplemental Water	City of Poway, potable water

Beneficial Use Type *These are the only Use Types that will be recognized by the DWR online submittal tool*	General Description of 2015 Uses	Level of Treatment *Drop down list*	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation								
Landscape irrigation (excludes golf courses)	Irrigation in Business Park	Tertiary	363	645	645	645	645	645
Golf course irrigation								
Commercial use								
Industrial use								
Geothermal and other energy production								
Seawater intrusion barrier								
Recreational impoundment								
Wetlands or wildlife habitat								
Groundwater recharge (IPR)								
Surface water augmentation (IPR)								
Direct potable reuse								
Other: Type of Use								
		Total:	363	645	645	645	645	645

IPR - Indirect Potable Reuse

NOTES: Recycled water purchases based on contract agreement with the City of San Diego and potential for development of additional areas of the business park.

Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual			
☐	Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.		
Use Type *These are the only Use Types that will be recognized by the WUEdata online submittal tool*		2010 Projection for 2015	2015 actual use
Agricultural irrigation			
Landscape irrigation (excludes golf courses)		584	363
Golf course irrigation			
Commercial use			
Industrial use			
Geothermal and other energy production			
Seawater intrusion barrier			
Recreational impoundment			
Wetlands or wildlife habitat			
Groundwater recharge (IPR)			
Surface water augmentation (IPR)			
Direct potable reuse			
Other	Required for this use		
Total		584	363
NOTES: 2010 UWMP projected 85AF of potential use in 2015 in addition to actual 2010 use of 499AF.			

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.		
5-12	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			
Assist customers with retrofit costs	The City may offer rebates or financing to offset the cost of switching to recycled water use	2020-2035	177
		Total	**177**
NOTES: Based on planned community road and Pomerado road expansion projects.			

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 agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type *Drop Down List User may select more than one.*	Expected Increase in Water Supply to Agency *This may be a range*
	Drop Down List (y/n)	*If Yes, Agency Name*				
Add additional rows as needed						
Blue Crystal reservoir Rehabilitation	No		Perform various upgrades to Blue Crystal Reservoir	2016	All Year Types	n/a
Welton Reservoir Rehabilitation	No		Perform various upgrades to Welton Reservoir	2016	All Year Types	n/a
Buehler Reservoir Rehabilitation	No		Perform various upgrades to Buehler Reservoir	2017	All Year Types	n/a
Sagecrest Reservoir Rehabilitation	No		Perform various upgrades to Sagecrest Reservoir	2017	All Year Types	n/a
Boulder Mountain Reservoir 1 Rehabilitation	No		Perform various upgrades to Boulder Mountain Reservoir 1	2017/2018	All Year Types	n/a
Boulder Mountain Reservoir 2 Rehabilitation	No		Perform various upgrades to Boulder Mountain Reservoir 2	2017/2018	All Year Types	n/a
Boulder Mountain Reservoir 3 Rehabilitation	No		Perform various upgrades to Boulder Mountain Reservoir 3	2019/2020	All Year Types	n/a
Gregg Street Reclaimed Reservoir rehabilitation	No		Perform various upgrades to Gregg Street Reclaimed Reservoir	2019/2020	All Year Types	n/a
NOTES:						

Table 6-8 Retail: Water Supplies — Actual

Water Supply	Additional Detail on Water Supply	2015		
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	Purchased raw water from SDCWA	8,712	Raw Water	
Recycled Water	Purchased Recycled Water from the City of San Diego	363	Recycled Water	
	Total	9,075		0
NOTES: Purchased Water - Represents total volume imported from SDCWA, not total volume				

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*		**2020**		**2025**		**2030**		**2035**		**2040** *(opt)*	
		Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*	Reasonably Available Volume	Total Right or Safe Yield *(optional)*
Add additional rows as needed											
Purchased or Imported Water	Purchased raw water from SDCWA	13,356		14,306		14,482		14,557		15,033	
Recycled Water	Purchased Recycled Water from the City of San Diego	645		645		645		645		645	
	Total	14,001	0	14,951	0	15,127	0	15,202	0	15,678	0
NOTES: Purchased water supply based on projected water available per the SDCWA UWMP. Recycled water supply based on the agreement with the City of San Diego.											

Table 7-1 Retail: Basis of Water Year Data			
Year Type	Base Year	Available Supplies if Year Type Repeats	
		Agency may provide volume only, percent only, or both	
		Volume Available	% of Average Supply
Average Year	1986-2015		100%
Single-Dry Year	2014		100%
Multiple-Dry Years 1st Year	2013		100%
Multiple-Dry Years 2nd Year	2014		100%
Multiple-Dry Years 3rd Year	2015		92% -100%
Agency 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 an agency 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.			
NOTES: The City selected base years that aligned with SDCWA's 2015 UWMP supply reliability assessment. The third year of a multiple-dry year scenario may result in deficits that must be met through extraordinary conservation or further expansion of the recycled water system. In years with supply reliability, additional purchases would be made from SDCWA to meet demands. As presented here, "% of Average Supply" indicates percent supply available to meet potable demands due to diversification and/or carryover storage.			

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 *(Opt)*
Supply totals *(autofill from Table 6-9)*	14,001	14,951	15,127	15,202	15,678
Demand totals *(autofill from Table 4-3)*	11,342	11,620	11,889	11,909	11,909
Difference	2,659	3,331	3,238	3,293	3,769

Table 7-3 Retail: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	11,715	11,896	12,070	12,066	12,098
Demand totals	11,715	11,896	12,070	12,066	12,098
Difference	0	0	0	0	0

Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison						
		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	11,667	11,847	12,021	12,043	12,042
	Demand totals	11,667	11,847	12,021	12,043	12,042
	Difference	0	0	0	0	0
Second year	Supply totals	12,195	12,383	12,565	12,581	12,587
	Demand totals	12,195	12,383	12,565	12,581	12,587
	Difference	0	0	0	0	0
Third year	Supply totals	12,743	12,940	13,130	12,651	12,037
	Demand totals	12,743	12,940	13,130	13,147	13,152
	Difference	0	0	0	(496)	(1,115)
NOTES: Potential deficits in potable supplies in the third year of a multiple-dry year would be addressed with extraordinary conservation and/or expansion of recycled water.						

Table 8-1 Retail Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Percent Supply Reduction[1] *Numerical value as a percent*	Water Supply Condition (*Narrative description)*
Add additional rows as needed		
Level 1	up to 10%	Water Shortage Watch
Level 2	up to 20%	Water Shortage Alert
Level 3	up to 40%	Water Shortage Critical
Level 4	above 40%	Water Shortage emergency
[1] One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*	Penalty, Charge, or Other Enforcement? *Drop Down List*
Add additional rows as needed			
Level 1	Other - Prohibit use of potable water for washing hard surfaces		No
Level 1	Landscape - Restrict or prohibit runoff from landscape irrigation		No
Level 1	Landscape - Limit landscape irrigation to specific times	Irrigate residential and commercial landscapes, and nursery or commercial grower's products before 10 a.m. and after 6 p.m. only.	No
Level 1	Other - Require automatic shut of hoses		No
Level 1	Water Features - Restrict water use for decorative water features, such as fountains		No
Level 1	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Wash vehicles only using a hand-held hose equipped with a positive shut-off nozzle and a bucket, or a high pressure/low volume wash system	No
Level 1	CII - Lodging establishment must offer opt out of linen service		No
Level 1	CII - Other CII restriction or prohibition	Do not use single-pass cooling equipment in new commercial applications	No

Level 1	CII - Other CII restriction or prohibition	Use a water recirculation system for commercial conveyor car washes and all new commercial laundry systems	No
Level 1	Other	Run only fully loaded dishwashers and washing machines	No
Level 1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Repair all water leaks within five days of notification by the City of Poway	No
Level 1	Other - Prohibit use of potable water for construction and dust control	Use recycled or nonpotable water for construction purposes when available	No
Level 1	Landscape - Limit landscape irrigation to specific days	Reset irrigation clocks as necessary to water once per week in winter and not more than three times per week in summer	No
Level 1	Pools - Allow filling of swimming pools only when an appropriate cover is in place.	Add water to maintain the level of water in swimming pools and spas only when necessary. A pool cover shall be installed on all single-family residential pools and spas	No
Level 1	CII - Restaurants may only serve water upon request		No

Level 2	Landscape - Limit landscape irrigation to specific days	Landscape watering shall be conducted only in conformance with landscape watering schedules and restrictions for residential and commercial properties	Yes
Level 2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	All leaks must be repaired within 72 hours of notification	Yes
Level 2	Water Features - Restrict water use for decorative water features, such as fountains	If the mandatory reduction level is less than 15 percent, ornamental fountains or similar water features shall not be operated for more than six hours per day. If the mandatory reduction level is more than 15 percent, ornamental fountains shall not be operated unless reclaimed water is used	Yes
Level 2	Pools and Spas - Require covers for pools and spas	If the mandatory reduction level is less than 15 percent, pool covers shall be encouraged but not required. If the mandatory reduction level is more than 15 percent, pool covers will be required	Yes

Level 3	Landscape - Limit landscape irrigation to specific days	Landscape watering shall be conducted only in conformance with landscape watering schedules and restrictions for residential and commercial properties	Yes
Level 3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water	Vehicles shall not be washed except at commercial carwashes that recirculate water or by high pressure/low volume wash systems	Yes
Level 3	Other water feature or swimming pool restriction	Emptying and refilling of swimming pools and spas is prohibited	Yes
Level 3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	All leaks must be repaired within 48 hours of notification	Yes
Level 4	Landscape - Prohibit all landscape irrigation	With the exception of crops and landscape products of commercial growers or nurseries	Yes
Level 4	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	All leaks must be repaired within 24 hours of notification	Yes
NOTES: Level 1 measures may be mandatory with a penalty when separate action is taken by City Council. Level 1 measures are mandatory under Level 2 through 4 water supply conditions.			

Table 8-3 Retail Only: Stages of Water Shortage Contingency Plan - Consumption Reduction Methods		
Stage	Consumption Reduction Methods by Water Supplier ***Drop down list*** *These are the only categories that will be accepted by the WUEdata online submittal tool*	Additional Explanation or Reference *(optional)*
Add additional rows as needed		
All Levels	Offer Water Use Surveys	
All Levels	Provide Rebates on Plumbing Fixtures and Devices	
All Levels	Provide Rebates for Landscape Irrigation Efficiency	
All Levels	Provide Rebates for Turf Replacement	
Level 1	Expand Public Information Campaign	Ask customers to voluntarily reduce water by 10 percent, inform sutomers of the water use efficiency measures, and encourage customers to utilize the water conservation incentives and programs offered by the City of Poway.
Levels 2, 3, and 4	Other	The City Council may establish water allocations for propoerty receiving water service from the City of Poway.
Levels 2, 3, and 4	Implement or Modify Drought Rate Structure or Surcharge	The City Council may implement a conservation rate structure
Levels 3, and 4	Moratorium or Net Zero Demand Increase on New Connections	

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	14,491	14,768	15,299
NOTES: Supply calculated based upon SDCWA supply over next three years in addition to recycled water from the City of San Diego			

Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
	☐	☐
	☐	☐
	☐	☐
County Name *Drop Down List*	60 Day Notice	Notice of Public Hearing
Add additional rows as needed		
San Diego County	☑	☑
	☐	☐
	☐	☐

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Appendix C. AWWA Water Audit

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AWWA WLCC Free Water Audit Software: Reporting Worksheet

WAS v4.1

Back to Instructions

? Click to access definition

Water Audit Report for: City of Poway
Reporting Year: CY2014 | 1/2014 - 12/2014

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: ACRE-FEET PER YEAR

WATER SUPPLIED

<< Enter grading in column 'E'

Volume from own sources:	10	54.500	acre-ft/yr	
Master meter error adjustment (enter positive value):	7	202.000	over-registered	acre-ft/yr
Water imported:	10	12,308.000	acre-ft/yr	
Water exported:	10	252.800	acre-ft/yr	
WATER SUPPLIED:		11,907.700	acre-ft/yr	

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

Billed metered:	9	11,047.100	acre-ft/yr	
Billed unmetered:	n/a	0.000	acre-ft/yr	
Unbilled metered:	10	254.000	acre-ft/yr	Pcnt: Value:
Unbilled unmetered:	10	14.520	acre-ft/yr	14.520
AUTHORIZED CONSUMPTION:		11,315.620	acre-ft/yr	

Use buttons to select percentage of water supplied **OR** value

WATER LOSSES (Water Supplied - Authorized Consumption)

592.080 acre-ft/yr

Apparent Losses

Unauthorized consumption:		29.769	acre-ft/yr	Pcnt: 0.25% Value:

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

Customer metering inaccuracies:	9	163.950	acre-ft/yr	163.950
Systematic data handling errors:	7	75.000	acre-ft/yr	
Apparent Losses:		268.719		

Choose this option to enter a percentage of billed metered consumption. This is NOT a default value

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:		323.361	acre-ft/yr	
WATER LOSSES:		592.080	acre-ft/yr	

NON-REVENUE WATER

NON-REVENUE WATER: 860.600 acre-ft/yr

= Total Water Loss + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	10	263.0	miles	
Number of active AND inactive service connections:	9	14,653		
Connection density:		56	conn./mile main	
Average length of customer service line:	10	50.0	ft	(pipe length between curbstop and customer meter or property boundary)
Average operating pressure:	9	65.0	psi	

COST DATA

Total annual cost of operating water system:	10	$23,204,068	$/Year	
Customer retail unit cost (applied to Apparent Losses):	9	$4.04	$/100 cubic feet (ccf)	
Variable production cost (applied to Real Losses):	9	$1,447.30	$/acre-ft/yr	

PERFORMANCE INDICATORS

Financial Indicators

Non-revenue water as percent by volume of Water Supplied:	7.2%
Non-revenue water as percent by cost of operating system:	5.7%
Annual cost of Apparent Losses:	$472,899
Annual cost of Real Losses:	$468,000

Operational Efficiency Indicators

Apparent Losses per service connection per day:	16.37	gallons/connection/day
Real Losses per service connection per day*:	19.70	gallons/connection/day
Real Losses per length of main per day*:	N/A	
Real Losses per service connection per day per psi pressure:	0.30	gallons/connection/day/psi
Unavoidable Annual Real Losses (UARL):	110.59	million gallons/year
From Above, Real Losses = Current Annual Real Losses (CARL):	323.36	million gallons/year
Infrastructure Leakage Index (ILI) [CARL/UARL]:	0.95	

* only the most applicable of these two indicators will be calculated

WATER AUDIT DATA VALIDITY SCORE:

***** YOUR SCORE IS: 91 out of 100 *****

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

PRIORITY AREAS FOR ATTENTION:

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

1: Master meter error adjustment
2: Unauthorized consumption
3: Systematic data handling errors

For more information, click here to see the Grading Matrix worksheet

AWWA WLCC Free Water Audit Software: Water Balance

WAS v4.1

Water Audit Report For:	Report Yr:
City of Poway	CY2014

<table>
<tr><td rowspan="8">Own Sources
(Adjusted for known errors)
-147.500</td><td rowspan="8">Water Supplied
11,907.700</td><td rowspan="8">Water Exported
252.800</td><td rowspan="8">Billed Water Exported</td><td rowspan="2">Billed Authorized Consumption
11,047.100</td><td>Billed Metered Consumption (inc. water exported)
11,047.100</td><td rowspan="2">Revenue Water
11,047.100</td></tr>
<tr><td>Billed Unmetered Consumption
0.000</td></tr>
<tr><td rowspan="2">Unbilled Authorized Consumption
268.520</td><td>Unbilled Metered Consumption
254.000</td><td rowspan="6">Non-Revenue Water (NRW)
860.600</td></tr>
<tr><td>Unbilled Unmetered Consumption
14.520</td></tr>
<tr><td rowspan="3">Apparent Losses
268.719</td><td>Unauthorized Consumption
29.769</td></tr>
<tr><td>Customer Metering Inaccuracies
163.950</td></tr>
<tr><td>Systematic Data Handling Errors
75.000</td></tr>
<tr><td rowspan="3">Water Imported
12,308.000</td><td rowspan="3">Real Losses
323.361</td><td>Leakage on Transmission and/or Distribution Mains
Not broken down</td></tr>
<tr><td>Leakage and Overflows at Utility's Storage Tanks
Not broken down</td></tr>
<tr><td>Leakage on Service Connections
Not broken down</td></tr>
</table>

Authorized Consumption: **11,315.620**

Water Losses: **592.080**

Appendix D. SBx7-7 Verification Form

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SB X7-7 Table 0: Units of Measure Used in UWMP* *(select one from the drop down list)*
Acre Feet
**The unit of measure must be consistent with Table 2-3*

SB X7-7 Table-1: Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	14,150	Acre Feet
	2008 total volume of delivered recycled water	594	Acre Feet
	2008 recycled water as a percent of total deliveries	4.20%	Percent
	Number of years in baseline period[1]	10	Years
	Year beginning baseline period range	1999	
	Year ending baseline period range[2]	2008	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range[3]	2007	

[1] *If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period.*

[2] *The ending year must be between December 31, 2004 and December 31, 2010.*

[3] *The ending year must be between December 31, 2007 and December 31, 2010.*

SB X7-7 Table 2: Method for Population Estimates	
Method Used to Determine Population (may check more than one)	
☐	**1. Department of Finance** (DOF) DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
☐	**2. Persons-per-Connection Method**
☐	**3. DWR Population Tool**
☑	**4. Other** DWR recommends pre-review
NOTES: The City used adjusted Census data for baseline population figures. For 2015 and population projections, the City used adjusted SANDAG population projections. The City received approval from DWR to use both of these population sources.	

SB X7-7 Table 3: Service Area Population		
Year		Population
10 to 15 Year Baseline Population		
Year 1	1999	47,828
Year 2	2000	48,724
Year 3	2001	48,761
Year 4	2002	48,803
Year 5	2003	49,403
Year 6	2004	49,801
Year 7	2005	49,991
Year 8	2006	49,857
Year 9	2007	50,144
Year 10	2008	50,483
Year 11		
Year 12		
Year 13		
Year 14		
Year 15		
5 Year Baseline Population		
Year 1	2003	49,403
Year 2	2004	49,801
Year 3	2005	49,991
Year 4	2006	49,857
Year 5	2007	50,144
2015 Compliance Year Population		
2015		48,773

SB X7-7 Table 4: Annual Gross Water Use *								
	Baseline Year *Fm SB X7-7 Table 3*	**Volume Into Distribution System** *Fm SB X7-7 Table(s) 4-A*	**Deductions**					**Annual Gross Water Use**
			Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water *Fm SB X7-7 Table 4-B*	Water Delivered for Agricultural Use	Process Water *Fm SB X7-7 Table(s) 4-D*	
10 to 15 Year Baseline - Gross Water Use								
Year 1	1999	14,358	0	0	0	618	0	13,740
Year 2	2000	15,537	0	0	0	550	0	14,987
Year 3	2001	13,977	0	0	0	420	0	13,556
Year 4	2002	15,265	0	0	0	59	0	15,206
Year 5	2003	14,411	0	0	0	376	0	14,035
Year 6	2004	15,470	0	0	0	57	0	15,413
Year 7	2005	14,172	0	0	0	28	0	14,145
Year 8	2006	15,873	0	0	0	764	0	15,109
Year 9	2007	15,679	0	0	0	586	0	15,093
Year 10	2008	14,150	0	0	0	194	0	13,956
10 - 15 year baseline average gross water use								**14,524**
5 Year Baseline - Gross Water Use								
Year 1	2003	14,411	0	0	0	376	0	14,035
Year 2	2004	15,470	0	0	0	57	0	15,413
Year 3	2005	14,172	0	0	0	28	0	14,145
Year 4	2006	15,873	0	0	0	764	0	15,109
Year 5	2007	15,679	0	0	0	586	0	15,093
5 year baseline average gross water use								**14,759**
2015 Compliance Year - Gross Water Use								
2015		8,774	0	0	0	30	0	8,744
* NOTE that the units of measure must remain consistent throughout the UWMP, as reported in Table 2-3								

SB X7-7 Table 4-A: Volume Entering the Distribution System(s)
Complete one table for each source.

Name of Source	Source 1			
This water source is:				
☐	The supplier's own water source			
☑	A purchased or imported source			
Baseline Year *Fm SB X7-7 Table 3*		Volume Entering Distribution System	Meter Error Adjustment * *Optional (+/-)*	Corrected Volume Entering Distribution System
10 to 15 Year Baseline - Water into Distribution System				
Year 1	1999	14,358		14,358
Year 2	2000	15,537		15,537
Year 3	2001	13,977		13,977
Year 4	2002	15,265		15,265
Year 5	2003	14,411		14,411
Year 6	2004	15,470		15,470
Year 7	2005	14,172		14,172
Year 8	2006	15,873		15,873
Year 9	2007	15,679		15,679
Year 10	2008	14,150		14,150
Year 11	0			0
Year 12	0			0
Year 13	0			0
Year 14	0			0
Year 15	0			0
5 Year Baseline - Water into Distribution System				
Year 1	2003	14,411		14,411
Year 2	2004	15,470		15,470
Year 3	2005	14,172		14,172
Year 4	2006	15,873		15,873
Year 5	2007	15,679		15,679
2015 Compliance Year - Water into Distribution System				
2015		8,774		8,774

** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

SB X7-7 Table 4-C.1: Process Water Deduction Eligibility					
Criteria 1 Industrial water use is equal to or greater than 12% of gross water use					
Baseline Year *Fm SB X7-7 Table 3*		Gross Water Use Without Process Water Deduction	Industrial Water Use	Percent Industrial Water	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	1999	13,740	137	1%	NO
Year 2	2000	14,987	150	1%	NO
Year 3	2001	13,556	132	1%	NO
Year 4	2002	15,206	134	1%	NO
Year 5	2003	14,035	123	1%	NO
Year 6	2004	15,413	124	1%	NO
Year 7	2005	14,145	138	1%	NO
Year 8	2006	15,109	129	1%	NO
Year 9	2007	15,093	131	1%	NO
Year 10	2008	13,956	152	1%	NO
Year 11	0	#REF!			NO
Year 12	0	#REF!			NO
Year 13	0	#REF!			NO
Year 14	0	#REF!			NO
Year 15	0	#REF!			NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2003	14,035	123	1%	NO
Year 2	2004	15,413	124	1%	NO
Year 3	2005	14,145	138	1%	NO
Year 4	2006	15,109	129	1%	NO
Year 5	2007	15,093	131	1%	NO
2015 Compliance Year - Process Water Deduction Eligiblity					
2015		8,744	107	1%	NO

SB X7-7 Table 4-C.2: Process Water Deduction Eligibility					
Criteria 2 Industrial water use is equal to or greater than 15 GPCD					
Baseline Year *Fm SB X7-7 Table 3*		Industrial Water Use	Population	Industrial GPCD	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility					
Year 1	1999	137	47,828	3	NO
Year 2	2000	150	48,724	3	NO
Year 3	2001	132	48,761	2	NO
Year 4	2002	134	48,803	2	NO
Year 5	2003	123	49,403	2	NO
Year 6	2004	124	49,801	2	NO
Year 7	2005	138	49,991	2	NO
Year 8	2006	129	49,857	2	NO
Year 9	2007	131	50,144	2	NO
Year 10	2008	152	50,483	3	NO
Year 11	0		0		NO
Year 12	0		0		NO
Year 13	0		0		NO
Year 14	0		0		NO
Year 15	0		0		NO
5 Year Baseline - Process Water Deduction Eligibility					
Year 1	2003	123	49,403	2	NO
Year 2	2004	124	49,801	2	NO
Year 3	2005	138	49,991	2	NO
Year 4	2006	129	49,857	2	NO
Year 5	2007	131	50,144	2	NO
2015 Compliance Year - Process Water Deduction Eligibility					
2015		107	48,773	2	NO

SB X7-7 Table 4-C.3: Process Water Deduction Eligibility							
Criteria 3 Non-industrial use is equal to or less than 120 GPCD							
Baseline Year *Fm SB X7-7 Table 3*		Gross Water Use Without Process Water Deduction *Fm SB X7-7 Table 4*	Industrial Water Use	Non-industrial Water Use	Population *Fm SB X7-7 Table 3*	Non-Industrial GPCD	**Eligible for Exclusion Y/N**
10 to 15 Year Baseline - Process Water Deduction Eligibility							
Year 1	1999	13,740	137	13,604	47,828	254	NO
Year 2	2000	14,987	150	14,837	48,724	272	NO
Year 3	2001	13,556	132	13,424	48,761	246	NO
Year 4	2002	15,206	134	15,072	48,803	276	NO
Year 5	2003	14,035	123	13,912	49,403	251	NO
Year 6	2004	15,413	124	15,289	49,801	274	NO
Year 7	2005	14,145	138	14,007	49,991	250	NO
Year 8	2006	15,109	129	14,980	49,857	268	NO
Year 9	2007	15,093	131	14,962	50,144	266	NO
Year 10	2008	13,956	152	13,804	50,483	244	NO
5 Year Baseline - Process Water Deduction Eligibility							
Year 1	2003	14,035	123	13,912	49,403	251	NO
Year 2	2004	15,413	124	15,289	49,801	274	NO
Year 3	2005	14,145	138	14,007	49,991	250	NO
Year 4	2006	15,109	129	14,980	49,857	268	NO
Year 5	2007	15,093	131	14,962	50,144	266	NO
2015 Compliance Year - Process Water Deduction Eligiblity							
2015		8,744	107	8,637	48,773	158	NO

SB X7-7 Table 4-C.4: Process Water Deduction Eligibility				
Criteria 4 Disadvantaged Community *Use IRWM DAC Mapping tool* http://www.water.ca.gov/irwm/grants/resources_dac.cfm				
California Median Household Income		Service Area Median Household Income	Percentage of Statewide Average	**Eligible for Exclusion? Y/N**
2015 Compliance Year - Process Water Deduction Eligibility				
2010	$53,046	$94,000	177%	NO
A "Disadvantaged Community" is a community with a median household income less than 80 percent of the statewide average.				

SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Annual Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1999	47,828	13,740	256
Year 2	2000	48,724	14,987	275
Year 3	2001	48,761	13,556	248
Year 4	2002	48,803	15,206	278
Year 5	2003	49,403	14,035	254
Year 6	2004	49,801	15,413	276
Year 7	2005	49,991	14,145	253
Year 8	2006	49,857	15,109	271
Year 9	2007	50,144	15,093	269
Year 10	2008	50,483	13,956	247
10-15 Year Average Baseline GPCD				**263**
5 Year Baseline GPCD				
Baseline Year *Fm SB X7-7 Table 3*		Service Area Population *Fm SB X7-7 Table 3*	Gross Water Use *Fm SB X7-7 Table 4*	Daily Per Capita Water Use
Year 1	2003	49,403	14,035	254
Year 2	2004	49,801	15,413	276
Year 3	2005	49,991	14,145	253
Year 4	2006	49,857	15,109	271
Year 5	2007	50,144	15,093	269
5 Year Average Baseline GPCD				**264**
2015 Compliance Year GPCD				
2015		48,773	8,744	160

SB X7-7 Table 6: Gallons per Capita per Day *Summary From Table SB X7-7 Table 5*	
10-15 Year Baseline GPCD	263
5 Year Baseline GPCD	264
2015 Compliance Year GPCD	160

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

SB X7-7 Table 7-A: Target Method 1 20% Reduction	
10-15 Year Baseline GPCD	2020 Target GPCD
263	210

SB X7-7 Table 7-E: Target Method 3				
Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
☐		North Coast	137	130
☐		North Lahontan	173	164
☐		Sacramento River	176	167
☐		San Francisco Bay	131	124
☐		San Joaquin River	174	165
☐		Central Coast	123	117
☐		Tulare Lake	188	179
☐		South Lahontan	170	162
☑	100%	South Coast	149	142
☐		Colorado River	211	200
Target *(If more than one region is selected, this value is calculated.)*				**142**

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target			
5 Year Baseline GPCD *From SB X7-7 Table 5*	Maximum 2020 Target*	Calculated 2020 Target *Fm Appropriate Target Table*	Confirmed 2020 Target
264	251	210	210
** Maximum 2020 Target is 95% of the 5 Year Baseline GPCD*			

SB X7-7 Table 8: 2015 Interim Target GPCD		
Confirmed 2020 Target *Fm SB X7-7 Table 7-F*	10-15 year Baseline GPCD *Fm SB X7-7 Table 5*	2015 Interim Target GPCD
210	263	236

SB X7-7 Table 9: 2015 Compliance								
Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments *(in GPCD)*					2015 GPCD *(Adjusted if applicable)*	Did Supplier Achieve Targeted Reduction for 2015?
		Extraordinary Events	Weather Normalization	Economic Adjustment	TOTAL Adjustments	Adjusted 2015 GPCD		
160	236	*From Methodology 8 (Optional)*	*From Methodology 8 (Optional)*	*From Methodology 8 (Optional)*	0	160	160	YES

Appendix E. Water Conservation Plan

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AGENDA REPORT SUMMARY

TO: Honorable Mayor and Members of the City Council

FROM: Rod Gould, City Manager RG

INITIATED BY: Tina White, Director of Administrative Services TMW

DATE: November 18, 2008

SUBJECT: Adoption of an Ordinance Repealing Ordinance 408 and Enacting Poway Municipal Code Chapter 8 94 – Water Conservation Plan

ABSTRACT

Changes are proposed to the City's Water Conservation Plan, Chapter 8 94 of the Poway Municipal Code, adopted in 1993 Proposed changes to the ordinance were initially discussed with the City Council at a workshop on August 5, 2008 Staff drafted the revised ordinance based on City Council direction at the workshop and using the model ordinance developed by the San Diego County Water Authority and its 24 member agencies The new ordinance identifies four water shortage response levels and the corresponding water use restrictions, as well as water use efficiency measures applicable at all times and provisions for enforcement of the ordinance

ENVIRONMENTAL REVIEW

The ordinance is Categorically Exempt from the provisions of the California Environmental Quality Act (CEQA) as a Class 7 Categorical Exemption pursuant to Section 15307 of the CEQA Guidelines, actions by regulatory agencies for the protection of natural resources

FISCAL IMPACT

None

PUBLIC NOTIFICATION AND CORRESPONDENCE

A notice of public hearing was published in the *Poway News Chieftain* on November 6, 2008

RECOMMENDATION

Staff recommends that the City Council hold the first reading, waive further reading, and continue the public hearing for the second reading and adoption of the Ordinance on December 2, 2008 At the time of the second reading, the staff report will also include a resolution to declare that the City of Poway is at Level 1 This equates to Stage I of the current ordinance, which the City Council declared in January 2008

ACTION

Motion by Deputy Mayor Emery and Seconded by Councilmember Boyack to waive further reading of the Ordinance, and continue the public hearing to December 2, 2008 for second reading and adoption of the Ordinance Motion carried unanimously

Linda A. Troyan, MMC, City Clerk

CITY OF POWAY
AGENDA REPORT

TO: Honorable Mayor and Members of the City Council

FROM: Rod Gould, City Manager RG

INITIATED BY Tina White, Director of Administrative Services TW
Dennis Quillen, Assistant Director of Public Works
Kristen Mignone Crane, Water Conservation Administrator

DATE. November 18, 2008

SUBJECT Adoption of an Ordinance Repealing Ordinance 408 and Enacting Poway Municipal Code Chapter 8 94 – Water Conservation Plan

BACKGROUND

Changes are proposed to the City's existing Water Conservation Plan, Chapter 8 94 of the Poway Municipal Code, adopted in 1993 Since mandatory water restrictions for 2009 are increasingly likely, amendments are necessary to make the code more useful for City staff and water customers

At the August 5, 2008, City Council Workshop, the current water supply challenge facing the region was discussed, as well as proposed changes to the water conservation ordinance Staff drafted a revised water conservation ordinance based on City Council direction

FINDINGS

Preparations for Mandatory Water Restrictions

Anticipating mandatory water restrictions in 2009, staff is identifying the tools and systems that should be in place to ensure the City of Poway is prepared. An updated water conservation ordinance is one necessary tool. Other tools might include additional public education, changes to the water billing system (to monitor and communicate customer progress), rate structure options, and enforcement.

Staff continues to look for innovative drought management strategies from around Southern California and the nation As staff identifies innovative drought management tools, we will look for methods that are pragmatic, equitable, measurable, and administratively and cost effective Regionally, there is on-going dialogue about how each water agency is planning to implement mandatory water restrictions in its service area. In January, staff will return to the City Council for a discussion on other drought management tools to consider, such as allocations, rates, public education, and possibly new incentives.

City staff participated in a process led by the San Diego County Water Authority (SDCWA) to develop a new model water conservation ordinance for the region Water agencies in the San Diego region were criticized in the early 1990s because of inconsistency in how they responded to that drought. All 24 water agencies contributed to development of the new model ordinance To date, fourteen water agencies have adopted the new ordinance The remaining agencies anticipate adoption of their ordinances this fall.

Goals of the proposed ordinance include

- Increased **regional consistency** to ensure a similar public message,
- **Simplification** – The proposed ordinance has four levels instead of seven, and
- Tying the ordinance to the **SDCWA Drought Management Plan**, to provide agencies with clarity on when to move to the next level.

Staff reviewed the model and developed language for Poway's new ordinance based on the needs of the Poway community At the August 5, 2008, workshop, staff introduced the proposed ordinance and sought City Council direction on several key policies Based on Council direction, the final language for the new ordinance was developed (Attachment A)

Modifications since August 5th Workshop

At the August workshop, representatives from one golf course voiced concern about the proposed watering schedule restrictions, requesting instead that golf courses self-manage the most efficient way to use their water supply Staff met with representatives of both golf courses located in Poway to discuss an alternative Rather than limit golf courses to specific watering schedule restrictions, they will be required to achieve the same mandatory water reduction level as the City of Poway is required to achieve as an agency The golf courses concur with this approach During our meeting, one golf course also advocated that, in the event of a water allocation, customers be given credit (in the form of relief from the required allocation level) for water-saving devices and practices implemented prior to the allocation. Staff is considering and evaluating how we might be able to account for previous water-savings actions in the event of water allocations Staff will present the mechanics of water allocation calculations to the City Council in the future for consideration as a drought management tool

As we considered the golf course's concerns, we also reevaluated drought management plans for City parks and public landscaped areas. Like golf courses, parks and public landscaped areas maintained by the City are irrigated using the latest water-efficient technology Therefore, the best approach to achieve the necessary savings and ensure these areas remain as green as possible – both as a respite for the community and to maintain the City's investment - is to allow staff flexibility to determine how/when watering occurs, as long as the mandatory reduction amount is achieved To accomplish this, all City accounts will be evaluated in combination compared to the SDCWA mandatory allocation level for Poway as a water agency This change is reflected in the proposed ordinance

Proposed Ordinance

The following chart outlines major differences between Poway's existing ordinance from 1993 and the proposed ordinance Though the proposed Poway ordinance is very similar to the regional model, modifications have been made to meet Poway's needs

Current Ordinance	Proposed Ordinance
Stages/Levels	
7 stages	4 levels
Stage I – "Use Water Wisely" Stage II – Reduce by 10% Stage III – Reduce by 10-19%	Level 1 – Aims for a 10% reduction, Identifies specific savings practices, which would be mandatory at Level 1 upon separate Council action
Stage IV - 20-29% reduction required	Level 2 – Up to 20% reduction required
Stage V – 30-39% reduction required	Level 3 – Up to 40% reduction required
Stage VI – 40-49% reduction required	Level 4 – Reductions above 40% required
Stage VII – Requires reductions of 50% or more	Not Applicable
Water Use Efficiency Measures to Reduce Water Waste at all Times	
Not Included	Proposed ordinance includes good water management practices applicable at all times to encourage responsible water use Examples Avoid washing down paved surfaces, other than for safety or sanitary purposes, Only run decorative fountains using a recirculation system, Repair leaks within five days Including these water management practices brings Poway into compliance with one California water conservation best management practice Several of these practices are already required under the stormwater pollution prevention program
Limitations on Development	
At Stage IV (up to 29% reductions), new meters available on a limited basis, with use of off-sets At Stage VI (up to 49% reductions), no building permits which require new/expanded water service, except for public health, safety, welfare At Stage VII (over 50% reductions), no new water meters issued, except to protect public health, safety, or welfare	Limitations on new meters (temporary and permanent) at Level 3 (up to 40% reductions for the general public), as well as a suspension of annexations to the agency's water service area. Would require separate City Council action at Level 3 to implement.
Allows for "conservation offset" for new development at Stage IV (e g 20-29% reductions)	Allows for "conservation offset" and water-efficient technology for new development at Level 3 (e g. up to 40% reductions), subject to City Manager approval.
Provisions for postponement of new landscaping	Provides for postponement of new required landscaping and modification to watering schedule restrictions to establish new water-wise landscaping

Current Ordinance	Proposed Ordinance
Enforcement	
Allows for an exemption or adjustment process	Allows for "hardship variance" requests to be reviewed by the City Manager Language is more specific than current ordinance about making findings for granting requests. This language keeps Poway consistent with the region.
Calls for an Appeals Board appointed by the City Council.	Appeals process would be the same as that established by the Poway Municipal Code for administrative citations, using an independent hearing officer
1st/ 2nd Violations – Warning Letter 3rd Violation - $50 00 water bill surcharge 4th Violation – Citation with a $100 fine Subsequent within one-year - $200 surcharge and flow restrictor	1st Violation – Warning 2nd Violation - $100 surcharge on water bill 3rd Violation - $200 surcharge on water bill Each Additional Violation - $500 surcharge Possibility of flow restrictors

Several additional points regarding the proposed ordinance

- Watering schedule restrictions (such as how many days per week or how long each day) are not detailed in the ordinance They will be established through administrative policy by the City Manager

- The ordinance language allows flexibility for the City to consider customer allocations and conservation rate structures beginning at Level 2 (up to 20% reductions) Actual rates and allocation methodology would be adopted through separate City Council action

Because significant changes to PMC Chapter 8 94 are proposed, staff recommends repealing the existing ordinance and replacing it entirely with the new language

ENVIRONMENTAL REVIEW

The ordinance is Categorically Exempt from the provisions of the California Environmental Quality Act (CEQA) as a Class 7 Categorical Exemption pursuant to Section 15307 of the CEQA Guidelines, actions by regulatory agencies for the protection of natural resources

FISCAL IMPACT

None

PUBLIC NOTIFICATION AND CORRESPONDENCE

A notice of public hearing was published in the *Poway News Chieftain* on November 6, 2008

RECOMMENDATION

Staff recommends that the City Council hold the first reading, waive further reading, and continue the public hearing for the second reading and adoption of the Ordinance on December 2, 2008 At the time of the second reading, the staff report will also include a resolution to declare that the City of Poway is at Level 1 This equates to Stage I of the current ordinance, which the City Council declared in January 2008

RG TW dq kmc

Attachments A. An Ordinance of the City Council of the City of Poway, California Repealing Ordinance No 408 and Enacting Chapter 8 94 of the Poway Municipal Code Entitled, "Water Conservation Plan."

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ORDINANCE No _____

AN ORDINANCE OF THE CITY OF POWAY, CALIFORNIA, REPEALING ORDINANCE NO 408 AND ENACTING CHAPTER 8 94 OF THE POWAY MUNICIPAL CODE ENTITLED, "WATER CONSERVATION PLAN"

WHEREAS, on March 16, 1993, the City Council of Poway adopted a water conservation program by Ordinance No 408, and

WHEREAS, article 10, section 2 of the California Constitution declares that waters of the State are to be put to beneficial use, that waste, unreasonable use, or unreasonable method of use of water be prevented, and that water be conserved for the public welfare, and

WHEREAS, conservation of current water supplies and minimization of the effects of water supply shortages that are the result of drought are essential to public health, safety and welfare, and

WHEREAS, regulation of the time of certain water use, manner of certain water use, design of rates, method of application of water for certain uses, and installation and use of water-saving devices, provide an effective and immediately available means of conserving water; and

WHEREAS, California Water Code sections 375 et seq authorize water suppliers to adopt and enforce a comprehensive water conservation program, and

WHEREAS, adoption and enforcement of a comprehensive water conservation program will allow the City of Poway to delay or avoid implementing measures such as water rationing or more restrictive water use regulations pursuant to a declared water shortage emergency as authorized by California Water Code sections 350 et seq , and

WHEREAS, San Diego County is a semi-arid region and local water resources are scarce The region is dependent upon imported water supplies provided by the San Diego County Water Authority, which obtains a substantial portion of its supplies from the Metropolitan Water District of Southern California Because the region is dependent upon imported water supplies, weather and other conditions in other portions of this State and of the Southwestern United States affect the availability of water for use in San Diego County; and

WHEREAS, the San Diego County Water Authority has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of the Water Authority's programs to provide a reliable supply of water to meet the needs of the Water Authority's 24 member public agencies, including the City of Poway The Water Authority's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages This Ordinance is consistent with the Water Authority's Urban Water Management Plan, and

WHEREAS, as anticipated by its Urban Water Management Plan, the San Diego County Water Authority, in cooperation and consultation with its member public agencies, has adopted a Drought Management Plan, which establishes a progressive program for responding to water supply limitations resulting from drought conditions This Ordinance is intended to be consistent with and to implement the Water Authority's Drought Management Plan, and

WHEREAS, the Water Authority's Drought Management Plan contains three stages containing regional actions to be taken to lessen or avoid supply shortages This Ordinance contains drought response levels that correspond with the Drought Management Plan stages, and

WHEREAS, the City of Poway, due to the geographic and climatic conditions within its territory and its dependence upon water imported and provided by the San Diego County Water Authority, may experience shortages due to drought conditions, regulatory restrictions enacted upon imported supplies and other factors The City of Poway has adopted an Urban Water Management Plan that includes water conservation as a necessary and effective component of its programs to provide a reliable supply of water to meet the needs of the public within its service territory The City of Poway's Urban Water Management Plan also includes a contingency analysis of actions to be taken in response to water supply shortages This Ordinance is consistent with the Urban Water Management Plan adopted by the City of Poway; and

WHEREAS, the water conservation measures and progressive restrictions on water use and method of use identified by this Ordinance provide certainty to water users and enable the City of Poway to control water use, provide water supplies, and plan and implement water management measures in a fair and orderly manner for the benefit of the public.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF POWAY DOES ORDAIN AS FOLLOWS, that pursuant to Section 375 et seq of the California Water Code, that Ordinance 408 is repealed and Chapter 8 94 of the Poway Municipal Code is repealed and replaced by a new Chapter 8 94 as follows

Section 1 Chapter 8 94 of the Poway Municipal Code is adopted as follows, and repeals and replaces existing Chapter 8 94

Chapter 8 94
WATER CONSERVATION PLAN

8 94 010 Declaration of Necessity and Intent.

A. This Ordinance establishes water management requirements necessary to conserve water, enable effective water supply planning, assure reasonable and beneficial use of water, prevent waste of water, prevent unreasonable use of water, prevent unreasonable methods of use of water within the City of Poway in order to assure adequate supplies of water to meet the needs of the public, and further the public health, safety, and welfare, recognizing that water is a scarce natural resource that requires careful management not only in times of drought, but at all times.

B This Ordinance establishes water use efficiency measures applicable to all persons or businesses using City of Poway water at all times to increase water efficiency

C This Ordinance establishes regulations to be implemented during times of declared water shortages, or declared water shortage emergencies. It establishes four levels of water conservation actions to be implemented in times of shortage, with increasing restrictions on water use in response to worsening water supply conditions and decreasing available supplies.

D Level 1 water conservation measures are voluntary and will be reinforced through local and regional public education and awareness measures During water conservation Levels 2 through 4, conservation measures and water-use restrictions are mandatory and become increasingly restrictive in order to attain escalating conservation goals Violations may be subject to criminal, civil, and administrative penalties and remedies specified in this Ordinance and as provided in the Poway Municipal Code

8 94 020 Definitions

As used in this Chapter:

1 "Active park and school ground areas" means those areas designated by public agencies and private schools for specific sporting and recreational activities and areas traditionally used for active play or recreation, where turf is an integral part of the activity All other turf areas shall be considered ornamental
2. "Agency" means the City of Poway
3 "City Manager" means City of Poway City Manager or the City Manager's designee

4 "Devices" shall mean any method utilized to conserve potable or reclaimed water supplies or to offset existing potable or reclaimed water supplies.
5 "DMP" means the Water Authority's Drought Management Plan in existence on the effective date of this Ordinance and as readopted or amended from time to time, or an equivalent plan of the Water Authority to manage or allocate supplies during shortages.
6 "Fire Protection" means actions for prevention or suppression of fires as directed by the Fire Marshal or fire prevention officer with jurisdiction over the local area involved
7 "Golf courses" means the ground or course over which golf is played for commercial recreational use A standard full-scale golf course encompasses 125 to 175 acres, usually with 18 holes varying from 100 to 650 yards in length from tee to cup Shall also be defined to include areas owned by the same entity associated with the golf course for practice, ornamentation, recreation, and/or hospitality, including structures.
8 "Greywater" means household water other than toilet water, including, but not limited to water from the laundry, shower, tub, bathroom, and kitchen sinks The exception mentioned for greywater depends solely upon approval of such use by the San Diego County Department of Health Services
9 "Grower" refers to persons engaged in the growing or raising, in conformity with recognized practices of husbandry, for the purpose of commerce, trade, or industry, or for use by public educational or correctional institutions, of agricultural, horticultural or floricultural products, and produced (1) for human consumption or for the market, or (2) for the feeding of fowl or livestock produced for human consumption or for the market, or (3) for the feeding of fowl or livestock for the purpose of obtaining their products for human consumption or for the market. "Grower" does not refer to customers who purchase water subject to the Metropolitan Interim Agricultural Water Program or the Water Authority Special Agricultural Rate programs
10 "Metropolitan" means the Metropolitan Water District of Southern California
11 "Micro irrigation systems/equipment" means low pressure, low volume methods of water application These devices include drip emitters, T-tape, microsprayers, a-jets, mini-sprinklers, twirlers, and spaghetti tubing Pop-up sprinklers are not considered low-volume, low-pressure irrigation systems/equipment.
12. "Person" means any natural person, corporation, public or private entity, public or private association, public or private agency, government agency or institution, school district, college, university, or any other user of water provided by the City of Poway
13 "Potable Water" means water delivered by the City, which meets drinking water standards, or raw water delivered by the San Diego County Water Authority
14 "Reclaimed Water" means water which, as a result of treatment of wastewater, is suitable for a direct beneficial use or controlled use that would not otherwise occur
15 "Recreational and Ornamental Lakes and Ponds" means bodies of water, which are not swimming pools or water storage reservoirs for potable water or irrigation purposes
16 "Water Authority" means the San Diego County Water Authority
17 "Water Used for Agriculture" means water used to irrigate an agricultural crop or trees

8 94 030 Application

A. The provisions of this Ordinance apply to any person using any water, other than reclaimed water, provided by the City of Poway

B This Ordinance is intended solely to further the conservation of water It is not intended to implement any provision of federal, state, or local statutes, ordinances, or regulations relating to protection of water quality or control of drainage or runoff

C Nothing in this Ordinance is intended to affect or limit the ability of the City of Poway to declare and respond to an emergency, including an emergency that affects the ability of the City of Poway to supply water

D In the event of a local water supply emergency, for reasons that may or may not be related to the San Diego County Water Authority and/or its Drought Management Plan, the City Manager, acting as Director of Emergency Services, may immediately declare the appropriate water shortage response level pursuant to his or her powers under PMC 2 12 060, to be confirmed by the City Council at the earliest practical time

E. The provisions of this Ordinance do not apply to use of water from private wells or to reclaimed water

F Nothing in this Ordinance shall apply to use of water that is subject to a special supply program, such as the Metropolitan Interim Agricultural Water Program or the Water Authority Special Agricultural Rate programs. Violations of the conditions of special supply programs are subject to the penalties established under the applicable program. A person using water subject to a special supply program and other water provided by the City of Poway is subject to this Ordinance in the use of the water that is not subject to the special supply program.

8 94 040 Water Use Efficiency Measures

A. No water customer of the City of Poway shall knowingly make, cause, use or permit the use of water from the City for residential, commercial, industrial, agricultural, governmental or any other purpose in a manner contrary to any provision of this Chapter, or in an amount in excess of that use permitted by the conservation stages hereinafter designated, which are in effect pursuant to action taken by the City Manager in accordance with the provisions of this Chapter

B Good water management practices dictate that water be used wisely and not wasted at any time The following water use efficiency measures apply on a voluntary basis at all times, apply on a mandatory basis during a Water Shortage Level 1 based upon separate action of the City Council; and apply on a mandatory basis automatically during a Water Shortage Level 2, 3, or 4

1 Do not wash down paved surfaces, including but not limited to sidewalks, driveways, parking lots, tennis courts, or patios, except when necessary to alleviate safety or sanitation hazards.
2. Do not allow water waste from inefficient landscape irrigation, such as runoff, low head drainage, or overspray and do not allow water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.
3 Irrigate residential and commercial landscape before 10:00 a m. and after 6:00 p m. only
4 Use only a hand-held hose equipped with a positive shut-off nozzle or bucket to water landscaped areas, including trees and shrubs located on residential and commercial properties that are not irrigated by a landscape irrigation system.
5 Irrigate nursery and commercial grower's products before 10:00 a.m. and after 6:00 p.m. only Watering is permitted at any time using a hand-held hose equipped with a positive shut-off nozzle, a bucket, or when a drip/micro-irrigation system/equipment is used Irrigation of nursery propagation beds is permitted at any time Water for livestock is permitted at any time
6 Use only recirculated water to operate ornamental fountains
7 Wash vehicles only using a bucket and a hand-held hose with positive shut-off nozzle, mobile high pressure/low volume wash system, or at a commercial site that re-circulates (reclaims) water on-site Do not wash vehicles during hot conditions when additional water is required due to evaporation.
8 Offer guests in hotels, motels, and other commercial lodging establishments the option of not laundering towels and linens daily
9 Do not use single-pass cooling equipment in new commercial applications, including, but not limited to air conditioners, air compressors, vacuum pumps, and ice machines
10 Use a water recirculation system for commercial conveyor car washes and all new commercial laundry systems
11 Run only fully loaded dishwashers and washing machines
12 Repair all water leaks within five (5) days of notification by the City of Poway, unless other arrangements are made with the City Manager
13 Use recycled or non-potable water for construction purposes to the fullest extent possible when available

8 94 050 Conservation Levels

A. Level 1 – Water Shortage Watch

1 Activation

A Water Shortage Response Level 1 condition is also referred to as a "Water Shortage Watch" condition A Level 1 condition applies when the Water Authority notifies its member agencies that due to drought or other supply reductions, there is a reasonable probability there will be supply shortages and that a consumer demand reduction of up to 10 percent is required in order to ensure that sufficient supplies will be available to meet anticipated demands

2. Procedure

A Water Shortage Response Level 1 condition may be declared by the City Manager upon a written determination of the existence of facts and circumstances supporting the determination A copy of the written determination shall be filed with the City Clerk and provided to the City Council. The City Manager shall publish a notice of the determination of the existence of the Water Shortage Response Level 1 condition in one or more newspapers, including a newspaper of general circulation used for publication of official notices. The City of Poway may also post notice of condition on their website

During a Level 1 Water Shortage Watch condition, the City of Poway will increase its public education and outreach efforts to

a. Ask customers to voluntarily reduce water use by 10 percent.
b Inform customers of the water use efficiency measures listed in Section 8 94 040
c. Encourage customers to utilize the water conservation incentives and programs offered by the City of Poway and its suppliers

During a Level 1 Water Shortage Watch condition, the water use efficiency measures identified in Section 8 94 040 may become mandatory upon separate action of the City Council and are subject to the enforcement provisions identified in PMC Chapters 1 08 and 1 10, and PMC 8 94 150

The City Council may declare an end to a Water Shortage Response Level by adoption of a resolution at any regular or special meeting held in accordance with State law

3 Water Use Restrictions

During a Level 1 Water Shortage Watch condition, in addition to the measures listed in PMC 8 94 040, the following measures are applicable on a voluntary basis to increase water use efficiency, unless made mandatory by action of the City Council:

a Reset irrigation clocks as necessary to water once per week in winter, and not more than three times per week in summer

b Add water to maintain the level of water in swimming pools and spas only when necessary (to ensure proper operation of the pool filter) A cover shall be installed on all single-family residential pools and spas

c. Serve and refill water in restaurants and other food service establishments only upon request.

B Level 2 – Water Shortage Alert

1 Activation

A Water Shortage Level 2 condition is also referred to as a "Water Shortage Alert" condition. A Level 2 condition applies when the Water Authority notifies its member agencies that due to cutbacks caused by drought or other reduction in supplies, a consumer demand reduction of up to 20 percent is required in order to have sufficient supplies available to meet anticipated demands.

2. Procedure

The City Manager may declare a Water Shortage Response Level 2 and implement the mandatory Level 2 conservation measures identified in this Ordinance, with ratification by the City Council by resolution at their next regularly scheduled City Council meeting held in accordance with State law The mandatory conservation measures applicable to a Water Shortage Response Level 2 condition shall take effect on the tenth (10th) day after the date the response level is declared Within five (5) days following the declaration of the response level, the City shall publish a copy of the resolution in a newspaper of general circulation used for publication of official notices. The City of Poway may also post notice of condition on their website

The City Council may declare an end to a Water Shortage Response Level by adoption of a resolution at any regular or special meeting held in accordance with State law

3 Water Use Restrictions

During a Level 2 Water Shortage Alert, the water use efficiency measures identified in Section 8 94 040 and at Level 1 Water Shortage Watch are mandatory for all persons using City of Poway water in addition to the following mandatory conservation measures

a. Landscape watering shall be conducted only in conformance with landscape watering schedules and restrictions for commercial and residential properties approved by the City Manager The watering schedule and restrictions may address factors such as how many days during the week, which days of the week, the amount of time per watering station, and other pertinent details Watering of landscaped areas that are not irrigated by a landscape irrigation system shall be subject to the same watering schedule and restrictions, using a bucket, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation

b All leaks shall be repaired within seventy-two (72) hours of notification by the City of Poway, unless other arrangements are made with the City Manager

c. Ornamental fountains or similar decorative water features shall not be operated unless reclaimed water is used.

4 Allocation

During a Level 2 Water Shortage Alert, the City of Poway is authorized by action of the City Council to establish a water allocation for property receiving water service from the City of Poway, and to establish a penalty for any person that uses water in excess of their allocation

5 Rate Structure

During a Water Shortage Response Level 2 condition, in addition to water use restrictions, the City is authorized by action of the City Council, to implement a conservation rate structure designed to encourage water conservation. This rate structure may also include penalties to be used during periods of water allocation

C Level 3 – Water Shortage Critical

1 Activation

A Water Shortage Level 3 condition is also referred to as a "Water Shortage Critical" condition. A Level 3 condition applies when the Water Authority notifies its member agencies that due to increasing cutbacks caused by drought or other reduction of supplies, a consumer demand reduction of up to 40 percent

is required in order to have sufficient supplies available to meet anticipated demands.

2 Procedure

The City Manager may declare a Water Shortage Response Level 3 and implement the mandatory Level 3 conservation measures identified in this Ordinance, with ratification by the City Council by resolution at their next regularly scheduled City Council meeting held in accordance with State law The mandatory conservation measures applicable to a Water Shortage Response Level 3 condition shall take effect on the tenth (10th) day after the date the response level is declared Within five (5) days following the declaration of the response level, the City shall publish a copy of the resolution in a newspaper of general circulation used for publication of official notices The City of Poway may also post notice of condition on their website

The City Council may declare an end to a Water Shortage Response Level by adoption of a resolution at any regular or special meeting held in accordance with State law

3 Water Use Restrictions

All persons using City of Poway water shall comply with Level 1 Water Shortage Watch and Level 2 Water Shortage Alert water conservation practices during a Level 3 Water Shortage Critical condition and shall also comply with the following additional mandatory conservation measures

a Landscape watering shall be conducted only in conformance with landscape watering schedules and restrictions for commercial and residential properties approved by the City Manager, which may be further restricted from the Level 1 requirements. The watering schedule and restrictions may address factors such as how many days during the week, which days of the week, the amount of time per watering station, and other pertinent details. Watering of landscaped areas that are not irrigated by a landscape irrigation system shall be subject to the same watering schedule and restrictions, using a bucket, hand-held hose with positive shut-off nozzle, or low-volume non-spray irrigation.

b Vehicles shall not be washed except at commercial carwashes that re-circulate water, or by high pressure/low volume wash systems

c. Emptying and refilling of swimming pools and spas is prohibited unless approved by the City Manager

d All leaks shall be repaired within forty-eight (48) hours of notification by the City of Poway unless other arrangements are made with the City Manager

4 Upon the declaration of a Water Shortage Response Level 3 condition and by separate action of the City Council, the City of Poway is authorized to mandate that no new potable water service shall be provided, no new temporary meters or permanent meters shall be provided, and no statements of immediate ability to serve or provide potable water service (such as, will serve letters, certificates, or letters of availability) shall be issued, unless findings are made that one or more of the following circumstances applies.

a A valid, unexpired building permit has been issued for the project; or

b The project is necessary to protect the public's health, safety, and welfare, or

c The applicant provides substantial evidence prior to the provision of a new water meter(s) of an enforceable commitment that water demands for the project will be offset to the satisfaction of the City of Poway; or

d. The City may allow new development to utilize conservation offsets and/or water-efficient technology in order to connect to the City's water system and access the City's water supply

This provision shall not be construed to preclude the resetting or turn-on of meters to provide continuation of water service or to restore service that has been interrupted for a period of one year or less

5 Upon the declaration of a Water Shortage Response Level 3 condition and by separate action of the City Council, the City of Poway is authorized to suspend consideration of annexations to its service area.

6 Allocation

During a Level 3 Water Shortage Alert, the City of Poway is authorized by action of the City Council to establish a water allocation for property receiving water service from the City of Poway, and to establish a penalty for any person that uses water in excess of their allocation

7 Rate Structure

During a Water Shortage Response Level 3 condition, in addition to water use restrictions, the City is authorized by action of the City Council, to implement a conservation rate structure designed to encourage water conservation This rate structure may also include penalties to be used during periods of water allocation.

D Level 4 – Water Shortage Response Emergency

1 Activation

A Water Shortage Level 4 condition is also referred to as a "Water Shortage Emergency" condition. A Level 4 condition applies when the Water Authority Board of Directors declares a water shortage emergency pursuant to California Water Code section 350 and notifies its member agencies that Level 4 requires a demand reduction of more than 40 percent in order for the City of Poway to have sufficient supplies available to meet anticipated demands

2 Procedure

The City of Poway shall declare a Water Shortage Emergency in the manner and on the grounds provided in California Water Code section 350 The mandatory conservation measures applicable to a Water Shortage Response Level 4 condition shall take effect on the tenth (10th) day after the date the response level is declared Within five (5) days following the declaration of the response level, the City shall publish a copy of the resolution in a newspaper of general circulation used for publication of official notices The City of Poway may also post notice of condition on their website

The City Council may declare an end to a Water Shortage Response Level by adoption of a resolution at any regular or special meeting held in accordance with State law

3 Water Use Restrictions

All persons using City of Poway water shall comply with conservation measures required during Level 1 Water Shortage Watch, Level 2 Water Shortage Alert, and Level 3 Water Shortage Critical conditions, and shall also comply with the following additional mandatory conservation measures

a Do not irrigate landscape, except crops and landscape products of commercial growers and nurseries This restriction shall not apply to the following categories of use (unless the City of Poway has determined that recycled water is available and may be lawfully applied to the use to the fullest extent possible)

b Maintenance of trees and shrubs that are watered on the same schedule set forth at Level 3 by using a bucket, hand-held hose with a positive shut-off nozzle, or low-volume non-spray irrigation,

c Maintenance of existing landscaping necessary for fire protection as specified by the Poway Fire Marshal;

d Maintenance of existing landscaping for erosion control, as determined by the City Manager;

e Maintenance of plant materials identified to be rare or essential to the well-being of rare animals, as determined by the City Manager;

f Maintenance of landscaping within active playing fields, day care centers, and school grounds, provided that such irrigation does not exceed two (2) days per week according to the schedule established by the City Manager;

g Water for livestock, and

h Public works projects and actively irrigated environmental mitigation projects.

i. All leaks must be repaired within twenty-four (24) hours of notification by the City of Poway unless other arrangements are made with the City Manager

4 Allocation

During a Level 4 Water Shortage Alert, the City of Poway is authorized by action of the City Council to establish a water allocation for property receiving water service from the City of Poway, and to establish a penalty for any person that uses water in excess of their allocation.

5 Rate Structure

During a Water Shortage Response Level 4 condition, in addition to water use restrictions, the City is authorized by action of the City Council, to implement a conservation rate structure designed to encourage water conservation This rate structure may also include penalties to be used during periods of water allocation

8 94 070 City-Maintained Parks, Landscaped Areas, and Facilities

The provisions of this Ordinance apply to City-maintained parks, athletic fields, landscaped areas, and facilities, with the exception of the watering schedule restrictions Aggregate water-use for these properties shall be restricted at the same level as required of the City of Poway as a water agency

8 94 080 Golf Courses

The provisions of this Ordinance apply to golf courses, with the exception of watering schedule restrictions Golf course water use shall be restricted at the same level as required of the City of Poway as a water agency, including raw and potable water

8 94 090 Commercial Growers and Nurseries

The provisions of this Ordinance apply to commercial growers and nurseries, with the exception of watering schedule restrictions Water use by commercial growers and nurseries shall be restricted at the same level as required of the City of Poway as a water agency, including raw and potable water

8 94 100 Correlation between Drought Management Plan and Water Shortage Response Levels

A. The correlation between the Water Authority's Drought Management Plan (DMP) stages and the City of Poway's water shortage response levels identified in this Ordinance is described herein. Under DMP Stage 1, the City of Poway would implement Water Shortage Response Level 1 actions Under DMP Stage 2, the City of Poway would implement Water Shortage Response Level 1 or Level 2 actions. Under DMP Stage 3, the City of Poway would implement Water Shortage Response Level 2, Level 3, or Level 4 actions

B The water shortage response levels identified in this Ordinance correspond with the Water Authority DMP as identified in the following table

Water Shortage Response Levels	Use Restrictions	Conservation Target	DMP Stage
1 – Water Shortage Watch	Voluntary	Up to 10%	Stage 1 or 2
2 – Water Shortage Alert	Mandatory	Up to 20%	Stage 2 or 3
3 – Water Shortage Critical	Mandatory	Up to 40%	Stage 3
4 – Water Shortage Emergency	Mandatory	Above 40%	Stage 3

8 94 110 New Landscaping and Postponement of Required Landscaping

A. New Landscaping
The City Manager may grant an exemption or a modification to the required watering schedule restrictions to property owners who have installed new low water-use landscaping in order to establish the plants

B Postponement of Required Landscaping
The City Manager is authorized to direct developers of approved projects to postpone installation of required landscaping plant materials upon written agreement to install said improvements within six months of a change in the designated conservation stage The developer's condition of approval to install landscaping shall be deemed satisfied by the execution of an agreement guaranteed by cash deposit, surety bond, letter of credit, or other security form acceptable to the City Attorney and in an amount equal to 150% of the installation cost as estimated by the City Manager

8 94 120 Hardship Variance

A. If, due to unique circumstances, a specific requirement of this Ordinance would result in undue hardship to a person using agency water or to property upon which agency water is used, that is disproportionate to the impacts to City of Poway water users generally or to similar property or classes of water uses, then the person may apply for a variance to the requirements as provided in this section

B The variance may be granted or conditionally granted, only upon a written finding of the existence of facts demonstrating an undue hardship to a person using agency water or to property upon which agency water is used, that is disproportionate to the impacts to City of Poway water users generally or to similar property or classes of water use due to specific and unique circumstances of the user or the user's property

1 Application. Application for a variance shall be on a form prescribed by the City of Poway and shall be accompanied by a non-refundable processing fee in an amount set by resolution of the Poway City Council.

2 Supporting Documentation The application shall be accompanied by photographs, maps, drawings, and/or other information, including a written statement of the applicant.

3 Required Findings for Variance An application for a variance shall be denied unless the approving authority finds, based on the information provided in the application, supporting documents, or such additional information as may be

requested, and on water use information for the property shown by the records of the City of Poway, all of the following

a. That the variance does not constitute a grant or special privilege inconsistent with the limitations upon other City of Poway water customers

b That because of special circumstances applicable to the property or its use, the strict application of this Ordinance would have a disproportionate impact on the property or use that exceeds the impacts to customers generally

c That the authorizing of such variance will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the City of Poway to effectuate the purpose of this chapter and will not be detrimental to the public interest.

d. That the condition or situation of the subject property or the intended use of the property for which the variance is sought is not common, recurrent or general in nature

4 Approval Authority The City Manager shall exercise approval authority and act upon any completed application no later than 10 days after submittal and may approve, conditionally approve, or deny the variance The applicant requesting the variance shall be promptly notified in writing of any action taken. Unless specified otherwise at the time a variance is approved, the variance applies to the subject property during the term of the mandatory water shortage response

8 94 130 Appeals

An appeal shall be filed in writing with the City Clerk to review any action taken by the City Manager hereunder within 15 days of the date of service or mailing of the written decision made pursuant to Section 8 94 120 hereof Appeals filed late shall be denied Appeals shall be conducted using an independent hearing officer, according to the appeal procedure set forth for administrative citations in PMC 1 10 070 through 1 10 110, except that the deposit required by PMC 1 10 070 shall not be applicable

The appeal shall be granted in whole or in part, or denied, in accordance with the following standards

1 Protection of the public health, safety and welfare

2. The existence of special circumstances creating an undue or unreasonable hardship on Appellant; provided, that granting of the appeal, in whole or in part, shall not constitute a privilege to the Appellant not enjoyed by others in the same circumstances, shall not cause water to be wasted or used in an unreasonable manner, and shall not be contrary to the purpose of this Ordinance

8 94 140 Supersedure

If any provisions of this Ordinance are inconsistent with previous actions of the City Council pertaining to plans to respond to drought conditions, the provisions hereof shall supersede such inconsistent provisions

8 94 150 Enforcement.

In addition to the penalties set forth in PMC Chapters 1 08 and 1 10 for the violation of a City Ordinance, the following penalties shall apply to any person, corporation, or association violating any provision of this Ordinance

A. A first violation shall result in a letter of warning accompanied by a copy of this Ordinance

B A second violation shall result in a $100 surcharge, which will be added to the water bill.

C A third violation within a 12-month period shall result in a $200 surcharge, which will be added to the water bill.

D Any subsequent violation occurring within one year of any third violation shall, result in a $500 surcharge, which will be added to the water bill, and possible installation of a flow restrictor, until the sunset of this Ordinance

E. Any further violation may result in the water service being turned off

The City Manager shall determine if and when violations occurred Any person disagreeing with the Notice of Violation may appeal in accordance with Sections 8 94 120 and 8 94 130 hereafter by written notice received by the City Clerk within fifteen days of the date of Notice of Violation. Any Notice of Violation not timely appealed, shall be final. Pending any appeal provided for herein, the City Manager may take appropriate steps to prevent the unauthorized use of water as appropriate to the nature and extent of the violation and the current declared water condition.

Any surcharge hereunder shall be in addition to the basic water rates or other charges of the City for the account, shall appear on and be payable with the first billing statement for the period during which the violation occurred, and be subject to the same remedies that are imposed by the City for the failure to pay other charges

In addition to any surcharges mentioned above, all costs for installing or removing any flow restrictor devices and/or any charges to discontinue or restore service, shall be the sole cost of the customer whose service is affected and shall be paid promptly upon being billed

Section 2 California Environmental Quality Act (CEQA) The City Council finds this Ordinance to be categorically exempt from CEQA requirements as a Class 7 categorical exemption pursuant to Section 15307 of the CEQA Guidelines, actions by regulatory agencies for protection of natural resources

Section 3 This Ordinance shall be codified

EFFECTIVE DATE. This Ordinance shall take effect and be in force thirty (30) days after the date of its passage, and before the expiration of fifteen (15) days after its passage, it shall be published once with the names of members voting for and against the same in the *Poway News Chieftain*, a newspaper of general circulation published in the City of Poway

Introduced and first read at a regular meeting of the City Council of the City of Poway held the 18th day of November, 2008 and thereafter PASSED AND ADOPTED at a regular meeting of said City Council held the 2nd day of December, 2008

AYES

NOES

ABSENT

DISQUALIFIED

_____
Michael P Cafagna, Mayor

ATTEST

_____
Linda A. Troyan, MMC, City Clerk

STATE OF CALIFORNIA)
) ss
COUNTY OF SAN DIEGO)

I, Linda A. Troyan, MMC, City Clerk of the City of Poway, do hereby certify that the foregoing Ordinance No. ____, was duly adopted by the City Council at a meeting of said City Council held on the 2nd day of December, 2008, and that it was so adopted by the following vote

AYES

NOES

ABSENT

DISQUALIFIED

_____
Linda A. Troyan, MMC, City Clerk
City of Poway

From: Bruce Tarzy
Sent: Friday, November 14, 2008 3:58 PM
To: Mickey Cafagna, Bob Emery; Merrilee Boyack; Don Higginson; Betty Rexford
Cc: Rod Gould
Subject: Water Ordinance

Dear Poway City Council Members:

The GVCA would like to recommend the following changes to the proposed Water Conservation Plan:

1 Staff recommends to the Council what stage to declare and the conditions to impose and then the Council ratifies these at a public hearing before imposition.
2. The City be required to issue a Press release to all the local newspapers in sufficient time such that the public is aware of the intended action and have a chance to comment at the hearing
3 Concurrent with the imposition of a Stage 3 or higher emergency, a moratorium on subdivisions or multi-family projects be approved.

We understand that this will be a difficult issue to deal with and one which will have significant *if not* dire impacts on our City and its residents. We believe that would best be accomplished with as much public awareness and input as possible.

Sincerely,

Bruce Tarzy, President
GVCA

Darry Powers

Subject: Re: Poway Water Conservation Plan

From: Michael Fry
Sent: Monday, November 10, 2008 9:12 PM
To: Bob Emery; Betty Rexford; Don Higginson; Mickey Cafagna; Merrilee Boyack
Subject: [Fwd: Poway Water Conservation Plan]

Dear Poway City Council, Please don't turn the water conservation plan over to the city manager It took a number of hearings before the vegetation fire protection ordnance became fair and accepted. This issue is even more important.

We need to have actual allocation, rate, and penalty information now to make important and costly decisions about our home water use.

If we have a stage 2 or higher alert, how will my water be allocated? Will it be based on my historic use? Will it be based on my lot size? Will it be based on the number of people living in my house? Will it be a formula that includes all of the above? Will I get credit for the water savings I have implemented already?

These are extremely important issues that need a full hearing. We need to start the process now

Mike Fry

I sent this email to the Chieftain earlier today

-------- Original Message --------
Subject: Poway Water Conservation Plan
Date: Mon, 10 Nov 2008 16.33.51 -0800
From: Mike Fry
To:editor@pomeradonews.com

Dear Editor, Poway's new Water Conservation Plan places all the power in the City Manager's office, with no input from the public or the City Council Once the Council declares a Stage 2 or higher Shortage Alert, the City Staff will establish water allocation, rate structure and penalties There will be no hearings, public input, or review by the Council

This is not the way we should create public policy The 4 new levels of water conservation are simple enough, and are the goals of our new conservation plan Why can't we discuss the allocations, rates and penalties now? This affects everyone of us, and I want our elected officials to make the hard decisions after we all provide input

This is not an emergency now, but it certainly could be next year We have time now to enact a measured response I want to know what that will be soon, so I decide how much to spend on water conservation and landscaping changes

Mike Fry
Poway

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Appendix F. CUWCC BMP Report

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CUWCC BMP Retail Coverage Report 2013

Foundational Best Managemant Practices for Urban Water Efficiency

BMP 1.1 Operation Practices

ON TRACK

76 City of Poway

1. Conservation Coordinator provided with necessary resources to implement BMPs?

Name: Alexander Heide

Title: Management Analyst

Email: aheide@poway.org

2. Water Waste Prevention Documents

WW Document Name	WWP File Name	WW Prevention URL	WW Prevention Ordinance Terms Description
Option A Describe the ordinances or terms of service adopted by your agency to meet the water waste prevention requirements of this BMP.		http://www.codepublishing.com/ca/poway/html/poway08/poway0894.html	The City updated Poway Municipal Code - Chapter 8.94 - Water Conservation Plan in December 2008. Developed in collaboration with the San Diego County Water Authority and its member agencies, as well as MWD, based on DWR's Drought Guidebook.
Option B Describe any water waste prevention ordinances or requirements adopted by your local jurisdiction or regulatory agencies within your service area.		http://www.codepublishing.com/CA/poway/frameless/index.pl?path=../html/Poway08/poway0848.html#8.48	Poway Municipal Code - Chapter 8.48 - Water Waste and Pollution
Option C Describe any documentation of support for legislation or regulations that prohibit water waste.			
Option D Describe your agency efforts to cooperate with other entities in the adoption or enforcement of local requirements consistent with this BMP.			
Option E Describe your agency support positions with respect to adoption of legislation or regulations that are consistent with this BMP.			
Option F Describe your agency efforts to support local ordinances that establish permits requirements for water efficient design in new development.			

At Least As effective As No

CUWCC BMP Retail Coverage Report 2013

Foundational Best Managemant Practices for Urban Water Efficiency

BMP 1.1 Operation Practices **ON TRACK**

Exemption No

Comments:

CUWCC BMP Coverage Report 2013

Foundational Best Management Practices For Urban Water Efficiency

BMP 1.2 Water Loss Control **ON TRACK**

76 City of Poway

Completed Standard Water Audit Using AWWA Software?	Yes
AWWA File provided to CUWCC?	Yes
AWWA Audit CY13.xls	
AWWA Water Audit Validity Score?	91
Complete Training in AWWA Audit Method	Yes
Complete Training in Component Analysis Process?	Yes
Component Analysis?	Yes
Repaired all leaks and breaks to the extent cost effective?	Yes
Locate and Repar unreported leaks to the extent cost effective?	Yes
Maintain a record keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.	Yes

Provided 7 Types of Water Loss Control Info

Leaks Repairs	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost Of Interventions	Water Saved (AF)
72				True		

At Least As effective As No

Exemption No

Comments:

Water loss information is calculated by the City of Poway on a fiscal year basis. Some Information reported for calendar year 2013 reflects fiscal year 2013 data.
Water Master Plan identifies infrastructure replacement and rehabilitation needs.

CUWCC BMP Coverage Report 2013

Foundational Best Management Practices For Urban Water Efficiency

BMP 1.3 Metering With Commodity

NOT ON TRACK

76 City of Poway

Numbered Unmetered Accounts	No
Metered Accounts billed by volume of use	Yes
Number of CII Accounts with Mixed Use Meters	
Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	Yes
Feasibility Study provided to CUWCC?	Yes

Date: 5/18/2011

Uploaded file name:

Completed a written plan, policy or program to test, repair and replace meters	Yes

At Least As effective As No

Exemption No

Comments:

Poway does not track how many CII meters might be considered "mixed use," meaning they are used for indoor purposes and outdoor irrigation. The City of Poway does not track any CII meters that may have been retrofitted to dedicated irrigation.

CUWCC BMP Coverage Report 2013

Foundational Best Management Practices For Urban Water Efficiency

BMP 1.4 Retail Conservation Pricing

On Track

76 City of Poway

Implementation (Water Rate Structure)

Customer Class	Water Rate Type	Conserving Rate?	(V) Total Revenue Comodity Charges	(M) Total Revenue Fixed Carges
Single-Family	Increasing Block	Yes	14626918.43	2310907.68
Multi-Family	Uniform	Yes	920460.2	98415.54
Commercial	Uniform	Yes	1820183.81	304700.99
Industrial	Uniform	Yes	223205.84	36610.71
Dedicated Irrigation	Uniform	Yes	2301284.35	235766.27
Other	Uniform	Yes	106459.24	11120.81
Agricultural	Uniform	Yes	27209.14	27995
			20025721.01	**3025517**

Calculate: V / (V + M) **87 %**

Implementation Option: Use Annual Revenue As Reported

☐ Use 3 years average instead of most recent year

Canadian Water and Wastewater Association

Upload file:

Agency Provide Sewer Service: Yes

Customer Class	Rate Type	Conserving Rate?
Single-Family	Increasing Block	Yes
Multi-Family	Uniform	Yes
Commercial	Uniform	Yes
Industrial	Uniform	Yes

At Least As effective As No

Exemption No

Comments:

Due to the change in billing systems in the 2015, the City of Poway is currently unable to report by customer class with a breakdown between fixed and variable charges. The breakdown for sewer and water customers is extrapolated from past reports.

CUWCC BMP Coverage Report 2013

Foundational Best Management Practices For Urban Water Efficiency

BMP 2.1 Public Outreach

ON TRACK

76 **City of Poway** **Retail**

Does your agency perform Public Outreach programs? Yes

The list of wholesale agencies performing public outreach which can be counted to help the agency comply with the BMP

San Diego County Water Authority

The name of agency, contact name and email address if not CUWCC Group 1 members

SDCWA

Did at least one contact take place during each quater of the reporting year? Yes

Public Outreach Program List	Number
Website	2760
General water conservation information	10000
Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets	80000
Newsletter articles on conservation	80000
Total	**172760**

Did at least one contact take place during each quater of the reporting year? Yes

Number Media Contacts	Number
News releases	4
Total	**4**

Did at least one website update take place during each quater of the reporting year? Yes

Public Information Program Annual Budget

Annual Budget Category	Annual Budget Amount
Youth Education	2660
Street Fair Staffing	894
Splash Lab	137
Total Amount:	**3691**

Public Outreah Additional Programs
Splash Lab
Booth at Chamber of Commerce Earth Day Street Fair
Booth at Poway Days Street Fair
Rebate Programs/Landscape Surveys

Description of all other Public Outreach programs

CUWCC BMP Coverage Report 2013

Foundational Best Management Practices For Urban Water Efficiency

BMP 2.1 Public Outreach

ON TRACK

Comments:

At Least As effective As	No	
Exemption	No	0

CUWCC BMP Coverage Report 2013

Foundational Best Management Practices For Urban Water Efficiency

BMP 2.2 School Education Programs

ON TRACK

76 City of Poway **Retail**

Does your agency implement School Education programs? Yes

The list of wholesale agencies performing public outreach which can be counted to help the agency comply with the BMP

San Diego County Water Authority

Materials meet state education framework requirements? Yes

3rd and 4th grade history video/DVD; Be Water Smart DVD; Water Quality Testing Kit for 6th-12th grade classroom use; Cootie Catchers for Theater program; water supply and water cycle posters; "Watersheds, Water, and You" to Splash Lab participants.

Materials distributed to K-6? Yes

3rd and 4th grade history video/DVD; Be Water Smart DVD; Water Quality Testing Kit for 6th-12th grade classroom use; Cootie Catchers for Theater program; water supply and water cycle posters; "Watersheds, Water, and You" to Splash Lab participants.

Materials distributed to 7-12 students? Yes (Info Only)

Water quality testing kits to 6th-12th grade science teachers for use in their classrooms.

Annual budget for school education program: 3691.00

Description of all other water supplier education programs

Poway's wholesale water provider, the San Diego County Water Authority, offers an extensive array of school education programs to all schools in the City of Poway. In addition, the City of Poway offers additional school education programs.

Comments:

Education for children includes a web page for youth; sponsorship of County Office of Education Splash Lab to visit a Poway school; classroom presentations for fourth-graders; and resources for Girl and Boy Scout troops studying water conservation.

At Least As effective As No

Exemption No 0

CUWCC BMP Retail Coverage Report 2014

Foundational Best Managemant Practices for Urban Water Efficiency

BMP 1.1 Operation Practices

ON TRACK

76 City of Poway

1. Conservation Coordinator provided with necessary resources to implement BMPs?

Name: Alexander Heide

Title: Management Analyst

Email: aheide@poway.org

2. Water Waste Prevention Documents

WW Document Name	WWP File Name	WW Prevention URL	WW Prevention Ordinance Terms Description
Option A Describe the ordinances or terms of service adopted by your agency to meet the water waste prevention requirements of this BMP.		http://www.codepublishing.com/ca/poway/html/poway08/poway0894.html	The City updated Poway Municipal Code - Chapter 8.94 - Water Conservation Plan in December 2008. Developed in collaboration with the San Diego County Water Authority and its member agencies, as well as MWD, based on DWR's Drought Guidebook.
Option B Describe any water waste prevention ordinances or requirements adopted by your local jurisdiction or regulatory agencies within your service area.		http://www.codepublishing.com/CA/poway/frameless/index.pl?path=../html/Poway08/poway0848.html#8.48	Poway Municipal Code - Chapter 8.48 - Water Waste and Pollution
Option C Describe any documentation of support for legislation or regulations that prohibit water waste.			
Option D Describe your agency efforts to cooperate with other entities in the adoption or enforcement of local requirements consistent with this BMP.			
Option E Describe your agency support positions with respect to adoption of legislation or regulations that are consistent with this BMP.			
Option F Describe your agency efforts to support local ordinances that establish permits requirements for water efficient design in new development.			

At Least As effective As No

CUWCC BMP Retail Coverage Report 2014

Foundational Best Managemant Practices for Urban Water Efficiency

BMP 1.1 Operation Practices **ON TRACK**

Exemption No

Comments:

CUWCC BMP Coverage Report 2014

Foundational Best Management Practices For Urban Water Efficiency

BMP 1.2 Water Loss Control

NOT ON TRACK

76 City of Poway

Completed Standard Water Audit Using AWWA Software?	Yes
AWWA File provided to CUWCC?	Yes
AWWA Audit CY14.xls	
AWWA Water Audit Validity Score?	91
Complete Training in AWWA Audit Method	Yes
Complete Training in Component Analysis Process?	Yes
Component Analysis?	Yes
Repaired all leaks and breaks to the extent cost effective?	Yes
Locate and Repar unreported leaks to the extent cost effective?	Yes
Maintain a record keeping system for the repair of reported leaks, including time of report, leak location, type of leaking pipe segment or fitting, and leak running time from report to repair.	Yes

Provided 7 Types of Water Loss Control Info

Leaks Repairs	Value Real Losses	Value Apparent Losses	Miles Surveyed	Press Reduction	Cost Of Interventions	Water Saved (AF)
62				True		

At Least As effective As No

Exemption No

Comments:

Water loss information is calculated by the City of Poway on a fiscal year basis. Some information reported for calendar year 2014 reflects fiscal year 2014 data.

Water Master Plan identifies infrastructure replacement and rehabilitation needed.

CUWCC BMP Coverage Report 2014

Foundational Best Management Practices For Urban Water Efficiency

BMP 1.3 Metering With Commodity

NOT ON TRACK

76 City of Poway

Numbered Unmetered Accounts	No
Metered Accounts billed by volume of use	Yes
Number of CII Accounts with Mixed Use Meters	
Conducted a feasibility study to assess merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters?	Yes
Feasibility Study provided to CUWCC?	Yes

Date: 5/18/2011

Uploaded file name:

Completed a written plan, policy or program to test, repair and replace meters	Yes
At Least As effective As	No
Exemption	No

Comments:

Poway does not track how many CII meters might be considered "mixed use," meaning they are used for indoor purposes and outdoor irrigation. The City of Poway does not track any CII meters that may have been retrofitted to dedicated irrigation.

CUWCC BMP Coverage Report 2014

Foundational Best Management Practices For Urban Water Efficiency

BMP 1.4 Retail Conservation Pricing

On Track

76 City of Poway

Implementation (Water Rate Structure)

Customer Class	Water Rate Type	Conserving Rate?	(V) Total Revenue Comodity Charges	(M) Total Revenue Fixed Carges
Single-Family	Increasing Block	Yes	12548892	2299631
Multi-Family	Uniform	Yes	789692	97935
Commercial	Uniform	Yes	1561593	303214
Industrial	Uniform	Yes	191495	36432
Dedicated Irrigation	Uniform	Yes	1974344	234616
Other	Uniform	Yes	91335	11067
Agricultural	Uniform	Yes	23344	27858
			17180695	**3010753**

Calculate: V / (V + M) **85 %**

Implementation Option: Use Annual Revenue As Reported

☐ Use 3 years average instead of most recent year

Canadian Water and Wastewater Association

Upload file:

Agency Provide Sewer Service: Yes

Customer Class	Rate Type	Conserving Rate?
Single-Family	Increasing Block	Yes
Multi-Family	Uniform	Yes
Commercial	Uniform	Yes
Industrial	Uniform	Yes

At Least As effective As No

Exemption No

Comments:

Due to the change in billing systems in the 2015, the City of Poway is currently unable to report by customer class with a breakdown between fixed and variable charges. The breakdown for sewer and water customers is extrapolated from past reports.

CUWCC BMP Coverage Report 2014

Foundational Best Management Practices For Urban Water Efficiency

BMP 2.1 Public Outreach

ON TRACK

76 **City of Poway** **Retail**

Does your agency perform Public Outreach programs? Yes

The list of wholesale agencies performing public outreach which can be counted to help the agency comply with the BMP

San Diego County Water Authority

The name of agency, contact name and email address if not CUWCC Group 1 members

SDCWA

Did at least one contact take place during each quater of the reporting year? Yes

Public Outreach Program List	Number
Website	2760
General water conservation information	10000
Flyers and/or brochures (total copies), bill stuffers, messages printed on bill, information packets	80000
Newsletter articles on conservation	80000
Total	**172760**

Did at least one contact take place during each quater of the reporting year? Yes

Number Media Contacts	Number
News releases	4
Total	**4**

Did at least one website update take place during each quater of the reporting year? Yes

Public Information Program Annual Budget

Annual Budget Category	Annual Budget Amount
Youth Education	6040
Street Fair Staffing	894
Splash Lab	690
Rebate Programs	29358
Water Audits	19204
Public Outreach	8064
Public Classes	2850
Total Amount:	**67100**

Public Outreah Additional Programs
Splash Lab

CUWCC BMP Coverage Report 2014

Foundational Best Management Practices For Urban Water Efficiency

BMP 2.1 Public Outreach

ON TRACK

Public Outreah Additional Programs
Booth at Chamber of Commerce Earth Day Street Fair
Water Audits
Rebate Programs/Landscape Surveys

Description of all other Public Outreach programs

Comments:

At Least As effective As No

Exemption No 0

CUWCC BMP Coverage Report 2014

Foundational Best Management Practices For Urban Water Efficiency

BMP 2.2 School Education Programs

ON TRACK

76 City of Poway **Retail**

Does your agency implement School Education programs? Yes

The list of wholesale agencies performing public outreach which can be counted to help the agency comply with the BMP

San Diego County Water Authority

Materials meet state education framework requirements? Yes

3rd and 4th grade history video/DVD; Be Water Smart DVD; Water Quality Testing Kit for 6th-12th grade classroom use; Cootie Catchers for Theater program; water supply and water cycle posters; "Watersheds, Water, and You" to Splash Lab participants.

Materials distributed to K-6? Yes

3rd and 4th grade history video/DVD; Be Water Smart DVD; Water Quality Testing Kit for 6th-12th grade classroom use; Cootie Catchers for Theater program; water supply and water cycle posters; "Watersheds, Water, and You" to Splash Lab participants.

Materials distributed to 7-12 students? Yes (Info Only)

Water quality testing kits to 6th-12th grade science teachers for use in their classrooms.

Annual budget for school education program: 6040.00

Description of all other water supplier education programs

Poway's wholesale water provider, the San Diego County Water Authority, offers an extensive array of school education programs to all schools in the City of Poway. In addition, the City of Poway offers additional school education programs.

Comments:

Education for children includes a web page for youth; sponsorship of County Office of Education Splash Lab to visit a Poway school; classroom presentations for fourth-graders; and resources for Girl and Boy Scout troops studying water conservation.

At Least As effective As No

Exemption No 0

CUWCC BMP Coverage Report 2014

76 City of Poway

Baseline GPCD: 260.8

GPCD in 2014 242

GPCD Target for 2018: 213.90

Biennial GPCD Compliance Table

ON TRACK

		Target		Highest Acceptable Bound	
Year	Report	% Base	GPCD	% Base	GPCD
2010	1	96.4%	**251.40**	100%	**260.80**
2012	2	92.8%	**242.00**	96.4%	**251.40**
2014	3	89.2%	**232.60**	92.8%	**242.00**
2016	4	85.6%	**223.20**	89.2%	**232.60**
2018	5	82.0%	**213.90**	82.0%	**213.90**

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Appendix G. Notice of Public Hearing and Resolution of Adoption

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CITY OF POWAY

60-DAY PUBLIC HEARING NOTICE
2015 URBAN WATER MANAGEMENT PLAN

Mr/Ms. **FName LName**
GoverningEntityName
Department
Address
City, CA **Zipcode**

This letter is to inform you that City of Poway (City) is updating its Urban Water Management Plan (UWMP). California state law requires each urban water supplier to prepare and adopt an UWMP every five years. Updates have been made to the 2010 UWMP to prepare the 2015 UWMP, which is due to the Department of Water Resources by July 1, 2016. The Plan documents the City's plans to ensure adequate water supplies to meet existing and future demands for water under a range of water supply conditions, including water shortages.

In conformance with the California Water Code Division 6, Part 2.6, §10621, this letter serves as a notification to all city and county agencies within which the City provides water supplies that the UWMP is being reviewed and updated. The draft 2015 UWMP will be available for public review on May 19, 2016 via the City's website (poway.org/317). Notice is hereby given that on **Tuesday, June 7, 2016** at **7:00pm** at the City Council Chambers, 13325 Civic Center Drive, Poway, California 92064, the City Council will conduct a public hearing. The 2015 UWMP will be considered for adoption immediately following the public hearing on June 7, 2016 and submitted to the California Department of Water Resources by July 1, 2016.

Please contact Annette Gonzalez at (858) 668-4717 or AGonzalez@poway.org if you would like additional information or to set up a meeting to discuss the City's 2015 UWMP.

Sincerely,

City of Poway

Annette Gonzalez
Public Works Administrator
City of Poway Public Works Department

60-Day Public Hearing Notice Mailing List for the Poway 2015 UWMP

Company	First	Last	Title	Street Address	Address Line 2	City	State	ZipCode
Rincon del Diablo Municipal Water District	Greg	Thomas	General Manager	1920 North Iris Lane		Escondido	CA	92028
San Diego County Water Authority	Tim	Bombardier	Senior Water Resources Specialist	4677 Overland Avenue		San Diego	CA	92123
County of San Diego	Mark	Wardlaw	Director of Planning and Land Use	5510 Overland Avenue	Suite 310	San Diego	CA	92123
City of San Diego	Generoso	Luis	Water Resources Manager	202 C Street		San Diego	CA	92101-4806
San Diego Association of Governments	Charles "Muggs"	Stoll	Department Director	401 B Street	Suite 800	San Diego	CA	92101-4231
San Diego Local Area Formation Commission	Ingrid	Hansen	Chief, Governmental Services	9335 Hazard Way	Suite 200	San Diego	CA	92123
City of Escondido	Christopher W.	McKinney	Director of Utilities	City Hall, Second Floor	201 North Broadway	Escondido	CA	92025

NOTICE OF CITY COUNCIL
PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the City Council of the City of Poway will hold a Public Hearing to consider the following item: Adoption of the City of Poway 2015 Urban Water Management Plan

DATE OF MEETING:	**June 7, 2016**
TIME OF MEETING:	**7:00 p.m.**
LOCATION OF MEETING:	**City Council Chambers** **13325 Civic Center Drive** **Poway, CA 92064**
PROJECT NAME:	**Adoption of the 2015 Urban Water Management Plan**
STAFF:	**Alex Heide, Management Analyst**
EMAIL:	**aheide@poway.org**
PHONE NUMBER:	**858-668-4703**

ANY INTERESTED PERSON may review the staff report and the plans for this project and obtain additional information at the City of Poway, Public Works Administration, 14467 Lake Poway Road, Poway, CA or by visiting the City's website at www.poway.org. If you wish to express concerns in favor or against the above, you may appear in person at the above described meeting or submit your concerns in writing to the City Clerk, City of Poway. If you challenge the matter in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City Council at, or prior to, the public hearing. If you have special needs requiring assistance at the meeting, please call the City Clerk's Office at (858) 668-4530 at least 24 hours prior to the meeting so that accommodations can be arranged. Published in the Poway News Chieftain on Thursday, May 19, 2016 and May 26, 2016, Order No. 16-

Printed: 5/13/2016 11:41:54 AM

Order ID: 4187449

GROSS PRICE * : **$134.88**

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NOTICE OF CITY COUNCIL PUBLIC HEARING

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Poway, CA 92064
PROJECT NAME:
Adoption of the 2015 Urban Water Management Plan
STAFF: Alex Heide, Management Analyst
EMAIL: aheide@poway.org
PHONE NUMBER: 858-668-4703

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CITY OF POWAY

STATE OF CALIFORNIA)
COUNTY OF SAN DIEGO) SS.
CITY OF POWAY)

I, Nancy Neufeld, CMC, City Clerk, for the City of Poway, California, hereby certify, under penalty of perjury, that the attached and foregoing is a true and correct copy of Resolution No. 16-015 entitled, "Resolution of the City Council of the City of Poway, California, Adopting the City of Poway's 2015 Urban Water Management Plan" as adopted by the City Council of Poway, California on June 7, 2016.

Nancy Neufeld, CMC
City Clerk
City of Poway

RESOLUTION NO. 16-015

A RESOLUTION OF THE CITY COUNCIL
OF THE CITY OF POWAY, CALIFORNIA,
ADOPTING THE CITY OF POWAY'S 2015
URBAN WATER MANAGEMENT PLAN

WHEREAS, the California legislature enacted Assembly Bill 797 (Water Code Section 10610 et. seq., known as the Urban Water Management Planning Act of 1983, and as amended subsequently) (the "Act"), which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually, prepare an Urban Water Management Plan (the "Plan"), the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the City is an urban water supplier that provides service to approximately 14,136 connections (potable and recycled); and

WHEREAS, the Act requires the Plan to be reviewed at least once every five years, and that the City make any amendments or changes to its Plan which are indicated by the review; and

WHEREAS, in compliance with the Act the City has adopted a Plan in 1996 (Resolution No. 96-003), which was reviewed and modified by a Plan in 2000 (Resolution No. 00-118), which was reviewed and further modified by a Plan in 2005 (Resolution No. 05-096), and which was most recently reviewed and modified by a Plan in 2011 (Resolution No. 11-030) (the "2010 Plan"); and

WHEREAS, the 2010 Plan was reviewed for consistency and compliance with the Act, resulting in the development of a new Plan (the "2015 Plan"), which is required to be submitted electronically to the California Department of Water Resources (DWR) by July 1, 2016, after public review and hearing; and a copy filed with the DWR and California State Library within thirty days of adoption; and

WHEREAS, while preparing the 2015 Plan, the City coordinated its efforts with other appropriate agencies in the area, including the San Diego County Water Authority, County of San Diego, City of San Diego, City of Escondido and San Diego Association of Governments; and

WHEREAS, the City has prepared the 2015 Plan, which modifies the 2010 Plan, and evaluates future water demands and supplies over the next 25 years to assist with planning reasonable and beneficial use of water; tracks water conservation compliance; and provides information to the public about water supplies and water management programs in the Poway service area; and

WHEREAS, the 2015 Plan establishes baseline water use, along with 2015 and 2020 water use targets in accordance with Senate Bill x 7-7 (Water Code Section 10608 et seq) (commonly known as the Water Conservation Act of 2009); and

WHEREAS, the 2015 Plan, was on file at the Public Works Administration Building, on the City's website, and available for review by the public prior to a properly noticed public hearing held by the Poway City Council regarding said Plan on June 7, 2016; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Poway as follows:

Section 1. In accordance with section 10652 of the Act, the preparation and adoption of the 2015 Plan is not subject to the California Environmental Quality Act Division 13 (commencing with section 21000) of the Public Resources Code.

Section 2. The City of Poway 2015 Urban Water Management Plan is hereby approved and adopted. The 2015 Plan hereby changes and replaces the 2010 Plan, which shall no longer be the Plan for the City of Poway effective immediately.

Section 3. The City Clerk is hereby authorized and directed to file the 2015 Plan with the DWR and the California State Library within 30 days after this date.

Section 4. The City Manager is hereby authorized and directed to implement the Water Shortage Contingency Plan set forth in the 2015 Plan, which includes a description of the City's Water Conservation Plan (Poway Municipal Code Chapter 8.94) to address water shortages; and implement Demand Management Measures to meet water use reduction targets.

PASSED, ADOPTED AND APPROVED by the City Council of the City of Poway at a regular meeting this 7th day of June 2016.

Steve Vaus, Mayor

ATTEST:

Nancy Neufeld, CMC, City Clerk

STATE OF CALIFORNIA)
) SS
COUNTY OF SAN DIEGO)

I, Nancy Neufeld, CMC, City Clerk, of the City of Poway, do hereby certify under penalty of perjury that the foregoing Resolution No. 16-015 was duly adopted by the City Council at a meeting of said City Council held on the 7th day of June, 2016, and that it was so adopted by the following vote:

AYES:	LEONARD, GROSCH, MULLIN, CUNNINGHAM, VAUS
NOES:	NONE
ABSENT:	NONE
DISQUALIFIED:	NONE

Nancy Neufeld, CMC, City Clerk
City of Poway

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Prepared By

RMC
water and environment

10509 Vista Sorrento Pkwy, Suite 205 • San Diego, CA 92121