

*Photo Courtesy: Wikimedia*



FINAL

# 2015 Urban Water Management Plan for City of Thousand Oaks

*June 2016*

*Prepared by*  
**Kennedy/Jenks Consultants**

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### 2015 Urban Water Management Plan Final

29 June 2016

Prepared for  
City of Thousand Oaks  
2100 Thousand Oaks Boulevard  
Thousand Oaks, CA 91362-2903

K/J Project No. 1544510\*00

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### Acronym List

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Act	California Urban Water Management Plan Act
AF	Acre Feet
AFY	Acre Feet per Year
AMR	Automatic Meter Reading
AWWA	American Water Works Association
CII	Commercial, industrial, institutional
City	City of Thousand Oaks
CMWD	Calleguas Municipal Water District

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CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DDW	California State Water Resource Control Board Division of Drinking Water
DMM	Demand Management Measures
DWR	California Department of Water Resources
EPA	Environmental Protection Agency
GPCD	Gallons per Capita per Day
HCF	Hundred Cubic Feet
HECW	High Efficiency Clothes Washer
ksf	Thousand square feet
MWDSC	Metropolitan Water District of Southern California
Plan	Urban Water Management Plan
ppm	parts per million
SBx7-7	Senate Bill 7 of Special Extended Session 7
SFR	Single Family Residential
SMP	Salinity Management Project
State Water Board	California State Water Resource Control Board
SWP	State Water Project
TDS	Total Dissolved Solids
TOBSP	Thousand Oaks Boulevard Specific Plan
ULFT	Ultra Low Flush Toilet
UWMP	Urban Water Management Plan
WSAP	Water Supply Allocation Plan
WSDM	Water Surplus and Drought Management Plan
WWTP	Wastewater Treatment Plant

# Section 1: Introduction

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## 1.1 Overview

This document presents the 2015 Urban Water Management Plan (UWMP) for the City of Thousand Oaks (City) water service area. This chapter describes the general purpose of the Plan and discusses Plan adoption and implementation.

The State of California mandates that all urban water suppliers within the state prepare an UWMP. Detailed information on what must be included in these plans as well as whom must complete them can be found in California Water Code sections 10610 through 10657. According to the Urban Water Management Planning Act (Act) of 1983, an urban water supplier is defined as a supplier, either public or private, that provides water for municipal purposes either directly or indirectly to more than 3,000 customers or supplies more than 3,000 acre-feet (AF) annually.

## 1.2 Purpose

An UWMP is a planning tool that generally guides the actions of water management agencies. It provides managers and the public with a broad perspective on a number of water supply issues. It is not a substitute for project-specific planning documents, nor was it intended to be when mandated by the State Legislature. For example, the Legislature mandated that a plan include a Section which “describes the opportunities for exchanges or water transfers on a short-term or long-term basis.” (California Urban Water Management Planning Act, Article 2, Section 10630(d).) The identification of such opportunities, and the inclusion of those opportunities in a general water service reliability analysis, neither commits a water management agency to pursue a particular water exchange/transfer opportunity, nor precludes a water management agency from exploring exchange/transfer opportunities not identified in the plan. When specific projects are chosen to be implemented, detailed project plans are developed, environmental analysis, if required, is prepared, and financial and operational plans are detailed.

“A plan is intended to function as a planning tool to guide broad-perspective decision making by the management of water suppliers.” (*Sonoma County Water Coalition v. Sonoma County Water Agency* (2010) 189 Cal. App. 4th 33, 39.) It should not be viewed as an exact blueprint for supply and demand management. Water management in California is not a matter of certainty and planning projections may change in response to a number of factors. “[L]ong-term water planning involves expectations and not certainties. Our Supreme Court has recognized the uncertainties inherent in long-term land use and water planning and observed that the generalized information required . . . in the early stages of the planning process are replaced by firm assurances of water supplies at later stages.” (Id., at 41.) From this perspective, it is appropriate to look at the UWMP as a general planning framework, not a specific action plan. It is an effort to generally answer a series of planning questions including:

- What are the potential sources of supply and what is the reasonable probable yield from them?

- What is the probable demand, given a reasonable set of assumptions about growth and implementation of good water management practices?
- How well do supply and demand figures match up, assuming that the various probable supplies will be pursued by the implementing agency?

Using these “framework” questions and resulting answers, the implementing agency will pursue feasible and cost-effective options and opportunities to meet demands.

Water suppliers will explore enhancing basic supplies from traditional sources such as the State Water Project (SWP) as well as other options. These include groundwater extraction, water exchanges and transfers, water conservation, recycling, brackish water desalination and water banking/conjunctive use. Specific planning efforts will be undertaken in regard to each option, involving detailed evaluations of how each option would fit into the overall supply/demand framework, how each option would impact the environment and how each option would affect customers. The objective of these more detailed evaluations would be to find the optimum mix of conservation and supply programs that ensure that the needs of customers are met.

The Act requires preparation of a plan that:

- Accomplishes water supply planning over a 20-year period in five year increments. (The City is going beyond the requirements of the Act by developing a plan which spans twenty-five years.)
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry and multiple-dry years.
- Implements conservation and efficient use of urban water supplies.

Additionally, Senate Bill 7 of Special Extended Session 7 (SBX7-7) was signed into law in November 2009, which calls for progress towards a 20 percent reduction in per capita water use statewide by 2020. As a result, the legislation mandated each urban retail water supplier to develop and report a water use target in the retailer’s 2010 UWMP. The legislation further requires that retailers report an interim 2015 water use target, their baseline daily per capita use and 2020 compliance daily per capita use, along with the basis for determining those estimates. Beginning in 2016, retail water suppliers are required to comply with the water conservation requirements in SBX7-7 in order to be eligible for State water grants or loans. Water suppliers have the ability to revisit the SBX7-7 baseline and targets that were determined in the 2010 UWMPs and update them in the 2015 Plan.

A number of changes to the Water Code have been enacted since 2010 which affect the 2015 Plan. These changes apply to:

- Demand Management Measures California Water Code (CWC) Section 10631(f)(1) and (2) Assembly Bill 2067, 2014
- Submittal Date CWC Section 10621 (d) Assembly Bill 2067, 2014
- Electronic Submittal CWC Section 10644 (a)(2) Senate Bill 1420, 2014

- Standardized Forms CWC Section 10644(1)(2) Senate Bill 1420, 2014
- Water Loss CWC Section 10631 (e)(1)(J) and (e)(3)(A) and (B) Senate Bill 1420, 2014
- Estimating Future Water Savings CWC Section 10631 (e)(4) Senate Bill 1420, 2014
- Voluntary Reporting of Energy Intensity CWC Section 10631.2 (a) and (b) Senate Bill 1036, 2014
- Defining Water Features CWC Section 10632 (b) Assembly Bill 2409, 2014

A checklist to ensure compliance of this Plan with the Act requirements is provided in Appendix A.

It is the intent of the City to deliver a reliable and high quality water supply to its customers, even during dry periods. Based on conservative water supply and demand assumptions over the twenty five years in combination with conservation of non-essential demand during normal water years, the UWMP successfully achieves this goal.

### 1.3 Basis for Preparing the Plan

In accordance with the CWC, urban water suppliers with 3,000 or more service connections, or supplying 3,000 or more acre-feet per year (AFY) of water, are required to prepare a UWMP every five years. The 2015 UWMP shall be updated and submitted to the California Department of Water Resources (DWR) by July 1, 2016. The City has prepared this UWMP as it directly provides water for municipal purposes to over 3,000 customers and supplies more than 3,000 AF of water annually. The City adopted previous Plans in 1991, 1997, 2000, 2005, and 2010.

The City has prepared this UWMP as an individual UWMP, covering only that portion of the City of Thousand Oaks to which it serves water (for more details on the City service area refer to Chapter 2).

### 1.4 Overview of Document

This Plan is organized as follows:

- Introduction
- Service Area
- Water Use
- Water Supply
- Water Quality
- Reliability Planning
- Demand Management Measures

- Water Shortage Contingency Plan
- References
- Appendices

#### 1.4.1 Methodology and Key Assumptions

A water supplier may report on a fiscal year or calendar year basis, but must clearly state in its UWMP the type of year that is used for reporting. The type of year should remain consistent throughout the Plan. DWR prefers that agencies report on a calendar year basis in order to ensure UWMP data is consistent with data submitted in other reports to the State. This UWMP provides data consistent with a calendar year, in AFY.

#### 1.4.2 Standardized Tables

Revisions to the CWC directed DWR to develop standardized tables for the reporting and submittal of UWMP data. Water agencies are required to submit UWMP data electronically to DWR using the standardized tables. The standardized tables were prepared for this Plan and are included as Appendix B.

### 1.5 Coordination During Plan Preparation and Adoption

#### 1.5.1 Plan Preparation

The City began preparation of this Plan in August, 2015.

The City of Thousand Oaks has actively encouraged community participation in its Urban Water Management Planning efforts. A notice regarding intent to update the UWMP was sent directly to the County of Ventura Planning Department and Calleguas Municipal Water District (CMWD), the City's water wholesaler. The City also informed CMWD of projected water use. Copies of notices are provided in Appendix C.

Table 1-1 summarizes coordination and notification during development of this UWMP.

**TABLE 1-1  
COORDINATION AND NOTIFICATION FOR PLAN PREPARATION**

	<b>Sent Notice of Intent to Update</b>	<b>Received Copy of Draft</b>	<b>Commented on Draft</b>	<b>Attended Public Meetings</b>	<b>Contacted for Assistance</b>	<b>Sent Notice of Intent to Adopt</b>
CMWD	✓	✓			✓	✓
City of Thousand Oak Community Development Department	✓	✓			✓	✓
County of Ventura	✓	✓				✓

### 1.5.2 Plan Adoption

Pursuant to CWC 10621(b), the City notified its Community Development Department and the County of Ventura prior to its public hearing to adopt the UWMP. The draft Plan was made available for public review two weeks prior to the public hearing at local public facilities, including City Hall and the City's two public libraries. A Notice of public hearing was also published in local newspapers. Copies of these notices are included in Appendix C. Prior notice of the public hearing was published within the jurisdiction of the City pursuant to Section 6066 of the Government Code.

The City of Thousand Oaks 2015 Urban Water Management Plan was adopted by the Thousand Oaks City Council at a noticed Public Hearing held on June 28, 2016. This plan includes all information necessary to meet the requirements of Water Conservation Act of 2009 (Wat. Code, §§ 10608.12-10608.64) and the Urban Water Management Planning Act (Wat. Code, §§ 10610-10656). The adoption resolution is provided as Appendix D.

### 1.5.3 Plan Availability

As directed by City Council, the Plan will be submitted to:

- The California Department of Water Resources
- The California State Library
- County of Ventura Planning Department

In addition, the plan will be posted to the City's website and will be made available during normal business hours at City of Thousand Oaks City Hall in the Public Works Department:

2100 Thousand Oaks Boulevard, Thousand Oaks, CA 91362

## Section 2: Service Area

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### 2.1 City of Thousand Oaks Water Service Area

Incorporated in 1964, the City of Thousand Oaks, located in eastern Ventura County, had a population of about 20,000 and encompassed an area of 14.28 square miles. The California Department of Finance estimates the City's 2015 population to be approximately 129,349. The City encompasses an area of approximately 56 square miles<sup>1</sup>. The City is the water purveyor to approximately 36 percent of the water users within the City. Other water purveyors include the California-American Water Company (Cal-Am: 48 percent), California Water Service Company (Cal Water: 16 percent), the Newbury Park Academy Mutual Water Company (less than one percent) and the Camrosa County Water District (less than one percent). Figure 2-1 shows the regional vicinity of the City of Thousand Oaks and the water service area boundary. The City also serves unincorporated areas within the County, also shown in Figure 2-1.

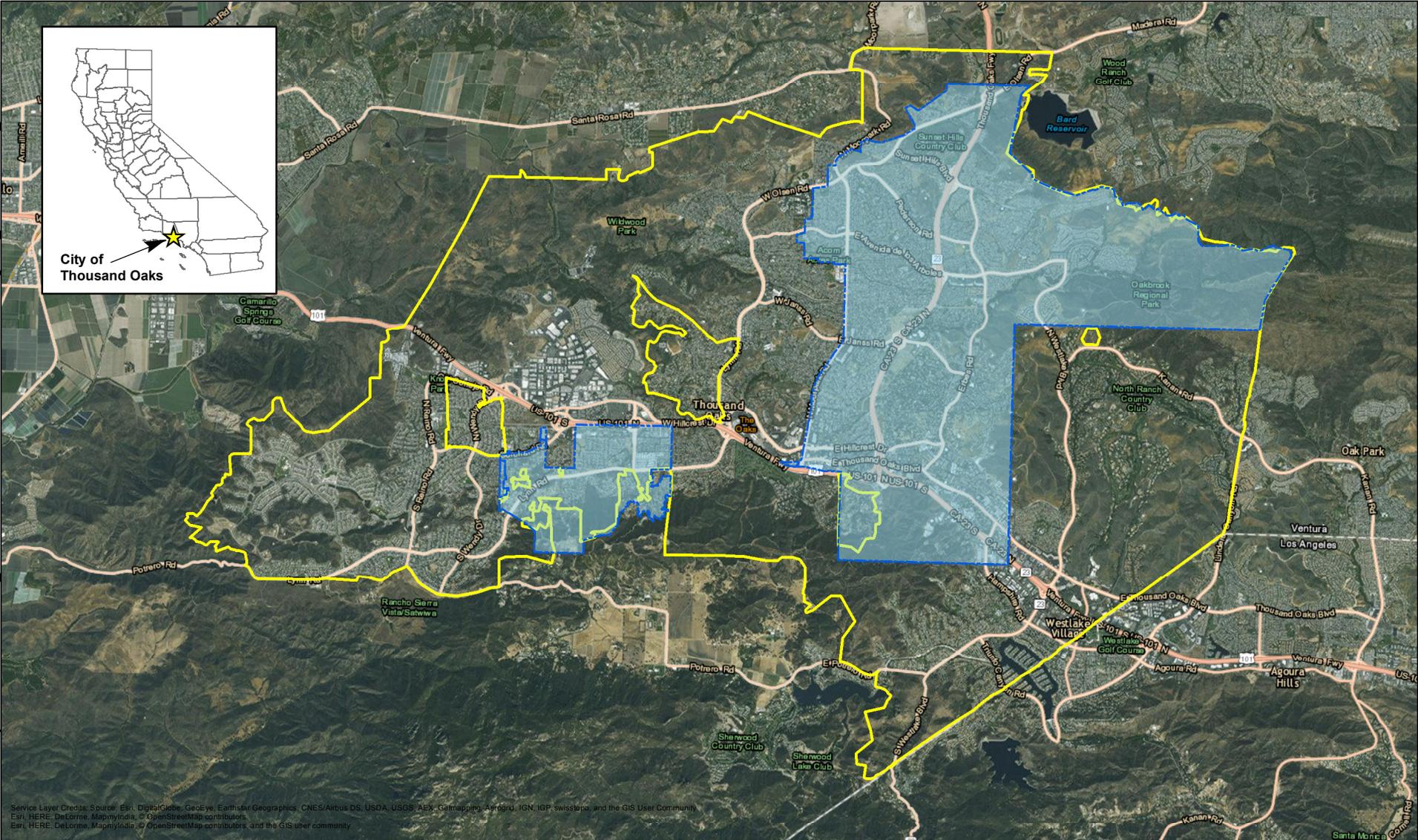
The potable water distributed by the City is imported water purchased from CMWD, which receives its supply from the Metropolitan Water District of Southern California (MWDSC). The source of MWDSC's supply is either the SWP or the Colorado River. Hence, water conservation efforts in the City's service area will help reduce the demand for imported water.

The City water system consists of approximately 317 miles of transmission and distribution pipelines, 11 pump stations and 16 reservoirs with a total capacity of 35.5 million gallons. Water is delivered to the system through 10 turnouts from the CMWD system. The City serves approximately 17,000 accounts and purchased approximately 9,600 AF of water in 2015. Approximately 60 percent of the City's customers are within service zones that require additional pumping. The majority of the City's water service area is residential. The City does not serve any agricultural users.

All City water customers receive City wastewater service through the Hill Canyon Wastewater Treatment Plant. Plant capacity is used by customers of private water purveyors in the City as well. The plant's tertiary-treated wastewater is discharged into the North Fork of the Arroyo Conejo.

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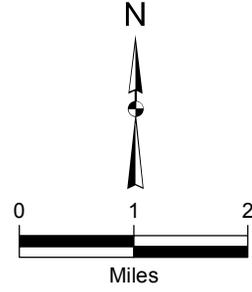
<sup>1</sup> Source: January 2010, California Department of Finance Website.



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroX, Getmapping, Aergrid, IGN, IGP, swisstopo, and the GIS User Community  
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**Legend**

-  City of Thousand Oaks Water Service Boundary
-  City of Thousand Oaks



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City of Thousand Oaks  
2015 Urban Water Management Plan  
Thousand Oaks, California

**City of Thousand Oaks  
Service Area Boundary**

KJ 1544510.00  
January 2016

**Figure 2-1**

## 2.2 Land Use

The City water service area consists primarily of residential uses, with commercial land uses located along the main City streets. Although essentially all of the land within the City water service boundary is developed, changes in the existing land use are expected either by developing the few remaining small vacant parcels within the City's service area, or by redevelopment of existing land uses. Figure 2-2 depicts the land uses within the City's water service area.

In November 2011, the Thousand Oaks City Council adopted the Thousand Oaks Boulevard Specific Plan to revitalize a commercial corridor covering approximately 345 acres. The Plan will allow for mixed use with a focus on residential and commercial uses. The Specific Plan extends eastward along Thousand Oaks Boulevard from Conejo Boulevard/Moorpark Road to Duesenburg Drive. Most of the Boulevard currently consists of commercial retail and office buildings, some of which are located adjacent to residential areas of varying densities. The Specific Plan is mostly built out, however there are several areas of undeveloped land and underutilized parcels (Thousand Oaks Boulevard Business Improvement District 2012).

Overall, future service area development will add approximately 1,100 residential dwellings (including apartments, townhomes, and single-family) and approximately 27 acres of non-residential land uses by Year 2040. Projected water demands resulting from future development are relatively small and are described in more detail in Chapter 3.

## 2.3 Population

Table 2-1 shows the current and projected service area population in five-year increments to Year 2040. This assumes ultimate buildout of the City's service area by 2040. The population for the Thousand Oaks water service area in 2015 was calculated using the DWR online population tool<sup>2</sup>. The tool estimates population based on available U.S. Census Bureau data from historical census years, combined with connection data and service area boundaries. The buildout population projection was calculated based on the projected new residential dwellings in combination with water use data.

**TABLE 2-1  
CURRENT AND PROJECTED POPULATION**

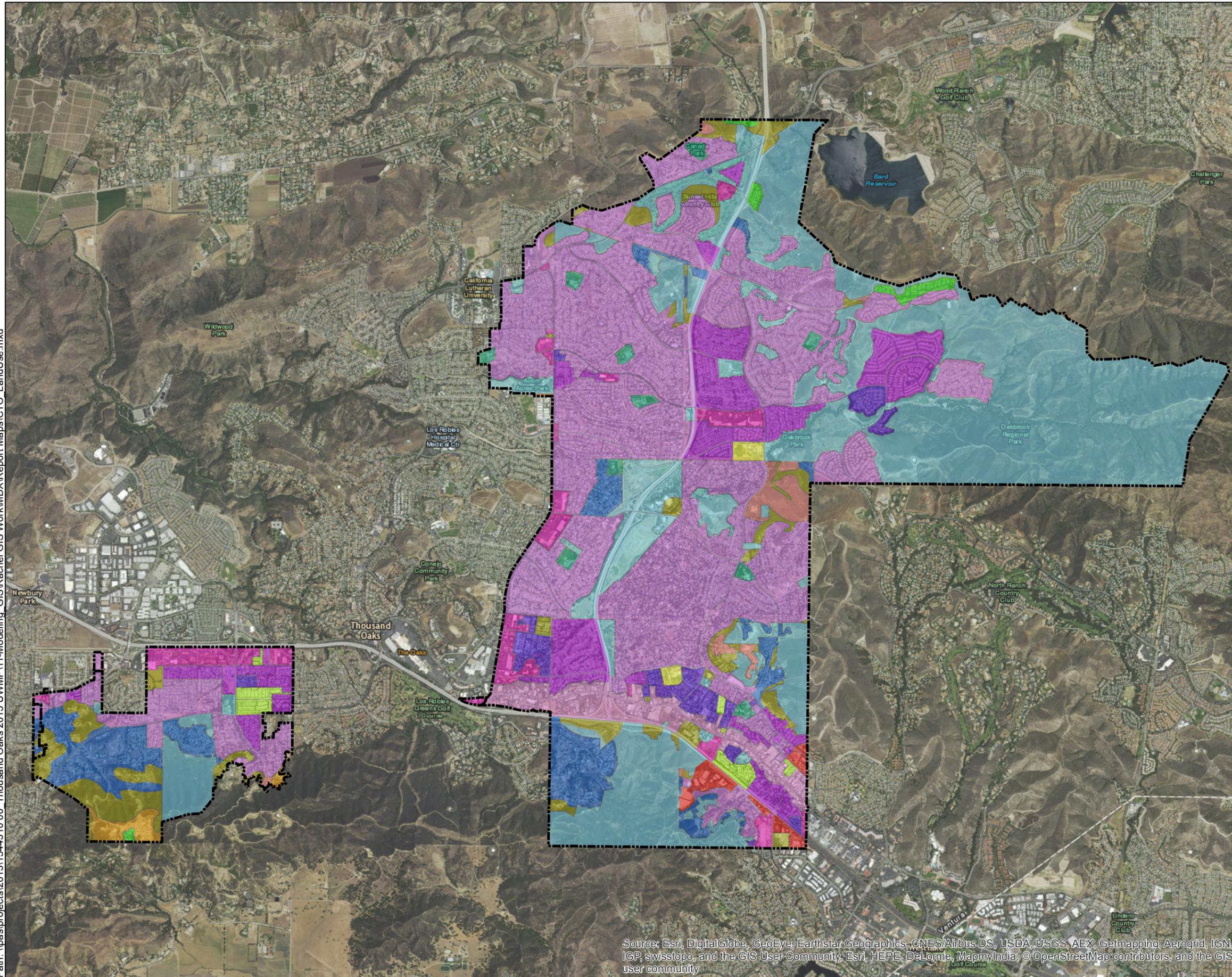
	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>
Service Area Population	53,347	53,723	54,101	54,482	54,866	55,252

**Notes:**

- (a) 2015 population value from DWR population tool. See Printout in Appendix B.
- (b) 2040 population reflects current (2015) plus additional population at build-out

<sup>2</sup> Available at: [https://wuedata.water.ca.gov/secure/login\\_auth.asp?msg=inactivity&referer=%2Fsecure%2FDefault%2Easp?](https://wuedata.water.ca.gov/secure/login_auth.asp?msg=inactivity&referer=%2Fsecure%2FDefault%2Easp?)  
Printout provided in Appendix B.

Path: \pas\projects\2015\15445\10\_00\_Thousand Oaks 2015 UWMP\11-Modeling\_GIS\Rachel GIS Work\MDX\Report Maps\CTO\_LandUse.mxd

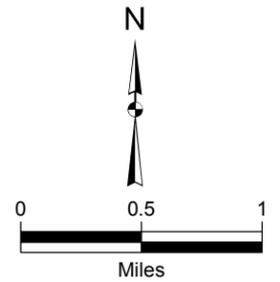


**Legend**

City of Thousand Oaks Water Service Boundary

**Land Use:**

- Commercial
- Commercial/Residential
- Elementary School
- Existing Park, Golf, Open Space
- High Density
- High School
- Industrial
- Institutional
- Intermediate School
- Low Density
- Medium Density
- Mobile Home Exclusive
- Proposed Park and Recreational Area
- Reserve
- Residential Developable Land
- Undevelopable Land
- Very Low Density



**Kennedy/Jenks Consultants**

City of Thousand Oaks 2015 Water Master Plan  
Thousand Oaks, California

**Land Use**

K/J 1544510.00

March 2016

**Figure 2-2**

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community



change might impact future water demands. Future updates will test different response packages, or combinations of resource management strategies, for each future scenario. These response packages help decision-makers, water managers, and planners develop integrated water management plans that provide for resources sustainability and investments in actions with more sustainable outcomes. Further detailed guidance is currently being developed by the State of California and the United States (US) Environmental Protection Agency for use in integrated regional water management planning.

Water demands are anticipated to increase as a result of climate change impacts for various reasons. Precipitation and temperature influence water demand for outdoor landscaping and irrigated agriculture. Reduced spring rainfall increases the need to apply irrigation water. Further, warmer temperatures increase plant evapotranspiration, which increases water demand. As outdoor water use generally makes up a large component of water demands, increased outdoor water demand can result in large impacts on overall City water demands.

In its 2015 *State Water Project Delivery Capability Report (DCR)*, DWR included the potential effects of climate change in its analysis of SWP delivery reliability under future conditions. The report was taken into account in assessing the City's water supply reliability, discussed in Chapters 3 and 6.

#### 2.4.2 Climate Change Vulnerability Assessment

Identification of watershed characteristics that could potentially be vulnerable to future climate change is the first step in assessing the climate change vulnerabilities in the City service area. In the context of this analysis, vulnerability is defined as the degree to which a system is exposed to, susceptible to, and able to cope with and adapt to, the adverse effects of climate change, consistent with the definition in the recently issued *Climate Change Handbook for Regional Water Planning* (USEPA and DWR, 2011).

Climate change effects that have the potential to impact the City were analyzed on a larger scale as part of the Watersheds Coalition of Ventura County (WCVC) Integrated Regional Water Management Plan of 2014. The primary climate stressors important to the WCVC Region include changes in air temperature, changes in precipitation patterns, and sea level rise. Related stressors include longer, more frequent droughts, more extreme flood events, and more frequent and intense wildfires. The key vulnerabilities of the Region related to these stressors include water demands, supply and quality; water-related infrastructure; agriculture; ecosystems and habitats; and human populations.

The Climate Change Section of the WCVC Integrated Regional Water Management Plan is included in Appendix E.

## Section 3: Water Use

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### 3.1 Overview

This chapter describes historic and current water usage and the methodology used to project future demands within the City's service area. Water usage is divided into sectors such as residential, commercial/institutional, landscape, and other. To undertake this evaluation, existing land use data and anticipated new development information were compiled. This information was then compared to historical trends for new water service connections and customer water usage information. In addition, weather and water conservation effects on historical water usage were factored into the evaluation.

### 3.2 Historical and Current Water Use

#### 3.2.1 Historical Deliveries

The water use categories are characterized as follows:

- Single-Family Residential – A single family dwelling unit, generally a single lot containing a single home.
- Multi-Family Residential – Multiple dwelling units contained within one building or a complex of several buildings.
- Commercial/Institutional/Industrial – This is a single water use category that captures water customers conducting business (i.e. providing a product or service), customers dedicated to public service, and manufacturers or processors of materials. Most of the City's water use in this sector reflects water use for retail businesses.
- Landscape – Water connections supplying water solely for landscape irrigation, including landscapes in a residential, commercial, or institutional setting.

Approximately 75 percent of the City's demand comes from the residential sector. Historical (2010) and current (2015) water deliveries by customer class are shown in Table 3-1.

**TABLE 3-1  
WATER DELIVERIES - 2010 AND 2015 (AFY)**

<b>Use Type</b>	<b>Level of Treatment</b>	<b>2010</b>	<b>2015</b>
Single family	Drinking Water	7,478	6,257
Multi-family	Drinking Water	728	700
Commercial/Institutional/Industrial	Drinking Water	1,288	1,120
Governmental	Drinking Water	0	0
Landscape	Drinking Water	1,432	1,249
Other	Drinking Water	8	8
	<b>Total</b>	<b>10,933</b>	<b>9,334</b>

### 3.2.2 Historic Sales

The City has not historically sold any water to other water agencies, nor does it anticipate any future sales to other agencies.

### 3.2.3 Historical Other Water Uses

The City has not had water use related to groundwater recharge, long-term system storage, saline water barriers, agricultural irrigation, or wetlands. However, the City, like all water agencies, does have some system water losses, which is the difference between the amount of water produced (in this case purchased from CMWD), and the amount of water billed to customers.

As required by DWR, as part of this UWMP the City performed a system water audit using the AWWA water audit software (see output provided in Appendix F). The audit was performed for the Fiscal Year 2014/2015 period (July 2014 to June 2015), which showed calculated water losses of 57 AFY, as summarized in Table 3-2. Of these calculated losses, approximately 7 percent was from real losses (actual leaks) and the remaining 93 percent from apparent losses, such as meter reading errors.

**TABLE 3-2  
12 MONTH WATER LOSS AUDIT REPORT SUMMARY**

<b>Reporting Period Start Date</b>	<b>Volume of Water Loss (AFY)<sup>(a)</sup></b>
July 2014	57

Notes

(a) Sum of real and apparent losses based on AWWA water audit software output.

Between 2010 and 2015, measured system water losses have ranged between less than 1 percent to approximately 4 percent. Table 3-3 summarizes historic “other” water uses, which include system losses. Data for 2015 are based on results of water delivery data analyzed for the 2015 calendar year.

**TABLE 3-3  
HISTORIC “OTHER” WATER USES (AF)**

<b>Use Type</b>	<b>2010</b>	<b>2015</b>
Groundwater Recharge/Storage/Banking	0	0
Long Term System Storage	0	0
Saline Water Intrusion Barrier	0	0
Agricultural Irrigation	0	0
Other	0	0
System Losses	45	300 <sup>(a)</sup>
<b>Total<sup>(b)</sup></b>	<b>45</b>	<b>300</b>

**Notes:**

(a) 2015 system losses calculated as difference between billing data from the City and turnout data from CMWD for the 2015 calendar year. As a result, this value may include other uses, besides real and apparent losses, such as authorized unbilled uses.

(b) Any water accounted for in Table 3-1 is not included in this table.

### 3.2.4 Total Historical Water Use

Table 3-4 below presents information on all historic water uses for the years 2010 and 2015.

**TABLE 3-4  
HISTORIC TOTAL WATER USE (AF)**

<b>Use Type</b>	<b>2010</b>	<b>2015</b>
Total Water Deliveries (from Tables 3-1)	10,933	9,334
Sales to Other Water Agencies	0	0
Additional water uses and losses (from Table 3-3)	45	300
<b>Total</b>	<b>10,978</b>	<b>9,634</b>

Between the years 2010 and 2015, water use showed a slight increasing trend through 2014, after which it decreased significantly in 2015. Declines are largely attributable to increased water conservation efforts implemented by the City in response to drought conditions and statewide water use reduction targets.

On May 5, 2015, the State Water Resources Control Board (State Water Board) adopted an Emergency Regulation for urban water conservation to address, in part, the mandatory 25 percent statewide reduction mandated by the Governor by Executive Order on April 1, 2015. As part of this Emergency Regulation, the City was directed to reduce water usage by 28 percent compared to 2013 water usage. The City responded with numerous water conservation measures and declared a Level 2 water supply shortage. (Details on water supply shortage actions are provided in Section 8, Water Shortage Contingency Plan.)

### 3.3 Existing and Target Per Capita Water Use

The Water Conservation Bill of 2009 (SBX7-7) is one of four policy bills enacted as part of the November 2009 Comprehensive Water Package (Special Session Policy Bills and Bond Summary). The Water Conservation Bill of 2009 provides the regulatory framework to support the statewide reduction in urban per capita water use described in the *20 by 2020 Water Conservation Plan*. Consistent with SBX7-7, each water supplier must determine and report its existing baseline water consumption and establish water use targets in gallons per capita per day (GPCD), and compare actual water use against the target; reporting began with the 2010 UWMP. The primary calculations required by SBX7-7 are summarized in Table 3-5.

**TABLE 3-5  
SBX7-7 CALCULATION**

	<b>2010 UWMP</b>	<b>2015 UWMP</b>	<b>2020 UWMP</b>
Base Daily Water Use calculation (average GPCD used in past years)	First calculated and reported in 2010 plan	May be revised in 2015 Plan, must be revised if 2010 Census data not used in original calculation	NA
Interim Water Use Target (target GPCD in 2015)	First calculated and reported in 2010 plan	May be revised in 2015 Plan, must be revised if 2010 Census data not used in original calculation	NA
Compliance Water Use Target (target GPCD in 2020)	First calculated and reported in 2010 plan	May be revised in 2015 Plan, must be revised if 2010 Census data not used in original calculation	NA
Actual 2015 Water Use (in GPCD)	NA	In 2015 Plan must compare actual 2015 GPCD against 2015 target	NA
Actual 2020 Water Use (in GPCD)	NA	NA	In 2020 Plan must compare actual 2020 GPCD against 2020 target

In the 2015 UWMP water agencies must demonstrate compliance with the target established for 2015 and demonstrate that the agency is on track to achieve its 2020 target. Compliance is done through review of the SBX7-7 Verification Tables submitted with the 2015 Plan (included as Appendix B).

The City of Thousand Oaks first reported its Base Daily Water Use in its 2010 UWMP. However, at the time the 2010 UWMP was prepared the full 2010 Census data set was not available. According to the 2015 UWMP Guidebook, the City of Thousand Oaks is therefore required to redo the Base Daily Water Use calculation in this UWMP.

The Base Daily Water Use calculation is based on gross water use by an agency in each year and can be based on a ten-year average ending no earlier than 2004 and no later than 2010 or a 15-year average if ten percent of 2008 demand was met by recycled water. Base Daily Water Use must account for all water sent to retail customers, excluding:

- Recycled water
- Water sent to another water agency
- Water that went into storage

It is at an agency's discretion whether or not to exclude agricultural water use from the Base Daily Water Use calculation. If agricultural water use is excluded from the Base Daily Water Use calculation it must also be excluded from the calculation of actual water use in later urban water management plans. The City did not supply water to agriculture during the period 1995 to 2010 and so agricultural water does not factor into the City's SBX7-7 calculations.

An urban retail water supplier must set a 2020 water use target (herein called the Compliance Water Use Target) and a 2015 interim target (herein called the Interim Water Use Target). There are four methods for calculating the Compliance Water Use Target:

1. Eighty percent of the urban water supplier's baseline per capita daily water use
2. Per capita daily water use estimated using the sum of the following:
  - a. For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of DWR's 2016 report to the Legislature reviewing progress toward achieving the statewide 20 percent reduction target, this standard may be adjusted by the Legislature by statute.
  - b. For landscape irrigated through dedicated or residential meters or connections, water use efficiency equivalent to the standards of the Model Water Efficient Landscape Ordinance set forth in section 490 et seq. of Title 23 of the California Code of Regulations, as in effect the later of the year of the landscape's installation or 1992.
  - c. For CII uses, a ten percent reduction in water use from the baseline CII water use by 2020.
3. Ninety-five percent of the applicable state hydrologic region target as stated in the state's April 30, 2009, draft 20 by 2020 Water Conservation Plan. The City falls within the South Coast Hydrologic Region (95% of the target for this region is 142 GPCD).
4. Reduce the 10 or 15-year Base Daily Per Capita Water Use a specific amount for different water sectors:
  - a. Indoor residential water use to be reduced by 15 GPCD or an amount determined by use of DWR's "BMP Calculator".
  - b. A 20 percent savings on all unmetered uses.
  - c. A 10 percent savings on baseline CII use.
  - d. A 21.6 percent savings on current landscape and water loss uses.

The Interim Water Use Target is set as a halfway point between the Base Daily Water Use GPCD and the 2020 Compliance Water Use Target GPCD.

Finally, the selected Compliance Water Use Target must be compared against what DWR calls the “Maximum Allowable GPCD”. The Maximum Allowable GPCD is based on 95 percent of a 5-year average base gross water use ending no earlier than 2007 and no later than 2010. The Maximum Allowable GPCD use is used to determine whether a supplier’s 2015 and 2020 per capita water use targets meet the minimum water use reduction of the SBX7-7 legislation. If an agency’s Compliance Water Use Target is higher than the Maximum Allowable GPCD, the agency must instead use the Maximum Allowable GPCD as their target.

### 3.3.1 Base Daily Per Capita Water Use

Figure 2-1 illustrates the City of Thousand Oaks service area used to estimate the Base Daily Per Capita Water Use. Table 3-6 through 3-9 summarize the Base Daily Water Use calculation for the City of Thousand Oaks. As is shown in these tables, the City of Thousand Oaks is not eligible to use a 15-year base period. Years 1999 to 2008 have been selected for calculation of the 10-year base period while years 2004 to 2008 have been selected for calculation of the 5-year base period.

**TABLE 3-6  
BASELINE PERIOD RANGES**

<b>Baseline</b>	<b>Parameter</b>	<b>Value</b>	<b>Units</b>
10 to 15 year baseline period	2008 total water deliveries	14,310	AFY
	2008 total volume of delivered recycled water	0	AFY
	2008 recycled water as a percent of total deliveries	0	Percent
	Number of years in baseline period <sup>(a)</sup>	10	Years
	Year beginning baseline period range	1999	-
	Year ending baseline period range <sup>(b)</sup>	2008	-
5 year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2004	-
	Year ending baseline period range <sup>(c)</sup>	2008	-

**Notes**

- (a) If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a contiguous 10-year period. If the amount of recycled water delivered in 2007 is 10 percent or greater, the first baseline period is a contiguous 10 to 15 year period.
- (b) The ending year must be between December 31, 2004 and December 31, 2010.
- (c) The ending year must be between December 31, 2007 and December 31, 2010.

In order to calculate Base Daily Per Capita Water Use for past years, it was necessary to develop population estimates for past years. The population for the City of Thousand Oaks was calculated for 1990, 2000, 2010 and 2015 using the DWR online population tool.

The tool uses a Geographic Information System (GIS) interface to derive population. By adding shape files for the service area boundaries in 1990, 2000, and 2010, population is derived using U.S. Census Bureau census tract data from census years. Then, along with City production and

service connections, the DWR population tool derives a person's-per-connection number, which is used to determine population in the intervening years between 1990 and 2010.

As shown in the top portion of Table 3-7, the City of Thousand Oaks Baseline GPCD is estimated to be 233. As shown in the second portion of Table 3-7 the City of Thousand Oaks 5-year Baseline GPCD is 240.

**TABLE 3-7  
GALLONS PER CAPITA PER DAY**

Year		Service Area Population	Gross Water Use (million gallons)	Daily Per Capita Water Use (GPCD)
<b>10 to 15 Year Baseline GPCD</b>				
1	1999	50,091	4,038	221
2	2000	50,805	4,149	224
3	2001	51,024	4,021	216
4	2002	51,242	4,434	237
5	2003	51,461	4,376	233
6	2004	51,679	4,631	246
7	2005	51,898	4,349	230
8	2006	52,116	4,425	233
9	2007	52,335	4,753	249
10	2008	52,553	4,663	243
<b>10 to 15 Year Average Baseline GPCD</b>				<b>233</b>
<b>5 Year Baseline GPCD</b>				
Year		Service Area Population	Gross Water Use (million gallons)	Daily Per Capita Water Use (GPCD)
1	2004	51,679	4,631	246
2	2005	51,898	4,349	230
3	2006	52,116	4,425	233
4	2007	52,335	4,753	249
5	2008	52,553	4,663	243
<b>5 Year Average Baseline GPCD</b>				<b>240</b>
<b>2015 Compliance Year GPCD</b>				
2015		53,347	3,041	<b>156</b>

### 3.3.2 Compliance Water Use Targets

In addition to calculating base gross water use, the “20 by 2020” legislation requires that a retail water supplier identify its demand reduction targets.

The methodologies for calculating demand reduction targets were described above. The City of Thousand Oaks is choosing to meet SBX7-7 targets as an individual agency rather than as part of a regional alliance. The City of Thousand Oaks has selected Method 1, achieving 80% of

baseline GPCD water use (i.e., a 20% reduction). The 10 year baseline GPCD for the City of Thousand Oaks is 233, which after a 20% reduction is 187<sup>4</sup>. The Interim Water Use Target is 210 GPCD. These calculations are summarized in Table 3-8.

The City of Thousand Oaks 2015 GPCD was calculated by using the DWR population tool. Once population was derived from 1990 to 2010, 2015 could be extrapolated by using the persons-per-connection estimate in 2010 and applying it to 2015. With 2015 production and connection data, an entity can then calculate its 2015 consumption to determine if it met its 2015 interim target. As shown in Table 3-7, the City of Thousand Oaks had a 2015 GPCD of 156, which means the City has met the 2015 Interim Target.

**TABLE 3-8  
COMPONENTS OF TARGET DAILY PER CAPITA WATER USE**

Period	Value		Unit	
10-year period selected for baseline GPCD	<i>First Year</i>	1999	<i>Last Year</i>	2008
5-year period selected for maximum allowable GPCD	<i>First Year</i>	2004	<i>Last Year</i>	2008
Highest 10-year Average	233		GPCD	
Highest 5-year Average	240		GPCD	
Compliance Water Use Target	187 <sup>(a)</sup>		GPCD	
Maximum Allowable Water Use Target (5% Reduction 5yr)	228		GPCD	
<b>2020 Target</b>	<b>187</b>		GPCD	
<b>2015 Interim Target</b>	<b>210</b>		GPCD	
<b>Methodology Used</b>	Option #1			

Notes

(a) Due to rounding using the DWR calculation tool, the actual Compliance Water Use Target is 187.

### 3.4 Projected Water Use

Future City water use is estimated by considering various factors, including historic and current demands, anticipated relaxation in water use restrictions, and future land use developments. Water use projections are described below. All water demands by the City are currently treated to drinking water standards.

#### 3.4.1 Delivery Projections

##### 3.4.1.1 Changes in Conservation

From 2014 to the end of 2015, there was a significant reduction in water demands by the City, largely resulting from drought-related statewide conservation mandates and intensive conservation efforts implemented by the City. Projected water demands assume water use will increase again by 2020 to around average annual water use over the past five-year period (2011-2015), which is approximately 11,500 AFY. This anticipated rebound is based on the assumption that drought conditions resulted in greater than usual water demand reductions, which will diminish slightly once water conditions normalize again. Since these demands are

<sup>4</sup> Due to rounding when using the DWR calculation tool, the actual Compliance Water Use Target is 187, rather than 186 (233\*0.8=186).

based on historic demands, they account for ongoing water savings resulting from the City's long-standing water conservation regulations, such as the City's Water Conservation Ordinance of 1991. Specific water savings resulting from implementation of codes, standards and ordinances have not been estimated. Additional details on the ordinance are provided in in Section 8.

### 3.4.1.2 Projected Demands from New Development

The City has also evaluated additional demands from anticipated future developments. Based on known projects, the City estimates that changes in land use demands in residential, commercial, industrial and institutional, and landscape categories will result in total additional water demand of 538 AFY by 2040. Additional projected demands are calculated using the City's standard usage factors, as presented in Table 3-9.

**TABLE 3-9  
PROJECTED ADDITIONAL WATER DEMANDS BY LAND USE TYPE**

Land Use Type	No. of Units	Usage Factor <sup>(i)</sup>	Water demand (gpd)	Total Water Demand (AFY)
<b>Residential<sup>(a)</sup></b>	Apartments 652 dwellings	200 gal/day	130,400	146
	Condominiums (Townhomes) 216 dwellings	200 gal/day	43,200	48
	Single-family 281 dwellings	440 gal/day	123,640	139
<b>Commercial, Industrial and Institutional</b>	Commercial <sup>(b)</sup> 20.1 ac	3.93 gpm/ac	113,750	127
	TOBSP <sup>(c)</sup> Commercial 566.5 ksf <sup>(h)</sup>	130 gal/ksf	73,645	82
	Industrial <sup>(d)</sup> 1.4 ac	1.82 gpm/ac	3,669	4
	Office <sup>(e)</sup> 2.3 ac	3.93 gpm/ac <sup>(i)</sup>	9,039	0.01
	Institutional <sup>(f)</sup> -10 ac	1.36 gpm/ac	-19,582	-22
<b>Landscape Irrigation</b>	Proposed Parks and Recreation Area <sup>(g)</sup> n/a	n/a	n/a	14
			<b>Total</b>	<b>538</b>

Source: City of Thousand Oaks Community Development Department

**Notes:**

- (a) Includes 394 apartments and 26 townhomes within Thousand Oaks Boulevard Specific Plan area
- (b) Includes redevelopment of southeast corner of Kelley Road and Newbury Road (10 acres) from institutional to commercial uses and redevelopment of the empty shopping center (10.1 acres) at 325 Hampshire Road
- (c) Thousand Oaks Boulevard Specific Plan
- (d) Industrial project on Conejo Ridge Road
- (e) 3105 Willow Lane and S side of Willow Lane west of Skyline Drive
- (f) Redevelopment of southeast corner of Kelley Road and Newbury Road from institutional to commercial uses
- (g) Sapwi Trails Community Park (water demand estimate provided by Conejo Recreation and Park District)
- (h) ksf=thousand square feet
- (i) Per City of Thousand Oaks 2005 Water Master Plan and Thousand Oaks Blvd Specific Plan EIR.
- (j) Office assumed to have same water usage factor as commercial

It is assumed that build-out will occur by 2040 and that all anticipated future developments would therefore be realized by 2040. A linear growth rate for development was assumed

between 2020 and 2040, resulting in total demands from anticipated future developments as shown in Table 3-10.

### 3.4.2 Total Projected Water Use

Total projected demands, broken out by anticipated rebound from drought restrictions and estimated demands from anticipated future developments, are summarized in Table 3-10.

**TABLE 3-10  
TOTAL DEMANDS, BASELINE AND FUTURE DEVELOPMENT (AFY)**

<b>Demand Type</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>
Projected Baseline Demands	11,500	11,500	11,500	11,500	11,500
All Future Development through Build-Out (2040)	108	215	323	430	538
<b>Total</b>	<b>11,608</b>	<b>11,715</b>	<b>11,823</b>	<b>11,930</b>	<b>12,038</b>

It is assumed that the customer class proportions will remain the same as on average over the last five years. Total demands by customer class are shown in Table 3-11. The City does not anticipate any future sales to other agencies. However, system losses of approximately one percent of total water use are anticipated based on average water system losses for the last five years. Projected system loss volumes are also shown in Table 3-11.

**TABLE 3-11  
DEMANDS FOR POTABLE WATER – ACTUAL AND PROJECTED**

<b>Use Type</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>
Single family	6,257	7,721	7,793	7,865	7,936	8,008
Multi-family	700	780	787	794	801	809
Commercial/Institutional	1,120	1,358	1,371	1,384	1,396	1,409
Institutional/governmental	0	0	0	0	0	0
Landscape	1,249	1,620	1,635	1,650	1,665	1,680
Other	8	12	12	13	13	13
System Losses	300	116	117	118	119	120
<b>Total</b>	<b>9,634</b>	<b>11,608</b>	<b>11,715</b>	<b>11,823</b>	<b>11,930</b>	<b>12,038</b>

### 3.4.3 GPCD Targets Comparison with Projections

An overview of GPCD calculations and projections made in this 2015 UWMPs is provided in the following table.

**TABLE 3-12  
GPCD COMPARISON WITH PROJECTIONS**

<b>Water Use</b>	<b>GPCD</b>
2015 Interim Target <sup>(a)</sup>	210
2020 Target <sup>(a)</sup>	187
<b>Actual 2015 GPCD<sup>(b)</sup></b>	<b>156</b>
<b>Projected 2020 GPCD<sup>(c)</sup></b>	<b>191</b>

Notes

(a) Table 3-8

(b) Table 3-7 and 3-8

(c) Based on 2020 projected population of 53,723 and 2020 projected deliveries (total demands less system losses) of 11,492 AFY.

Based on the demand projections described above and population projections described in Section 2, the projected 2020 GPCD is 191 GPCD (not including system losses). This projected GPCD would exceed the 2020 target by 4 GPCD. As discussed under Section 3.4.1.1, the water use and therefore the projected 2020 GPCD assumes a rebound in demands to average demands of the past five year period, which constitutes a nearly 20 percent rebound. In order to achieve the 2020 target GPCD of 187 at the projected 2020 population, 2020 water demands (pertaining to actual deliveries) would have to be reduced by a total of approximately 250 AFY. This reduction in water demands is highly feasible with the continued implementation of water conservation measures, described in Section 7 – Demand Management Measures.

The City’s conservation activities, including among other things, the installation of automated meter reading, public outreach, and water conservation rebate programs will continue to increase awareness about water conservation and promote practices to bring down per capita water use.

#### 3.4.4 Water Use Projections for Lower Income Households

Senate Bill 1087 requires that water use projections of a UWMP include the projected water use for single-family and multi-family residential housing for lower income households, as defined in Section 50079.5 of the Health and Safety Code, and as identified in the housing element of any city, county, or city and county in the service area of the supplier. The City of Thousand Oaks last updated its housing element in June 2013. According to the income distribution of all City residents, described in the City housing element, approximately 40 percent fall within the state-defined income category of low, very low, or extremely low.

For purposes of estimating water use projections for the City’s lower income households, it is assumed that the city-wide occurrence of lower income households (i.e. 40 percent) applies equally to the City water service area. These demands are presented in Table 3-13 and are accounted for in total water demands described in Section 3.4.4.

**TABLE 3-13  
PROJECTIONS OF LOWER-INCOME HOUSEHOLD WATER USE (AF)**

<b>Water Use</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>
Estimated Lower Income Household Water Use <sup>1</sup>	3,400	3,432	3,464	3,495	3,527

Note:

<sup>1</sup>Assumes 40 percent of future households will be made up of lower income households, including low, very low and extremely low per Section 50079.5 of the California Health and Safety code.

In addition, the City will not deny or condition approval of water services, or reduce the amount of services applied for by a proposed development that includes housing units affordable to lower income households unless one of the following occurs:

- City specifically finds that it does not have sufficient water supply;
- City is subject to a compliance order issued by the State Water Resources Control Board Division of Drinking Water that prohibits new water connections; or
- The applicant has failed to agree to reasonable terms and conditions relating to the provision of services.

### 3.5 Other Factors Affecting Water Usage

In addition to the factors described above, future water use may be affected by other factors, such as climate or demand reducing behaviors. Historically, when the weather is hot and dry, water usage generally increases. The amount of increase varies according to the number of consecutive years of hot, dry weather and the conservation activities imposed. During cool, wet years, water usage generally decreases, reflecting less water usage for exterior landscaping.

Under current drought conditions, conservation efforts within the City have increased significantly, resulting in noticeable water demand reductions. As described above, short-term drought responses are anticipated to relax and water demands will increase. However, ongoing water resources management efforts in addition to passive water conservation will continue to contribute to demand reduction goals and will help maintain high levels of water use efficiency. Additional details on ongoing and future water conservation actions are provided in Section 7, Demand Management Measures.

## Section 4: Water Supply

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### 4.1 Overview

This section describes the water resources available to the City of Thousand Oaks for the 25-year period covered by the Plan. The City relies on treated imported water from CMWD to meet all of its domestic demands. The City owns groundwater wells that draw from the Thousand Oaks Area Groundwater Basin, however, the water is neither pumped nor used within the City water service area.

An overview of currently available and planned supplies is provided in Table 4-1 and discussed in more detail below.

**TABLE 4-1  
SUMMARY OF CURRENT AND PLANNED WATER SUPPLIES (AFY)**

<b>Water Supply Source</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>
<b><i>Existing Supplies</i></b>						
Imported Supplies from CMWD	9,634	10,108	10,215	10,323	10,430	10,538
Groundwater Production	0	0	0	0	0	0
<b>Total Existing Supplies</b>	<b>9,634</b>	<b>10,108</b>	<b>10,215</b>	<b>10,323</b>	<b>10,430</b>	<b>10,538</b>
<b><i>Planned Supplies</i></b>						
North Pleasant Valley Desalter Credits <sup>1</sup>	0	1,500	1,500	1,500	1,500	1,500
<b>Total Supplies</b>	<b>9,634</b>	<b>11,608</b>	<b>11,715</b>	<b>11,823</b>	<b>11,930</b>	<b>12,038</b>

**Note:**

<sup>1</sup> North Pleasant Valley Desalter credits enable the City of Thousand Oaks to receive an equal amount of water from CMWD as part of a wheeling arrangement.

### 4.2 Purchased (Imported) Water Supplies

The City has been relying on imported water to meet its water demands since it became available in 1963. The City purchases the imported water from CMWD, the wholesale provider of imported water to the region, which owns and operates a transmission system to convey water to local water retail agencies across an area of approximately 350 square miles. The imported water is supplied to CMWD's distribution system through a system connection with MWDSC, a SWP Project contractor. The City water system has ten turnout connections with the CMWD system.

Historical water purchases from CMWD starting in 1980 are as shown in Table 4-2.

**TABLE 4-2  
SUMMARY OF HISTORICAL WATER PURCHASES FROM CMWD (AFY)**

<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>
8,053	9,310	10,917	9,798	12,734	13,347	10,978	9,634

#### 4.2.1 State Water Project Water Supply Reliability

The City's evaluation of the dependability of imported supplies is directly related to CMWD's ability to meet demands in its service area. The City is relying on CMWD's projections to evaluate the reliability of imported supplies and the amount of imported water which will be available to the City. A combination of imported water supplies, CMWD's recycled water and planned local resource programs were taken into consideration in CMWD's reliability analysis. CMWD's supply projections also take into account projected purveyor demands on CMWD, including demand projections provided to CMWD by the City.

Based on information provided in CMWD's Purveyor Draft 2015 UWMP, CMWD projects having sufficient supplies through 2040 to meet City imported water demands under average, single-dry, and multiple-dry year conditions. Accordingly, the City anticipates receiving imported supplies as shown in Table 4-3.

CMWD has indicated through information provided in the Purveyor Draft 2015 UWMP, that it could provide supplies beyond the City's demand projections, up to nearly 12,700 AFY by 2040 under normal year conditions and up to approximately 14,000 AFY by 2040 under dry year conditions. The table below reflects only the volumes of imported water expected to be purchased based on projected imported water demands.

**TABLE 4-3  
IMPORTED WATER SUPPLY RELIABILITY (AFY)  
AVERAGE, SINGLE DRY AND MULTIPLE DRY YEAR CONDITIONS**

	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>
Normal Year Supply	10,108	10,215	10,323	10,430	10,538
Single-Dry Year Supply	11,268	11,387	11,505	11,623	11,742
Multiple-Dry Year Supply	8,947	9,044	9,141	9,237	9,334

Note: Values shown here do not account for North Pleasant Valley Desalter credits.

#### 4.2.1.1 Metropolitan Water District of Southern California

Impacts on SWP supplies, as well as below-average precipitation conditions in the Colorado River have significant implications for MWDSC's overall ability to meet member agency demands. However, MWDSC has invested significantly in the development of a diverse resource mix to ensure continued reliability of its supplies. In addition, MWDSC has undertaken numerous planning initiatives, including a recent update to the Integrated Water Resources Plan (IRP), the Water Surplus and Drought Management Plan, the Water Supply Allocation Plan, and

the Long-Term Conservation Plan. These efforts enable MWDSC to meet water supply needs of its member agencies under various water year types.

MWDSC adopted its first Integrated Resources Plan (IRP) in 1996, which focused on increasing regional supply reliability through a diverse water resource portfolio and conservation measures. In recognition of the significant uncertainty in long-term water supply planning, additional emphasis has been put on adaptive management planning. In its 2010 Integrated Resources Plan (IRP), MWDSC presents strategies to providing sustainable water supplies for its member agencies, based on three specific components. These components consist of baseline efforts designed to maintain reliable water supplies, an uncertainty buffer to help mitigate short-term changes, and foundational action for securing additional water resources if conditions change dramatically and are persistent.

The IRP emphasizes the goals of meeting agency demand under all foreseeable hydrologic conditions, while also promoting water use efficiency to increase reliability. In planning the water resource supply portfolio out to the year 2035, hydrologic, regulatory and other types of uncertainties were taken into account. Emergency scenarios are not addressed by the IRP, but are addressed under MWDSC's emergency response plan.

In the IRP, MWDSC identifies a resource mix of local water resources, imported supply and conservation measures. Among the regional resources, MWDSC also utilizes storage strategies to increase both SWP and Colorado River reliability. Such strategies include utilizing Diamond Valley Lake and shared portions of Lake Perris and Castaic Lake, and developing off-stream storage facilities along the SWP California Aqueduct and the Colorado River Aqueduct. It's found that continuation of diversification of the regional supply portfolio, as well as an increased emphasis on water use efficiency, will allow for reliable supplies to meet agency demands into the future.

MWDSC also maintains two main documents that address water shortage and allocation strategies, which are discussed further in Chapter 8.

#### **4.2.1.2 Calleguas Municipal Water District**

Similarly to MWDSC, CMWD's supply reliability highly depends on SWP water delivery reliability and related challenges, including increased demands, more stringent regulations, and degrading water quality. CMWD has focused its planning efforts on more efficient use of existing supplies and maximization of local resources. CMWD water resources management efforts and its capital improvement program are aimed at reducing the region's water demands and need for imported water. CMWD's capital improvement program will expand recycled water systems and conjunctive-use facilities. Some of the major CMWD strategies to improve water supply reliability in the region include the following:

- Lake Bard Water Treatment Plant – The lake includes a storage capacity of approximately 8,000 acre-feet, which may be used during emergencies and peak demand.



WWTP is discharged to the Conejo Creek and is made available to other agencies for beneficial uses downstream. Known as the Conejo Creek Diversion Project, this project provides a regional benefit of reduced groundwater pumping through in-lieu use of recycled water; therefore, the City receives water conservation credits which may be used to offset imported water supplies in the event of a water supply shortage. Additional details on this project are discussed in Section 4.5.4.

Recycled water is currently not directly used or planned for use within the City's water service area. As the non-potable water supply from the Hill Canyon WWTP is being provided to other agencies, it is not accounted for in total City water supplies.

The City is currently evaluating options to increase local supply reliability with a focus on groundwater and recycled water. See Section 4.6.1 for additional discussion.

**TABLE 4-4  
WASTEWATER COLLECTED WITHIN SERVICE AREA 2015 (AFY)**

<b>Name of Wastewater Collection Agency</b>	<b>Wastewater Volume Metered or Estimated?</b>	<b>Volume of Wastewater Collected from UWMP Service Area in 2015</b>	<b>Name of Agency Receiving Collected Wastewater</b>	<b>Treatment Plant Name</b>	<b>Is WWTP Located Within UWMP Area?</b>	<b>Is WWTP Operation Contracted to a Third Party?</b>
City of Thousand Oaks	Estimated	4,450	City of Thousand Oaks	Hill Canyon WWTP	No	No

**TABLE 4-5  
WASTEWATER TREATMENT AND DISCHARGE WITHIN SERVICE AREA IN 2015**

<b>Wastewater Treatment Plant Name</b>	<b>Discharge Location Name or Identifier</b>	<b>Discharge Location Description</b>	<b>Method of Disposal</b>	<b>Does This Plant Treat Wastewater Generated Outside the Service Area?</b>	<b>Treatment Level</b>	<b>2015 Volumes (AFY)</b>			
						<b>Wastewater Treated</b>	<b>Discharged Treated Wastewater</b>	<b>Recycled Within Service Area</b>	<b>Recycled Outside of Service Area</b>
Hill Canyon WWTP	Santa Rosa Road, Camarillo	North Fork Arroyo Conejo	River/creek outfall	Yes	Tertiary	10,300	1,030	0	9,270
<b>Total</b>						<b>10,300</b>	<b>1,030</b>	<b>0</b>	<b>9,270</b>

## 4.5 Desalinated Water Opportunities

The California UWMP Act requires a discussion of potential opportunities for use of desalinated water (Water Code Section 10631[h]). The City has evaluated opportunities for using desalinated water in future supply options. However, at this time, none of the opportunities is practical or economically feasible for the City and the City has no current plans to pursue them. Therefore, desalinated supplies are not included in the supply summaries in this Plan. Desalination options considered by the City are described below.

### 4.5.1 Opportunities for Brackish Water and/or Groundwater Desalination

The City is currently collaborating in the North Pleasant Valley Regional Desalter, which will be located in the City of Camarillo and jointly owned by the Cities of Camarillo and Thousand Oaks and Camrosa Water District. The Desalter will treat brackish groundwater from the northern area of the Pleasant Valley Groundwater Basin and will produce a total of 7,500 AFY of high quality potable water. The Desalter is currently in design and anticipated to become operational by 2020.

Water produced at the Desalter will be delivered directly to customers in Camarillo's water system or pumped into CMWD's regional wholesale water distribution system where it will be available to other retail agencies. The City of Thousand Oaks and Camrosa Water District will not directly take water from the Desalter because their service areas are not connected to Camarillo's water system. Rather, these entities will receive credit for desalted water delivered to other retail agencies connected to and located downstream within CMWD's distribution system. Each unit of desalter water put into the Calleguas system will be reflected in a discount on imported water purchases from Calleguas made by the City of Thousand Oaks and Camrosa Water District. As part of the agreement, the City of Thousand Oaks will receive 1,500 AFY in credits, starting in 2020. These credits are projected to be available in equal amounts during all water year types, as shown in Table 4-6.

**TABLE 4-6  
NORTH PLEASANT VALLEY DESALTER CREDITS (AFY)**

	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>
Normal Year	1,500	1,500	1,500	1,500	1,500
Single-Dry Year	1,500	1,500	1,500	1,500	1,500
Multiple-Dry Year	1,500	1,500	1,500	1,500	1,500

The North Pleasant Valley Regional Desalter is in part possible due to the Regional Salinity Management Pipeline (SMP) that CMWD has been building. The SMP is enabling implementation of local groundwater desalting facilities by providing a method for disposal of the brine waste. Brine enters the SMP and is discharged to the ocean.

At this time, the City neither pumps nor uses groundwater within its service area and currently has no plans to produce local groundwater to augment City water supplies in the future. While groundwater is available in the Thousand Oaks Area Basin, the water is of poor quality and the cost to treat the water to drinking water standards is currently considered cost-prohibitive for the City. It is recommended that the City continue to monitor the water quality of the groundwater and keep informed on treatment technology to determine if the groundwater will be an economical supply source in the future. With the impending completion of CMWD's SMP, economic feasibility to develop additional groundwater sources within the Conejo Creek sub-basin could improve.

#### 4.5.2 Opportunities for Seawater Desalination

As the City is not located along the coast, it is neither practical nor economically feasible for the City to implement a seawater desalination program. However, similar to the brackish water and groundwater desalination opportunities described above, the City could provide financial assistance to other retailers and/or team with CMWD to provide financial assistance in the construction of other retail water purveyor's seawater desalination facilities in exchange for SWP supplies.

#### 4.5.3 Water Exchanges and Transfers

Interconnections with neighboring water purveyors can also be considered a source of supply. Interconnections allow for agencies to share supply and storage. Currently, the City has two emergency interconnections with Cal Water, based on an agreement finalized in November 2014. This interconnection allows each agency to provide water service to the other agency under emergency conditions, such as a water supply system failure, repair or maintenance, extended power outage, natural disaster or other emergency circumstance where water supplies from CMWD are insufficient to serve essential customer needs.

#### 4.5.4 Conejo Creek Diversion Project

The City, in conjunction with CMWD and Camrosa Water District, completed a cooperative project, which began operation in 2002 by making treated wastewater from the Hill Canyon Treatment Plant available for downstream beneficial uses. The State Water Resources Control Board approved the City's water rights application in 1997, which allowed the City to appropriate water discharged to Conejo Creek as part of the Conejo Creek Diversion Project.

The Project is located along Conejo Creek, a tributary to Calleguas Creek, located in southwestern Ventura County. The diversion is located about 300 feet south of Highway 101, two miles upstream of the confluence of Conejo Creek and Calleguas Creek, and about 10 miles from the Pacific Ocean. The majority of the water diverted from Conejo Creek by the project is discharged into the creek from the City's Hill Canyon WWTP, located about seven miles upstream of the diversion location. The diverted water is pumped to Camrosa's storage ponds and eventually distributed to Camrosa Water District customers and the Pleasant Valley County Water District for irrigation purposes.

In 2013, the City of Thousand Oaks and Camrosa entered into a new agreement re-establishing and consolidating the terms of their relationship with respect to the Conejo Creek Project. As part of the renewed agreement, Camrosa will now purchase the water directly from Thousand Oaks, rather than through CMWD as previously occurred. In addition, Camrosa may now directly sell surplus project water to Pleasant Valley. Further, with adoption of the new agreements, CMWD discontinued involvement in the project.

Through these agreements, the City receives conservation credits that can eventually be used to meet demands during future water shortages. For each acre-foot of project water that offsets groundwater pumping from aquifers within the Fox Canyon Groundwater Management Agency, the City receives one half of one acre-foot to be placed in a potable water conservation bank to be used in case of a water supply shortage. The project makes on average 9,000 AFY available for various beneficial uses along Conejo and Calleguas Creek, in the Santa Rosa Valley and the Oxnard Plain. Since the project minimum yield is 3,000 acre-feet per year, this guarantees at least 1,500 acre-feet in conservation credits, which is shared with the three principal water retailers - the City, Cal-Am and California Water Service.

In addition to providing the City with water conservation credits, the Conejo Creek Diversion Project has substantial regional benefits. The project allows downstream water users to use recycled water from the Hill Canyon WWTP in-lieu of groundwater pumping. Reduced groundwater pumping also contributes to reducing basin overdraft problems, including seawater intrusion in the Oxnard Plain, and thereby also helps reduce TDS levels in the groundwater basin. These benefits are summarized in Table 4-7.

**TABLE 4-7  
CONEJO CREEK DIVERSION PROJECT BENEFITS**

1	Reduce the reliance on additional imported water supplies by recycling water originally imported from northern California.
2	Reduce groundwater overdraft in the Oxnard Plain and Pleasant Valley Groundwater basins by replacing groundwater pumping as a supply for agricultural irrigation.
3	Help sustain agricultural viability in the Santa Rosa Valley and the Oxnard plain by supplying a reliable agricultural irrigation supply.
4	Provide a relatively inexpensive and reliable water source for agriculture.
5	Provide a supplemental water supply that can be used conjunctively with potable sources to increase municipal water supply reliability.

#### 4.6 Future Water Projects

The City has considered and continues to consider potential future water supply options. Aside from the water supply alternatives described in the sections above, the City does not currently have specific plans to implement new water projects to augment City water supplies in the future.

The City's water supplies are currently exclusively met with imported SWP water and this supply is anticipated to be a major component of the City's water resource portfolio going forward. Therefore, the City's water supply reliability highly depends on CMWD, MWDSC, and the SWP. The reliability of imported water sources and efforts by the relevant agencies to increase delivery reliability are discussed further in Chapter Section 6.

#### 4.6.1 Conejo Groundwater and Reclaimed Water Study

The City recently completed a study evaluating options for improving local supply reliability with a focus on local groundwater and recycled water resources (CDM Smith 2016). The Study provided potential near-term (1-5 years), mid-term (5-10 years), and long-term (10-20 years) water supply options and concluded that approximately ten percent of water use across the City could be offset with groundwater on a long-term basis.

In the near-term, groundwater could be extracted to serve non-potable uses, such as irrigation of parks and schools, and a portion could be treated for potable distribution. In the mid-term, additional groundwater could be pumped and treated for potable distribution. In the long-term, options could include direct potable reuse and groundwater recharge with outside non-potable sources obtained outside the City water service area.

Through the mid-term planning period, approximately 3,500 AFY of groundwater could be beneficially used. With the addition of non-potable reuse expansion and direct potable reuse, nearly 11,000 AFY in total local supplies could be developed over the long-term.

#### 4.7 Anticipated Water Supply Sources in Average, Single Dry and Multiple Dry Years

The following tables provide an overview of supplies anticipated to be available to the City in average/normal, single dry and multiple dry years over the planning period of this UWMP.

**TABLE 4-8  
WATER SUPPLY ESTIMATES – AVERAGE/NORMAL YEAR (AFY)**

<b>Water Supply Source</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>
<b><i>Existing Supplies</i></b>						
Imported Supplies from CMWD	9,634	10,108	10,215	10,323	10,430	10,538
Groundwater Production	0	0	0	0	0	0
<b>Total Existing Supplies</b>	<b>9,634</b>	<b>10,108</b>	<b>10,215</b>	<b>10,323</b>	<b>10,430</b>	<b>10,538</b>
<b><i>Planned Supplies</i></b>						
North Pleasant Valley Desalter Credits <sup>1</sup>	0	1,500	1,500	1,500	1,500	1,500
<b>Total Supplies</b>	<b>9,634</b>	<b>11,608</b>	<b>11,715</b>	<b>11,823</b>	<b>11,930</b>	<b>12,038</b>

Note:

<sup>1</sup> North Pleasant Valley Desalter credits enable the City of Thousand Oaks to receive an equal amount of water from CMWD as part of a wheeling arrangement.

**TABLE 4-9  
WATER SUPPLY ESTIMATES – SINGLE DRY YEAR (AFY)**

<b>Water Supply Source</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>
<b><i>Existing Supplies</i></b>						
Imported Supplies from CMWD	9,634	11,268	11,387	11,505	11,623	11,742
Groundwater Production	0	0	0	0	0	0
<b>Total Existing Supplies</b>	<b>9,634</b>	<b>11,268</b>	<b>11,387</b>	<b>11,505</b>	<b>11,623</b>	<b>11,742</b>
<b><i>Planned Supplies</i></b>						
North Pleasant Valley Desalter Credits <sup>1</sup>	0	1,500	1,500	1,500	1,500	1,500
<b>Total Supplies</b>	<b>9,634</b>	<b>12,768</b>	<b>12,887</b>	<b>13,005</b>	<b>13,123</b>	<b>13,242</b>

Note:

<sup>1</sup> North Pleasant Valley Desalter credits enable the City of Thousand Oaks to receive an equal amount of water from CMWD as part of a wheeling arrangement.

**TABLE 4-10  
WATER SUPPLY ESTIMATES – MULTIPLE DRY YEAR (AFY)**

<b>Water Supply Source</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>	<b>2040</b>
<b><i>Existing Supplies</i></b>						
Imported Supplies from CMWD <sup>1</sup>	9,634	8,947	9,044	9,141	9,237	9,334
Groundwater Production	0	0	0	0	0	0
<b>Total Existing Supplies</b>	<b>9,634</b>	<b>8,947</b>	<b>9,044</b>	<b>9,141</b>	<b>9,237</b>	<b>9,334</b>
<b><i>Planned Supplies</i></b>						
North Pleasant Valley Desalter Credits <sup>2</sup>	0	1,500	1,500	1,500	1,500	1,500
<b>Total Supplies</b>	<b>9,634</b>	<b>10,447</b>	<b>10,544</b>	<b>10,641</b>	<b>10,737</b>	<b>10,834</b>

Note:

<sup>1</sup> North Pleasant Valley Desalter credits enable the City of Thousand Oaks to receive an equal amount of water from CMWD as part of a wheeling arrangement.

## Section 5: Water Supplies and Quality

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### 5.1 Overview

The quality of any natural water is dynamic in nature. This is true for the State Water Project (SWP) water, which the City imports from CMWD to meet all its water demands. During periods of intense rainfall or snowmelt, routes of surface water movement are changed; new constituents are mobilized and enter the water while other constituents are diluted or eliminated. The quality of water may also change over the course of a year. Water quality is not a static feature of water, and these dynamic variables must be recognized.

Water quality regulations also change. This is the result of the discovery of new contaminants, changing understanding of the health effects of previously known as well as new contaminants, development of new analytical technology, and the introduction of new treatment technology. All retail water purveyors are subject to drinking water standards set by the U.S. Environmental Protection Agency (EPA) and the California State Water Resources Control Board Division of Drinking Water (DDW).

This section provides a general description of the water quality of the City's imported water supplies. A discussion of potential water quality impacts on the reliability of these supplies is also provided.

### 5.2 Imported Water

The City of Thousand Oaks purchases imported water from CMWD. This imported water is transported from northern California via the SWP and supplied to CMWD's distribution system through a system of connections with MWDSC, a SWP contractor. The water is then supplied to the City via its ten turnout connections to the CMWD system. CMWD's potable water is supplied entirely from the California SWP.

The source of SWP water is rain and snow from the Sierra Nevada, Cascade, and Coastal mountain ranges. This water travels to the Sacramento-San Joaquin Delta, which is a network of natural and artificial channels and reclaimed islands at the confluence of the Sacramento and San Joaquin rivers. The Delta forms the eastern portion of the San Francisco estuary, receiving runoff from more than 40 percent of the state's land area. It is a low-lying region interlaced with hundreds of miles of waterways. From the Delta, the water is pumped into a series of canals and reservoirs, which provides water to urban and agricultural users throughout the San Francisco Bay Area and Central and Southern California.

Imported SWP water is generally of high quality with low levels of total dissolved solids (TDS), sulfate, hardness, iron and manganese, and consistently meets all federal and state water quality standards as reported in the annual Water Quality Report (City of Thousand Oaks 2015). According to the 2014 report, TDS ranged from 325 to 641 parts per million (ppm), which is well below the California secondary standard of 1,000 ppm. Nitrate concentrations are also generally low and were measured at up to 2.7 ppm in the City's water supplies according to the 2014 report. In contrast, the California drinking water standard for nitrate is 45 ppm.

Prior to delivery to CMWD, the imported water is treated at MWDSC's Jensen Treatment Facility in Granada Hills to ensure that all water quality standards are met.

### 5.3 Groundwater

The groundwater available to the City from the Thousand Oaks Area Groundwater Basin does not meet secondary water quality standards and cannot currently be used as potable water without treatment. As noted in Chapter 4, the City does not currently supply groundwater within its service area, but as part of ongoing studies, the City is evaluating options for using groundwater in the future which could include treatment for non-potable and potable use.

### 5.4 Water Quality Impacts on Reliability

The quality of water dictates the types and extent of management strategies a retail water purveyor will implement, including, but not limited to, the selection of raw water sources, treatment alternatives, blending options, and modifications to existing treatment facilities. Maintaining the quality of water supplies helps maintain continued reliability of each source by ensuring that deliveries are not interrupted due to water quality concerns. If water supplies become degraded they may require additional treatment to ensure that drinking water standards are met. However, high levels of degradation may eventually require the water source to be taken off-line and could potentially decrease overall water supply reliability.

Based on current conditions and knowledge, water quality is not anticipated to affect the City's water reliability. The City receives and expects to continue to receive high quality imported SWP water. However, as water quality issues are constantly evolving, the City will take appropriate steps to continue providing safe, high quality water supplies, to the extent feasible. It is well recognized water quality treatment can have significant costs should the need for treatment arise.

## Section 6: Comparison of Water Supplies and Demands

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### 6.1 Overview

The Act requires urban water suppliers to assess water supply reliability by comparing total projected water use with the expected water supply over the next 20 years in five year increments. The Act also requires an assessment for a single-dry year and multiple dry years. Water use projections are described in Chapter 3 and water supply is described in Chapter 4. This chapter summarizes the City's water supply relative to demands over the 25-year planning period of this UWMP.

### 6.2 Normal, Single-Dry, and Multiple-Dry Year Reliability

Water supply and demands comparison is presented in this section for three water year scenarios: normal (average), single-dry, and multiple-dry water years. These scenarios are defined as follows:

- Normal Year: The normal year is a year in the historical sequence that most closely represents median runoff levels and patterns.
- Single- Dry Year: This is defined as the year with the minimum useable supply.
- Multiple-Dry Years: This scenario represents the lowest average water supply available for a consecutive multiple year period (three years or more).

#### 6.2.1 Normal/Average Water Year

Assumptions about supplies and demands are provided in Chapters 3 and 4. Table 6-1 demonstrates that the City anticipates adequate supplies for years 2020 to 2040 under Normal conditions.

#### 6.2.2 Single-Dry Year

The City water supplies and demands over the 25-year planning period were analyzed in the event that a critical single-dry year occurs, similar to the drought that occurred in California in 1977. Table 6-2 summarizes the existing and planned supplies available to meet demands during a single-dry year. Demand during dry years was assumed to increase by 10 percent over the average water year.

#### 6.2.3 Multiple-Dry Year

The water supplies and demands for the City service area over the 25-year planning period were analyzed in the event that a three-year multiple-dry year event occurs. Water systems are typically more vulnerable to these dry conditions of longer duration because they deplete water storage reserves in local and state reservoirs and in groundwater basins.

Table 6-3 summarizes the existing and planned supplies available to meet demands during multiple-dry years. Demand during multiple-dry year conditions was assumed to increase at the beginning of dry conditions, similar to increases expected during a single-dry year, but agency conservation actions would cause demand to decrease by 10 percent below average by the third year.

#### 6.2.4 Summary of Comparisons

As shown in the analyses below, the City has adequate supplies to meet demands during average, single-dry, and multiple-dry years throughout the 25-year planning period. The tables below reflect the supplies that are anticipated to be purchased to meet water demands. However, as described in Section 4.2.1, imported water supplies are projected to be available in surplus of total demands through 2040 for all water year types.

**TABLE 6-1  
COMPARISON OF SUPPLIES AND DEMANDS – AVERAGE/NORMAL YEAR (AFY)**

	2015	2020	2025	2030	2035	2040
<b>Existing Supplies (from Table 4-1)</b>						
Imported Supplies from CMWD	9,634	10,108	10,215	10,323	10,430	10,538
Groundwater Production	0	0	0	0	0	0
<i>Total Existing Supplies</i>	9,634	10,108	10,215	10,323	10,430	10,538
<b>Planned Supplies (From Table 4-1)</b>						
North Pleasant Valley Desalter Credits	0	1,500	1,500	1,500	1,500	1,500
<i>Total Planned Supplies</i>	9,634	11,608	11,715	11,823	11,930	12,038
<b>Total Supplies</b>	<b>9,634</b>	<b>11,608</b>	<b>11,715</b>	<b>11,823</b>	<b>11,930</b>	<b>12,038</b>
<b>Estimated Demands (Tables 3-4 and 3-11)</b>	<b>9,634</b>	<b>11,608</b>	<b>11,715</b>	<b>11,823</b>	<b>11,930</b>	<b>12,038</b>
<b>Difference (Supply - Demand)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**TABLE 6-2  
COMPARISON OF SUPPLIES AND DEMANDS – SINGLE-DRY YEAR (AFY)**

	2015	2020	2025	2030	2035	2040
<b>Existing Supplies</b>						
Imported Supplies from CMWD	9,634	11,268	11,387	11,505	11,623	11,742
Groundwater Production	0	0	0	0	0	0
<i>Total Existing Supplies</i>	<i>9,634</i>	<i>11,268</i>	<i>11,387</i>	<i>11,505</i>	<i>11,623</i>	<i>11,742</i>
<b>Planned Supplies</b>						
North Pleasant Valley Desalter Credits	0	1,500	1,500	1,500	1,500	1,500
<i>Total Planned Supplies</i>	<i>0</i>	<i>12,768</i>	<i>12,887</i>	<i>13,005</i>	<i>13,123</i>	<i>13,242</i>
<b>Total Supplies</b>	<b>9,634</b>	<b>12,768</b>	<b>12,887</b>	<b>13,005</b>	<b>13,123</b>	<b>13,242</b>
<b>Estimated Demands</b>	<b>9,634</b>	<b>12,768</b>	<b>12,887</b>	<b>13,005</b>	<b>13,123</b>	<b>13,242</b>
<b>Difference (Supply - Demand)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**TABLE 6-3  
COMPARISON OF SUPPLIES AND DEMANDS – MULTIPLE-DRY YEAR (AFY)**

	2015	2020	2025	2030	2035	2040
<b>Existing Supplies</b>						
Imported Supplies from CMWD	9,634	8,947	9,044	9,141	9,237	9,334
Groundwater Production	0	0	0	0	0	0
<i>Total Existing Supplies</i>	<i>9,634</i>	<i>8,947</i>	<i>9,044</i>	<i>9,141</i>	<i>9,237</i>	<i>9,334</i>
<b>Planned Supplies</b>						
North Pleasant Valley Desalter Credits	0	1,500	1,500	1,500	1,500	1,500
<i>Total Planned Supplies</i>	<i>0</i>	<i>10,447</i>	<i>10,544</i>	<i>10,641</i>	<i>10,737</i>	<i>10,834</i>
<b>Total Supplies</b>	<b>9,634</b>	<b>10,447</b>	<b>10,544</b>	<b>10,641</b>	<b>10,737</b>	<b>10,834</b>
<b>Estimated Demands</b>	<b>9,634</b>	<b>10,447</b>	<b>10,544</b>	<b>10,641</b>	<b>10,737</b>	<b>10,834</b>
<b>Difference (Supply - Demand)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: This table reflects the third year of dry year conditions.

## Section 7: Demand Management Measures

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### 7.1 Demand Management

The purpose of the Demand Management Measures (DMM) section of this UWMP is to describe the DMMs that the City (a) has implemented over the past five years (since 2010) to meet its urban water use reduction targets and (b) plans to implement to meet its urban water use reduction targets. For the purposes of this UWMP the DMMs are categorized as “Foundational” and “Other”. Foundational DMMs, listed below, are those DMMs that the UWMP Act and Water Code specifically mention:

- a. Water waste prevention ordinances
- b. Metering
- c. Conservation pricing
- d. Public education and outreach
- e. Programs to assess and manage distribution system real loss
- f. Water conservation program coordination and staffing support

Activities outside of the Foundational DMMs that encourage less water use in the City fall in the “Other DMM” category.

The City of Thousand Oaks is committed to implementing water conservation programs. The City is a signatory to the Memorandum of Understanding regarding Urban Water Conservation in California dated September 1991 (and amended thereafter), and is therefore a member of the California Urban Water Conservation Council (CUWCC).

The City’s water conservation program was extensively revised in 2009 and 2010, resulting in significant demand reductions since 2008. Since then, the City has continued with extensive water use conservation activities, in part to address the long-standing drought conditions faced by the region.

Narrative descriptions of the City’s DMMs are provided below.

#### 7.1.1 Foundational DMMs

##### **7.1.1.1 Water Waste Prohibition**

Water waste and unreasonable use of water are prohibited under the City’s Water Conservation Ordinance (Ordinance 1516-NS) that went into effect on June 5, 2009. The ordinance prescribes a four tiered system of increasingly stringent water conservation standards, starting with the first tier that includes permanent water conservation requirements under all water conditions. The permanent water conservation requirements were developed in recognition that responsible and efficient water use is always a high priority for effective water resource management. The first tier is followed by Level 1 through Level 3 requirements which are imposed by City Council action based on water shortage conditions. Additional details on

these requirements are described in Chapter 8. A copy of the Ordinance is included in Appendix F.

Permanent water waste prohibitions prescribed under the Ordinance are summarized in Table 7-1.

**TABLE 7-1  
SUMMARY OF WATER WASTE PROHIBITIONS IN CITY ORDINANCE (SINCE 2009)**

<b>Permanent Requirements</b>
No watering or irrigation of lawn, landscape or other vegetated area with potable water between the hours of 9:00 a.m. and 5:00 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose with positive self-closing water shut-off nozzle or device, or for short periods of time for the express purpose of adjusting or repairing an irrigation system.
No watering or irrigation of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than 15 minutes per day per station, except where high efficiency irrigation devices are in place.
No watering or irrigation that causes excessive water flow or runoff
No washing down hard or paved surfaces
Obligation to fix leaks, breaks, or malfunctions within 7 days
Recirculating water required for water fountains and decorative features
Limits on washing vehicles
Drinking water served upon request only
Commercial lodging provide option to decline daily linen service
No installation of single pass cooling systems
No installation of non-recirculating water systems in commercial car wash and laundry systems
Restaurants required to use water conserving dish wash spray valves
Commercial car washers must incorporate re-circulating water systems

In 2015 in response to the current drought the City enacted additional restrictions – these are described in Chapter 8.

### **7.1.1.2 Metering**

The City of Thousand Oaks water system is fully metered. In efforts to increase metering efficiency, the City is also implementing meter change-out and upgrade programs.

The City’s water meter change-out program involves removing 10-year-old standard 3/4 inch water meters and replacing them with new meters. New meters generally increase water bills to their proper level and customers with recorded water usage will tend to conserve water.

Pursuant to State Assembly Bill No. 1881 (AB 1881), as of January 1, 2008, all new non-single family residential projects that contain more than 5,000 square feet of irrigated landscape require a fully separate water meter for irrigation and landscaping. The City has made this requirement a condition of the development permit for applicable projects. In addition, as part of Ordinance 1516-NS, effective as of 2009, the City requires separate meters for each parcel of property, house, dwelling unit or building of separate ownership, including single family detached residences, condominiums and business buildings.



The City also requires meters for construction water used for development and capital projects. This requirement encourages conservation by requiring contractors to pay for the water they use.

#### **7.1.1.4 Public Education and Outreach**

##### Past and Ongoing Efforts

The City actively promotes water conservation and other resource efficiencies within its water service area with an extensive public information program. Major elements of the City's water conservation education and outreach program that have been implemented in the past, many as since 2008, and continue to be implemented include the following:

- City website with water conservation information
- Billing inserts, including water use graphics, conservation tips, hotline information and free survey information
- Direct mailings to AMR customers when possible leak is detected
- Water Conservation Hotline for residents to report leaks and observations of water waste
- Door tags left at homes/businesses with inefficient usage
- Brochures distributed at City Hall, libraries, Senior Center and at public events
- Quarterly City newsletter "CityScene" contains water conservation message
- Message displays in areas of high public visibility, including the regional shopping center, libraries, theaters, Civic Arts Plaza
- Articles in the local papers, City press releases
- Water conservation demonstration garden at City Hall
- Local government channel (TOTV) airs programs on water conservation and public City service announcements
- Presentations to business groups, homeowners associations, and other large water users
- Water conservation workshops and lectures

The City recognizes the importance of engaging the public in water conservation activities and promoting behavioral changes, as well as encouraging water conservation projects, such as turf removal, in order to maximize water savings. In addition to direct outreach, the City aims to lead by example and broadcast City water conservation actions through various media outlets to increase community awareness and engagement.

The City Library Department is a major source of water conservation information and outreach and is currently developing a speaker's series on water conservation related topics and will host water conservation displays.

The numerous outreach resources to encourage water conservation are being augmented through the City as well as the GoGreen team's social media channels and e-newsletters. The GoGreen team consists of City Public Works staff dedicated to implementing the City of Thousand Oaks Environmental Program, by conducting activities that include promoting recycling, proper hazardous waste disposal, and energy efficiency. Additional information can be found at the Environmental Programs Information Portal ([http://www.toaks.org/government/depts/public\\_works/environmental/default.asp](http://www.toaks.org/government/depts/public_works/environmental/default.asp)).

### Efforts in 2015

Prior to the Governors drought mandate in April of 2015, the City had a simple website page with water conservation measures and supported a joint website on water conservation measures (<http://www.venturacountygardening.com/>) with other local agencies.

In response to the severe drought and significant reductions required in urban water use, the City's website information was substantially expanded and a direct URL to the City's water conservation page ([www.toaks.org/savewater](http://www.toaks.org/savewater)) was provided to facilitate navigation. The website is an information hub for all water related issues, including rebates, water conservation tips, progress in meeting reduction mandates, and other updates. A link to the page is also prominently displayed on the main City webpage as well as the City's "GoGreen" webpage. In addition, a new logo was designed and is placed on all City materials to emphasize the need to save water as a community and to advertise the new water conservation landing page.

At the City's Arbor/Earth Day celebration the City hosted a stand-alone booth for water conservation issues and multiple water conservation related workshops. In addition, a Defeat the Drought Event was co-hosted with Assembly Member Jacqui Irwin in June 2015 (<http://www.toaksgogreen.org/water-conservation-expo-plant-giveaway-sat-june-27/>).

Water education events and workshops are extensively advertised on the City's "GoGreen" page ([www.toaks.org/gogreen](http://www.toaks.org/gogreen)) on the Calendar of Events and promoted through the City's blog. The numerous water conservation related events hosted by the City in 2015 alone, included:

- Water efficiency workshops
- Biochar workshops (for increasing landscape water use efficiency)
- Greywater workshops
- Garden retrofit workshops
- Lectures and workshops water efficient plant selection and maintenance

#### **7.1.1.5 Programs to Assess and Manage Distribution System Real Loss**

Annual water purchases are compared to water sales to audit the distribution system for unaccounted for water losses. In addition, leak detection is a continuing activity conducted as part of routine on-site detection programs or as part of formal water audits as described below.

A Water Activity Report, previously called Water Loss Report, was produced for Fiscal Year 2014/2015, based on the water system balance methodology established by the American Water Works Association (AWWA) Manual 36. The results showed that the City's unaccounted for water losses are minimal, at approximately one percent in fiscal Year 2014/2015.

The City routinely conducts leak detection on all streets scheduled for repair prior to the commencement of street overlay or slurry seal projects. In addition, areas of the City that have poly service lines are annually checked for leaks, and lines found to be leaking are replaced with copper service lines. Water meters that are 10 years old and older are identified and replaced to prevent loss to leaks and to improve the accuracy of water billing. In addition, City water division staff routinely test 25 to 50 large (2" and larger) meters per year to determine accuracy. Water meters are read bimonthly and any leaks found by the meter reader in the field are reported and corrected. Customers are notified when leaks are found on the customer's side of the meter.

#### **7.1.1.6 Water Conservation Program Coordination and Staffing Support**

The Public Works Department's Resource Division Manager manages the City's Water Conservation Program. The Division Manager provides overall program coordination of staff members assigned to public information, program planning, implementation and reporting.

As part of the City's efforts to implement the Water Conservation Ordinance and Drought Action Plan in 2015, the City has recently been increasing coordination and staff support for implementation of its water conservation program.

The City has been meeting with the other City water purveyors monthly to coordinate outreach and education efforts. Internally, the City has formed a working group with staff from the Finance Customer Service Department, City Manager's Office and Public Works staff to coordinate efforts and educate residents and businesses.

Public Works field staff, including the Municipal Service Center, Water Quality, Code Enforcement, Inspectors, and other field staff received training on the basic issues and rules, and have an important role in outreach activities, as well as in observing violations. Staff hand out "Water Conservation Courtesy Notice" door hangers if they observe an issue and report any potential violations.

The City also formed a volunteer water outreach team to do outreach and assist in educating the public. One of the members of this team was hired to fill a newly created water outreach hourly position that is funded for up to 1,000 hours.

A new Sustainability Analyst position has been created that is half-time funded through the City water agency. The hired analysis will have primary responsibility for coordinating and implementing the Drought Action Plan and will be the primary outreach staff of the water team.



### 7.1.2.3 Water Conservation Rebates

The City began implementing rebate programs starting in 1992 with the City’s first ultra-low flush toilet (ULFT) rebate program, followed by the City’s high efficiency clothes washer (HECW) rebate program in 2002.

Currently, the City offers rebates to its customers through MWDSC’s regional “SoCal WaterSmart” Rebate Program, which was launched in 2008. Rebates are available for indoor uses like high efficiency clothes washers and toilets, and outdoor uses, including rebates for efficient irrigation systems, turf removal and rain barrels.

Table 7-3 summarizes the number of rebates provided between 2010 to 2015.

**TABLE 7-3  
WATER CONSERVATION REBATES PROVIDED BETWEEN 2010 AND 2015**

Rebate Type	Quantity by Year					
	2010	2011	2012	2013	2014	2015
HECW	202	257	160	53	140	86
HET	44	38	41	27	179	400
WBIC	1	12	4	10	7	25
Rain Barrel <sup>(a)</sup>					36	55
Turf Removal (sqft) <sup>(a)</sup>					204,957	916,137

**Notes**

(a) Program implementation began in 2014

The Low Flow Showerhead Kit distribution program was implemented in June 1991. The City has distributed more than 5,500 low flow showerheads during the past 15 years. Showerheads, toilet displacement bags and faucet aerators are distributed to customers upon request. In 2015, mainly showerheads and dye tabs were distributed.

### 7.1.2.4 Residential Plumbing Retrofit

The Thousand Oaks City Council adopted Ordinance 1069-NS on May 8, 1990, adding Section 902.1 and modifying the Uniform Plumbing Code requiring that ULFTs and other water saving devices be installed in all new construction. This has been superseded by state law. Effective January 1, 2014, Senate Bill 407 required that all pre-1994 residential, multi-family and commercial customers replace non-compliant plumbing fixtures (including toilets, faucets, and shower heads) with water-conserving fixtures when making certain improvements or alterations to a building. By 2017, all single family homes must replace non-compliant plumbing fixtures, and by 2019, all multifamily and commercial buildings must have compliant water-conserving plumbing fixtures in place.

### **7.1.2.5 Large Landscape Conservation Programs and Incentives**

The City has identified and periodically reviews all accounts with dedicated landscape meters. The largest irrigation users in the City's water service area are the Conejo Recreation and Park District (parks playgrounds, sports fields), the Conejo Valley Unified School District (playgrounds and sports fields) and the City itself (public landscape irrigation). Water usage for these accounts is closely monitored by City water conservation program staff. For the last five years, City staff has worked with the large irrigation users to implement water savings programs. As a result, the Conejo Recreation and Park District has reduced water usage by an average of 14 percent, the Conejo Valley Unified School District has reduced usage by an average of 18 percent and the City has reduced irrigation usage by 25 percent. Both the City and the Conejo Recreation and Park District have active programs to install weather based irrigation controllers. In addition, all Home Owners Associations with irrigation meters have been contacted by mail and advised to review their usage and conserve water.

The Thousand Oaks City Council adopted the most recent revisions to the City's "Guidelines and Standards for Landscape Planting and Irrigation Plans" in 2007. The standards require that drought tolerant plant materials and low water use principles be provided in all projects. Use of water conservation principles must be provided through the use of low flow sprinkler heads, drip irrigation systems, soil moisture sensing devices, rain sensing override devices, etc. Reclaimed water irrigation systems (dual distribution systems) are required where reclaimed water is available or will be available in the foreseeable future.

The City's Community Development Department reviewed DWR's Model Water Efficient Landscape Ordinance in 2009 and determined that the City's existing landscape standards were "at least as effective" as the model ordinance requirements. As such, the City continues to utilize the 2007 "Guidelines and Standards for Landscape Planting and Irrigation Plans".

City irrigation customers may participate in the rebate program offered by MWDSC. Rebates are available for Weather-Based Irrigation Controllers and Central Computer Irrigation Controllers, rotating nozzles for pop-up spray head retrofits and large rotary nozzles. In addition, MWDSC offers the "California Friendly Landscape Training" program, including training for landscape professionals which covers:

- Irrigation Principles
- Irrigation System Troubleshooting
- Controller Programming
- Irrigation Scheduling
- Water use requirements/guidelines for common landscape plant species

### **7.1.2.6 City of Thousand Oaks Landscape and Forestry Master Plans**

The City is currently in the process of preparing a comprehensive update of the 1989 Forestry Master Plan and creating a Landscape Master Plan with the intent to incorporate drought-tolerant and water-wise landscaping into public medians, public rights-of-way and for City-maintained trees, while maintaining aesthetic integrity. Community workshops were held in 2016

to provide opportunities for community input. It is anticipated that the new plans will be adopted by City Council will by September 2016. Further information can be found at: [https://www.toaks.org/government/depts/public\\_works/construction\\_projects/current\\_projects/forestry\\_master\\_plans.asp](https://www.toaks.org/government/depts/public_works/construction_projects/current_projects/forestry_master_plans.asp)

#### **7.1.2.7 Conservation Programs for Commercial, Industrial and Institutional Accounts**

Through the MWDSC's SoCal WaterSmart program, City CII customers are eligible for rebates for high efficiency toilets, ultra low water urinals and zero water urinals, high efficiency clothes washing machines, cooling tower conductivity and pH controllers, pressurized water brooms, connectionless food steamers, air-cooled ice making machines, dry vacuum pumps, weather-based and central computer irrigation controllers, rotating irrigation nozzles for pop-up spray head retrofits and large rotary nozzles.

All car washes in the City service area utilize recycling systems for wastewater. Per the City's water conservation regulations, new car wash facilities are required to use recycling systems as a condition of approval.

#### **7.1.2.8 Coordination with Wholesale Agencies**

The City continues to work cooperatively with CMWD and MWDSC to promote water conservation and reduce water use. In the past, City staff has worked closely with CMWD and MWDSC to obtain educational materials and rebate information.

MWDSC maintains a robust public information program consisting of a website, print ads, internet ads, and radio and TV media campaigns. CMWD hosts ongoing meetings with the area water purveyors to discuss opportunities for sharing outreach materials and costs.

CMWD, in conjunction with the MWDSC, offers a variety of school education programs within the City's service area. The primary focus of the programs is to educate children on water resource issues including available water sources, water use and conservation. The programs include elementary, secondary and post-secondary education curricula, supplemental materials, assemblies and in-class presentations for K-12 teachers and students. Programs and materials are free to teachers in the City's service area. Each of the programs has been field-tested and correlates to the current California state content standards, particularly in the areas of science and history/social science.

## **7.2 Planned DMMS to Meet Water Use Targets**

Going forward, the City will continue implementation of the Foundational DMMS described in Section 7.1. However, the extent and details of implementation may be modified. It is important to note that severe drought conditions, statewide reduction mandates and wholesale agency use restrictions have led the City to considerably intensify their water conservation program efforts, including significantly increased public outreach and education. It is in the City's interest to continue ongoing activities to the extent possible in order to maintain a heightened level of water conservation. However, economic factors including feasibility and cost-effectiveness will be taken into account to evaluate future implementation and possible modifications to the City's water conservation program.

The Community Development Department plans to evaluate existing planning and building requirements to determine if modifications may be necessary to encourage additional water conservation in future developments or renovations. In addition, City staff intends to evaluate current ordinances and policies related to water conservation measures, graywater usage standards, and landscaping requirements for new development. Staff will also consider adopting practices implemented by other municipalities that may lead to additional water conservation benefits, such as water audits upon sale of a home or business.

## Section 8: Water Shortage Contingency Plan

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### 8.1 Overview

The City of Thousand Oaks last updated its Water Shortage Contingency Plan within its Water Conservation Ordinance adopted on June 5, 2009 (Appendix H). This Plan is vital to ensure the City can lower demands when supplies from MWDSC and CMWD are curtailed. On May 26, 2015, the City Council adopted a Drought Action Plan (included in Appendix H), in response to the Governor's Executive Order of April 2015 directing the State Water Resources Control Board to achieve 25 percent reduction in urban water use statewide. Whereas the Water Conservation Ordinance includes restrictions on water use, the Drought Action Plan lays out how the City will reach out to its customers to achieve demand reductions. The Drought Action Plan contains information regarding plans to reduce water use at City facilities, as well as enforcement, public outreach, staffing levels, required reporting to the state and evaluating the City's compliance with State Water Resources Controls Board regulations as well as the MWDSC Water Supply Allocation Plan.

MWDSC has two plans in place to address water shortage and allocation. The Water Surplus and Drought Management Plan (WSDM Plan, 1999) provides guidelines for supply strategy implementation depending on current demands and available supplies. As demand exceeds normal supplies, MWDSC will utilize surface and groundwater storage supplies, cease other deliveries, call for demand reductions, and purchase additional water. If supplies are still not sufficient, MWDSC will implement the Water Supply Allocation Plan (WSAP). The WSAP provides methodologies for allocating supply to each of MWDSC's retail and wholesale customers, and establishes surcharges for excess water use. The WSAP was originally adopted by the MWDSC Board in 2008 and was revised in 2014.

CMWD maintains a water shortage contingency plan consistent with MWDSC's WSDM and WSAP. As supplies from MWDSC to CMWD are reduced, CMWD will implement measures to obtain additional supplies balanced with its retailer demand reductions. CMWD's Board of Directors adopted Ordinance No. 12, which gives it authority to implement actions, and strategies to allocate supply depending on the supply reductions from MWDSC. Supply shortage conditions are unique in that each is a result of specific local, regional, and state-wide issues at the particular time of shortage. As such, the CMWD shortage contingency plan does not identify unique supply or demand reduction requirements for each of its shortage stages. Instead, CMWD's stages identify the strategy to manage supply shortages, and provide the flexibility to identify any supply or demand reduction percentages dependent on the unique issues of the particular shortage condition.

### 8.2 Stages of Action

The intent of the City's water shortage plan is to follow MWDSC's and CMWD's shortage plans. The City's ordinance establishes permanent water conservation requirements and defines three water reduction stages that can be implemented dependent on shortage severity. Each level provides for mandated water use restrictions and demand reduction actions. Similar to CMWD's shortage plan, specific supply and demand reduction percentages are not identified for the three levels. Instead, a level can be implemented that best meets the shortage while also

considering other factors, such as severity, length of projected shortage, time of year, weather, or other issues. The third water supply shortage level (emergency condition) includes actions that may be necessary if supplies are reduced up to 50 percent of normal.

Table 8-1 presents the shortage levels and associated water supply conditions.

**TABLE 8-1  
STAGES OF WSCP**

<b>Stage</b>	<b>Percent Supply Reduction</b>	<b>Water Supply Condition</b>
Level 1	n/a	Moderate water supply shortage or threatened shortage
Level 2	n/a	Severe water supply shortage or threatened shortage
Level 3	50% reduction in normal water supply	Critical water shortage emergency

### 8.3 Prohibitions on End Uses

The City’s water shortage plan maintains a permanent level of conservation requirements and water waste prohibitions in addition to the measures for each shortage level. Table 8-2 and Table 8-3 summarize the requirements for each level, including permanent prohibitions under normal supply conditions. Additional details are provided in the City’s Water Conservation Ordinance, in Appendix H.

**TABLE 8-2  
NORMAL SUPPLY CONDITIONS, PROHIBITION AGAINST WATER WASTE**

**Requirements and Restrictions**

Limits on watering hours: irrigation with potable water is prohibited between 9 am and 5 pm without use of a hand-held bucket, or a hose with positive shut-off nozzle
Limit on watering duration: irrigation without landscape irrigation system or continuously attended water device is limited to no more than 15 minutes per day, per station
No excessive water flow or runoff
No washing down hard or paved surfaces
Obligation to fix leaks, breaks, or malfunctions within 7 days
Recirculating water required for water fountains and decorative features
Limits on washing vehicles: must use hand-held bucket or hand-held hose with positive shut-off nozzle
Drinking water served upon request only
Commercial lodgings to provide option to decline daily linen service
No installation of single pass cooling systems
No installation of non-recirculating water systems in commercial car wash or laundry systems
Restaurants required to use water conserving dish wash spray valves
Commercial car washers must incorporate re-circulating water systems

**TABLE 8-3  
WATER SUPPLY SHORTAGE CONDITION, CONSERVATION AND WATER WASTE  
PROHIBITIONS**

<b>Requirements and Restrictions</b>	<b>Stage/Level</b>
All requirements and restrictions from Normal Supply Conditions	1
Limit on watering days – reduced allowable days compared to Normal Water Supply Conditions	1
Obligation to fix leaks, breaks, or malfunctions within 4 days	1
All requirements and restrictions from Level 1 Supply Shortage Conditions	2
Further limits on watering days compared to Level 1 Supply Shortage Conditions	2
Obligation to fix leaks, breaks, or malfunctions within 48 hours	2
Limits on filling ornamental lakes or ponds	2
Limits on filling residential swimming pools and spas	2
All requirements and restrictions from Level 2 Supply Shortage Conditions	3
No watering or irrigating (with some exceptions)	3
Obligation to fix leaks, breaks, or malfunctions within 24 hours	3
No new potable water services (with some exceptions)	3
Limits on building permits	3
Discontinue service for willful violation	3

### 8.3.1 Procedure for Water Shortage Level Determination

As described in the Water Conservation Ordinance, the existence of Level 1, Level 2, or Level 3 water supply shortage conditions shall be declared by resolution of the City Council and adopted at a regular or special public meeting.

### 8.4 Enforcement of Prohibitions

The Water Conservation Ordinance enables the City to enforce required water conservation actions during normal water and shortage conditions. Violations of any water use restrictions outlined in the ordinance are subject to prosecution, fines and penalties. Fines may be imposed starting with the first violation, as specified in the City Municipal Code, General Provisions, Section 1-2.03. In addition, any violation of the water use restrictions may be prosecuted as a misdemeanor through civil enforcement.

In the case of willful violations of mandatory water use restrictions, the City also has the option to install flow restrictors. If willful violations continue, the City may disconnect the customer's water service. The costs related to the installation and/or removal of flow restrictors and service disconnections are required to be paid by the person or entity in violation of the ordinance.

The City's conservation program is intended to be implemented through voluntary compliance. However, in the case of noncompliance, the following enforcement guidelines and processes are in place, as outlined in the City's 2015 Drought Action Plan.

1. Enforcement is complaint driven or based on field observations by staff.
2. The objective is voluntary compliance.

3. Education (door hanger, personal visit, or phone call) is the first step in enforcement.
4. Warning letter is the second step in enforcement.
5. Subsequent or serious violations will be referred to the City Attorney (after verification by City staff) for further enforcement. The City Attorney may revise enforcement procedures to ensure compliance with State mandates.
6. Hardship Waivers are available, subject to criteria in the ordinance.
7. All investigation and enforcement activities will be documented.

To assist in determining the accuracy of repeated community reported violations at the same property an AMR may be installed, which will verify water usage during the reported time frame.

Enforcement activities will be recorded in a central database for reporting to the Water Board.

## 8.5 Consumption Reduction Methods

Table 8-4 presents the consumption reduction methods developed in the 2015 Drought Action Plan that have been implemented during the current drought and which will apply during future droughts.

**TABLE 8-4  
STAGES OF WSCP – CONSUMPTION REDUCTION METHODS**

<b>Stage</b>	<b>Consumption Reduction Methods by Water Supplier</b>	<b>Additional Explanation or Reference</b>
All stages	Expand Public Information Campaign	Extensive public information program exists under all conditions. Outreach and education has expanded during drought conditions, including additional public announcements, an updated website and additional educational opportunities.
All stages	Improve Customer Billing	Customer bills include inserts with water use conservation information, including water use graphics. Notices of drought conditions included, as appropriate.
All stages	Increase Frequency of Meter Reading	An AMR installation program is ongoing under all conditions. Follow-up occurs by water outreach staff when potential leaks are detected on properties with AMR.
All stages	Offer Water Use Surveys	With heightened drought awareness, the City anticipates increases in surveys.
All stages	Provide Rebates on Plumbing Fixtures and Devices	City provides rebates on an ongoing basis through MWDSC's regional rebate program.
All stages	Provide Rebates for Landscape Irrigation Efficiency	City provides rebates on an ongoing basis through MWDSC's regional rebate program.



that even under circumstances of a 6-month disruption to supplies from the major imported water facilities, approximately 75 percent of average year demands could still be delivered to its member agencies (MWDSC 2016).

In the event that CMWD’s supply connection with MWDSC is disrupted and assuming other CMWD facilities are still intact, CMWD would be able to draw from Lake Bard storage and CMWD stored groundwater. These supplies could enable meeting imported water demands during a short-term MWDSC supply interruption. However, limiting purveyor water supplies to health and safety quantities only will be needed in combination with these stored supplies to meet critical demands during an extended disruption in service from MWDSC (Calleguas 2016).

The City would respond to the imported water curtailments by implementing one of the water shortage stages described above. If catastrophic conditions are such that power sources have also been impacted, the City will use their four diesel generators, as necessary, to ensure continued water distribution through their system. In addition, the emergency interconnection with Cal Water, as described in Section 4.5.3, could potentially supplement City supplies to help meet essential customer demands.

## 8.10 Minimum Supply

The minimum water supply available during the next three years would occur during a three-year multiple-dry year event between the years 2016 and 2018. Since 2015 was the driest year on record, it is assumed the minimum supply for 2016, 2017, and 2018 will be a repeat of what happened in 2015. Table 8-5 presents the minimum supply assumed to be available over the next three years.

**TABLE 8-5  
WATER SUPPLY ESTIMATES – NEXT THREE YEARS (AFY)**

<b>Water Supply Source</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b><i>Existing Supplies</i></b>			
Imported Supplies from CMWD	9,634	9,634	9,634
Groundwater Production	0	0	0
<b>Total Existing Supplies</b>	<b>9,634</b>	<b>9,634</b>	<b>9,634</b>
<b><i>Planned Supplies</i></b>			
North Pleasant Valley Desalter Credits <sup>1</sup>	0	0	0
<b>Total Supplies</b>	<b>9,634</b>	<b>9,634</b>	<b>9,634</b>

Note:

<sup>1</sup>North Pleasant Valley Desalter credits will not be available until 2020.

## References

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- Metropolitan Water District of Southern California (MWDSC). 2016. Draft 2015 Urban Water Management Plan. February 2016.

## Appendix A: DWR Checklist

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# UWMP Checklist

## Checklist Arranged by Water Code Section

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location <i>(Optional Column for Agency Use)</i>
<b>10608.20(b)</b>	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	<b>Section 3.3</b>
<b>10608.20(e)</b>	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	<b>Sections 3.3.1 and 3.3.2</b>
<b>10608.22</b>	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	<b>Section 3.3.1</b>
<b>10608.24(a)</b>	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	<b>Section 3.3.2</b>
<b>10608.24(d)(2)</b>	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	<b>Section 3.3.2</b>
<b>10608.26(a)</b>	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	<b>Section 1.5.2</b>
<b>10608.36</b>	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	<b>n/a</b>
<b>10608.40</b>	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	<b>Sections 3.3.1 and 3.3.2; Appendix B</b>
<b>10620(b)</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	<b>Section 1.3</b>
<b>10620(d)(2)</b>	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management	Plan Preparation	Section 2.5.2	<b>Section 1.5</b>

	agencies, and relevant public agencies, to the extent practicable.			
<b>10620(f)</b>	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	<b>Sections 4.4, 4.5; 4.6 Section 7</b>
<b>10621(b)</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	<b>Section 1.5</b>
<b>10621(d)</b>	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	<b>Section 1.3, 1.5.3</b>
<b>10631(a)</b>	Describe the water supplier service area.	System Description	Section 3.1	<b>Section 2</b>
<b>10631(a)</b>	Describe the climate of the service area of the supplier.	System Description	Section 3.3	<b>Section 2.4</b>
<b>10631(a)</b>	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	<b>Section 2.3</b>
<b>10631(a)</b>	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	<b>Section 2.3</b>
<b>10631(a)</b>	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	<b>Section 2.2, 2.3, 3.2.1</b>
<b>10631(b)</b>	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	<b>Sections 4, 4.1, Section 6</b>
<b>10631(b)</b>	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	<b>Section 4.3</b>
<b>10631(b)(1)</b>	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	<b>n/a</b>
<b>10631(b)(2)</b>	Describe the groundwater basin.	System Supplies	Section 6.2.1	<b>n/a</b>
<b>10631(b)(2)</b>	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	<b>n/a</b>
<b>10631(b)(2)</b>	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	<b>n/a</b>

<b>10631(b)(3)</b>	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	<b>n/a</b>
<b>10631(b)(4)</b>	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	<b>n/a</b>
<b>10631(c)(1)</b>	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	<b>Sections 4.2.1, 4.7; Section 6</b>
<b>10631(c)(1)</b>	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	<b>Section 6</b>
<b>10631(c)(2)</b>	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	<b>Sections, 4.5, 4.6, 6</b>
<b>10631(d)</b>	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	<b>Section 4.5.3</b>
<b>10631(e)(1)</b>	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	<b>Section 3</b>
<b>10631(e)(3)(A)</b>	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	<b>Section 3.2.3</b>
<b>10631(f)(1)</b>	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	<b>Section 7</b>
<b>10631(f)(2)</b>	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	<b>n/a</b>
<b>10631(g)</b>	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	<b>Sections 4.5, 4.6</b>
<b>10631(h)</b>	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	<b>Section 4.5</b>
<b>10631(i)</b>	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	<b>n/a</b>

<b>10631(j)</b>	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	<b>Section 1.5.1</b>
<b>10631(j)</b>	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	<b>n/a</b>
<b>10631.1(a)</b>	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	<b>Section 3.4.3</b>
<b>10632(a) and 10632(a)(1)</b>	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	<b>Section 8</b>
<b>10632(a)(2)</b>	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	<b>Section 8.10</b>
<b>10632(a)(3)</b>	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	<b>Section 8.9</b>
<b>10632(a)(4)</b>	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	<b>Section 8.3</b>
<b>10632(a)(5)</b>	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	<b>Section 8.5</b>
<b>10632(a)(6)</b>	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	<b>Section 8.4</b>
<b>10632(a)(7)</b>	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	<b>Section 8.7</b>
<b>10632(a)(8)</b>	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	<b>Section 8.8, Appendix H</b>
<b>10632(a)(9)</b>	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	<b>Section 8.6</b>
<b>10633</b>	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	<b>Section 4.4</b>

<b>10633(a)</b>	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	<b>Section 4.4</b>
<b>10633(b)</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	<b>Section 4.4</b>
<b>10633(c)</b>	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	<b>Section 4.4</b>
<b>10633(d)</b>	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	<b>Section 4.4</b>
<b>10633(e)</b>	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	<b>Section 4.4</b>
<b>10633(f)</b>	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	<b>n/a</b>
<b>10633(g)</b>	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	<b>Section 4.4</b>
<b>10634</b>	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	<b>Section 5</b>
<b>10635(a)</b>	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	<b>Section 6</b>
<b>10635(b)</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	<b>Section 1.5, Appendix C</b>
<b>10642</b>	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	<b>Section 1.5, Appendix C</b>

<b>10642</b>	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	<b>Section 1.5, Appendix C</b>
<b>10642</b>	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	<b>Section 1.5, Appendix C</b>
<b>10642</b>	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	<b>Section 1.5, Appendix D</b>
<b>10644(a)</b>	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	<b>Section 1.5, documentation to be provided.</b>
<b>10644(a)(1)</b>	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	<b>Section 1.5</b>
<b>10644(a)(2)</b>	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	<b>Section 1</b>
<b>10645</b>	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	<b>Section 1.5.3</b>

## Checklist Arranged by Subject

<b>CWC Section</b>	<b>UWMP Requirement</b>	<b>Subject</b>	<b>Guidebook Location</b>	<b>UWMP Location</b> <i>(Optional Column for Agency Use)</i>
<b>10620(b)</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	<b>Section 1.3</b>
<b>10620(d)(2)</b>	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	<b>Section 1.5</b>
<b>10642</b>	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	<b>Section 1.5, Appendix C</b>
<b>10631(a)</b>	Describe the water supplier service area.	System Description	Section 3.1	<b>Section 2</b>
<b>10631(a)</b>	Describe the climate of the service area of the supplier.	System Description	Section 3.3	<b>Section 2.4</b>
<b>10631(a)</b>	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	<b>Section 2.3</b>
<b>10631(a)</b>	Describe other demographic factors affecting the supplier's water management planning.	System Description	Section 3.4	<b>Section 2.2, 2.3, 3.2.1</b>
<b>10631(a)</b>	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections 3.4 and 5.4	<b>Section 2.3</b>
<b>10631(e)(1)</b>	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	<b>Section 3</b>
<b>10631(e)(3)(A)</b>	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	<b>Section 3.2.3</b>
<b>10631.1(a)</b>	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	<b>Section 3.4.3</b>
<b>10608.20(b)</b>	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	<b>Section 3.3</b>
<b>10608.20(e)</b>	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	Baselines and Targets	Chapter 5 and App E	<b>Sections 3.3.1 and 3.3.2</b>

	with the bases for determining those estimates, including references to supporting data.			
<b>10608.22</b>	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply if the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	<b>Section 3.3.1</b>
<b>10608.24(a)</b>	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	<b>Section 3.3.2</b>
<b>10608.24(d)(2)</b>	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	<b>Section 3.3.2</b>
<b>10608.36</b>	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	<b>n/a</b>
<b>10608.40</b>	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	<b>Sections 3.3.1 and 3.3.2; Appendix B</b>
<b>10631(b)</b>	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	<b>Sections 4, 4.1, Section 6</b>
<b>10631(b)</b>	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	<b>Section 4.3</b>
<b>10631(b)(1)</b>	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	<b>n/a</b>
<b>10631(b)(2)</b>	Describe the groundwater basin.	System Supplies	Section 6.2.1	<b>n/a</b>
<b>10631(b)(2)</b>	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to pump.	System Supplies	Section 6.2.2	<b>n/a</b>
<b>10631(b)(2)</b>	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	<b>n/a</b>
<b>10631(b)(3)</b>	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water	System Supplies	Section 6.2.4	<b>n/a</b>

	supplier for the past five years			
<b>10631(b)(4)</b>	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	<b>n/a</b>
<b>10631(d)</b>	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	<b>Section 4.5.3</b>
<b>10631(g)</b>	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	<b>Sections 4.5, 4.6</b>
<b>10631(h)</b>	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	<b>Section 4.5</b>
<b>10631(j)</b>	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	<b>Section 1.5.1</b>
<b>10631(j)</b>	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	<b>n/a</b>
<b>10633</b>	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	<b>Section 4.4</b>
<b>10633(a)</b>	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	<b>Section 4.4</b>
<b>10633(b)</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	<b>Section 4.4</b>
<b>10633(c)</b>	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	<b>Section 4.4</b>
<b>10633(d)</b>	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	<b>Section 4.4</b>
<b>10633(e)</b>	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	<b>Section 4.4</b>

<b>10633(f)</b>	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	<b>n/a</b>
<b>10633(g)</b>	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	<b>Section 4.4</b>
<b>10620(f)</b>	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	<b>Sections 4.4, 4.5; 4.6 Section 7</b>
<b>10631(c)(1)</b>	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	<b>Sections 4.2.1, 4.7; Section 6</b>
<b>10631(c)(1)</b>	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	<b>Section 6</b>
<b>10631(c)(2)</b>	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	<b>Sections, 4.5, 4.6; Section 6</b>
<b>10634</b>	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	<b>Section 5</b>
<b>10635(a)</b>	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	<b>Section 6</b>
<b>10632(a) and 10632(a)(1)</b>	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	<b>Section 8</b>
<b>10632(a)(2)</b>	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	<b>Section 8.10</b>
<b>10632(a)(3)</b>	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	<b>Section 8.9</b>
<b>10632(a)(4)</b>	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	<b>Section 8.3</b>
<b>10632(a)(5)</b>	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	<b>Section 8.5</b>
<b>10632(a)(6)</b>	Indicated penalties or charges for excessive	Water Shortage Contingency	Section 8.3	<b>Section 8.4</b>

	use, where applicable.	Planning		
<b>10632(a)(7)</b>	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	<b>Section 8.7</b>
<b>10632(a)(8)</b>	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	<b>Section 8.8, Appendix H</b>
<b>10632(a)(9)</b>	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	<b>Section 8.6</b>
<b>10631(f)(1)</b>	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	<b>Section 7</b>
<b>10631(f)(2)</b>	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	<b>n/a</b>
<b>10631(i)</b>	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	<b>n/a</b>
<b>10608.26(a)</b>	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	<b>Section 1.5.2</b>
<b>10621(b)</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	<b>Section 1.5</b>
<b>10621(d)</b>	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	<b>Section 1.3, 1.5.3</b>
<b>10635(b)</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	<b>Section 1.5, Appendix C</b>
<b>10642</b>	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the	Plan Adoption, Submittal, and	Sections 10.2.2, 10.3,	<b>Section 1.5, Appendix C</b>

	public hearing, and held a public hearing about the plan.	Implementation	and 10.5	
<b>10642</b>	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	<b>Section 1.5, Appendix C</b>
<b>10642</b>	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	<b>Section 1.5, Appendix D</b>
<b>10644(a)</b>	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	<b>Section 1.5, document-ation to be provided.</b>
<b>10644(a)(1)</b>	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	<b>Section 1.5</b>
<b>10644(a)(2)</b>	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	<b>Section 1</b>
<b>10645</b>	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	<b>Section 1.5.3</b>

Appendix B: Standardized Tables, SBX7-7 Verification  
Tables, and DWR Population Tool Printout

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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
CA5610020	City of Thousand Oaks	17,080	9,334
<b>TOTAL</b>		<b>17,080</b>	<b>9,334</b>

NOTES:

Table 2-2: Plan Identification		
Select Only One	Type of Plan	Name of RUWMP or Regional Alliance <i>if applicable</i> <i>drop down list</i>
<input checked="" type="checkbox"/>	<b>Individual UWMP</b>	
	<input type="checkbox"/> Water Supplier is also a member of a RUWMP	
	<input type="checkbox"/> Water Supplier is also a member of a Regional Alliance	
<input type="checkbox"/>	<b>Regional Urban Water Management Plan (RUWMP)</b>	
NOTES:		

Table 2-3: Agency Identification	
Type of Agency (select one or both)	
<input type="checkbox"/>	Agency is a wholesaler
<input checked="" type="checkbox"/>	Agency is a retailer
Fiscal or Calendar Year (select one)	
<input checked="" type="checkbox"/>	UWMP Tables Are in Calendar Years
<input type="checkbox"/>	UWMP Tables Are in Fiscal Years
If Using Fiscal Years Provide Month and Date that the Fiscal Year Begins (mm/dd)	
Units of Measure Used in UWMP (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)*

Calleguas Municipal Water District

NOTES:

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040( <i>opt</i> )
	53,347	53,723	54,101	54,482	54,866	55,252
NOTES: 2015 value based on DWR population tool UWMP Table 2-1						

Table 4-1 Retail: Demands for Potable and Raw Water - Actual			
Use Type <i>(Add additional rows as needed)</i>	2015 Actual		
<i>Drop down list</i> <i>May select each use multiple times</i> <i>These are the only Use Types that will be recognized by the WUEdata online submittal tool</i>	Additional Description <i>(as needed)</i>	Level of Treatment When Delivered <i>Drop down list</i>	Volume
Single Family		Drinking Water	6,257
Multi-Family		Drinking Water	700
Commercial	Combines commercial and institutional	Drinking Water	1,120
Institutional/Governmental		Drinking Water	0
Landscape		Drinking Water	1,249
Other	Construction	Drinking Water	8
Losses		Drinking Water	300
<b>TOTAL</b>			9,634
UWMP Tables 3-1 to 3-4			

Table 4-2 Retail: Demands for Potable and Raw Water - Projected						
Use Type <i>(Add additional rows as needed)</i>	Additional Description <i>(as needed)</i>	Projected Water Use <i>Report To the Extent that Records are Available</i>				
<u>Drop down list</u> <i>May select each use multiple times</i> <i>These are the only Use Types that will be recognized by the WUEdata online submittal tool</i>		2020	2025	2030	2035	2040-opt
Single Family		7,721	7,793	7,865	7,936	8,008
Multi-Family		780	787	794	801	809
Commercial	Combines commercial and institutional	1,358	1,371	1,384	1,396	1,409
Institutional/Governmental		0	0	0	0	0
Landscape		1,620	1,635	1,650	1,665	1,680
Other	Construction	12	12	13	13	13
Losses		116	117	118	119	120
<b>TOTAL</b>		11,608	11,715	11,823	11,930	12,038
NOTES: UWMP Table 3-11						

<b>Table 4-3 Retail: Total Water Demands</b>						
	2015	2020	2025	2030	2035	2040 <i>(opt)</i>
Potable and Raw Water <i>From Tables 4-1 and 4-2</i>	9,634	11,608	11,715	11,823	11,930	12,038
Recycled Water Demand* <i>From Table 6-4</i>	0	0	0	0	0	0
<b>TOTAL WATER DEMAND</b>	9,634	11,608	11,715	11,823	11,930	12,038
<i>*Recycled water demand fields will be blank until Table 6-4 is complete.</i>						
NOTES:						

Table 4-4 Retail: 12 Month Water Loss Audit Reporting	
Reporting Period Start Date (mm/yyyy)	Volume of Water Loss*
07/2014	57.46
* Taken from the field "Water Losses" (a combination of apparent losses and real losses) from the AWWA worksheet.	
NOTES: UWMP Table 3-2	

**Table 4-5 Retail Only: Inclusion in Water Use Projections**

<p>Are Future Water Savings Included in Projections?                  (Refer to Appendix K of UWMP Guidebook)  <i>Drop down list (y/n)</i></p>	<p>No</p>
<p>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.</p>	
<p>Are Lower Income Residential Demands Included In Projections?  <i>Drop down list (y/n)</i></p>	<p>Yes</p>

NOTES: Lower income household discussion in UWMP Section 3.4.4.

<b>Table 5-1 Baselines and Targets Summary</b>					
<i>Retail Agency or Regional Alliance Only</i>					
Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	1999	2008	233	210	187
5 Year	2004	2008	240		
*All values are in Gallons per Capita per Day (GPCD)					
NOTES: UWMP Table 3-8					

**Table 5-2: 2015 Compliance**

*Retail Agency or Regional Alliance Only*

Actual 2015 GPCD*	2015 Interim Target GPCD*	Optional Adjustments to 2015 GPCD <i>From Methodology 8</i>					2015 GPCD* <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015? Y/N
		Extraordinary Events*	Economic Adjustment*	Weather Normalization*	TOTAL Adjustments*	Adjusted 2015 GPCD*		
156	210				0	156	156	Yes

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

NOTES: UWMP Table 3-12

Table 6-1 Retail: Groundwater Volume Pumped						
<input checked="" type="checkbox"/>	Supplier does not pump groundwater. The supplier will not complete the table below.					
Groundwater Type <i>Drop Down List</i> <i>May use each category multiple times</i>	Location or Basin Name	2011	2012	2013	2014	2015
<i>Add additional rows as needed</i>						
<b>TOTAL</b>		0	0	0	0	0
NOTES:						

Table 6-2 Retail: Wastewater Collected Within Service Area in 2015						
<input type="checkbox"/>	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2015 service area covered by wastewater collection system <i>(optional)</i>					
	Percentage of 2015 service area population covered by wastewater collection system <i>(optional)</i>					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated? <i>Drop Down List</i>	Volume of Wastewater Collected from UWMP Service Area 2015	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area? <i>Drop Down List</i>	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i> <i>Drop Down List</i>
<i>Add additional rows as needed</i>						
City of Thousand Oaks	Estimated	4,450	City of Thousand Oaks	Hill Canyon Wastewater Treatment Plant	No	No
<b>Total Wastewater Collected from Service Area in 2015:</b>		4,450				
NOTES: UWMP Table 4-4						

Table 6-3 Retail: Wastewater Treatment and Discharge Within Service Area in 2015										
<input type="checkbox"/> 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 <i>Drop down list</i>	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level <i>Drop down list</i>	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
<i>Add additional rows as needed</i>										
Hill Canyon Wastewater Treatment Plant	Santa Rosa Road, Camarillo	North Fork Arroyo Conejo		River or creek outfall	Yes	Tertiary	10,300	1,030	0	9,270
<b>Total</b>							10,300	1,030	0	9,270
NOTES: UWMP Table 4-5										

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:								
Name of Agency Operating the Recycled Water Distribution System:								
Supplemental Water Added in 2015								
Source of 2015 Supplemental Water								
Beneficial Use Type	General Description of 2015 Uses	Level of Treatment <i>Drop down list</i>	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation								
Landscape irrigation (excludes golf courses)								
Golf course irrigation								
Commercial use								
Industrial use								
Geothermal and other energy production								
Seawater intrusion barrier								
Recreational impoundment								
Wetlands or wildlife habitat								
Groundwater recharge (IPR)*								
Surface water augmentation (IPR)*								
Direct potable reuse								
Other (Provide General Description)								
<b>Total:</b>			0	0	0	0	0	0
*IPR - Indirect Potable Reuse								
NOTES:								

**Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual**

<input checked="" type="checkbox"/>	Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.	
Use Type	2010 Projection for 2015	2015 Actual Use
Agricultural irrigation		
Landscape irrigation (excludes golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Surface water augmentation (IPR)		
Direct potable reuse		
Other	<i>Type of Use</i>	
<b>Total</b>	<b>0</b>	<b>0</b>

NOTES:

Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
<input checked="" type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
Section 4.4.2	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
<i>Add additional rows as needed</i>			
<b>Total</b>			0
NOTES:			

Table 6-7 Retail: Expected Future Water Supply Projects or Programs						
<input type="checkbox"/>	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.					
<input type="checkbox"/>	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 <i>Drop Down List</i>	Expected Increase in Water Supply to Agency <i>This may be a range</i>
	<i>Drop Down List (y/n)</i>	<i>If Yes, Agency Name</i>				
<i>Add additional rows as needed</i>						
North Pleasant Valley Desalter Credits	Yes	City of Camarillo; Camrosa Water District	City of Thousand Oaks will receive credits for an equal amount of water from Calleguas, as part of a wheeling agreement.	2020	All Year Types	1,500
NOTES: Supply accounted for in projected water supplies in (UWMP Table 4-1).						

Table 6-8 Retail: Water Supplies — Actual				
Water Supply	Additional Detail on Water Supply	2015		
<i>Drop down list</i> <i>May use each category multiple times.</i> <i>These are the only water supply categories that will be recognized by the WUEdata online submittal tool</i>		Actual Volume	Water Quality <i>Drop Down List</i>	Total Right or Safe Yield <i>(optional)</i>
<i>Add additional rows as needed</i>				
Purchased or Imported Water	CMWD	9,634	Drinking Water	
<b>Total</b>		9,634		0
NOTES: UWMP Tables 4-1 and 4-2				

Table 6-9 Retail: Water Supplies — Projected											
Water Supply	Additional Detail on Water Supply	Projected Water Supply <i>Report To the Extent Practicable</i>									
<i>Drop down list</i> <i>May use each category multiple times.</i> <i>These are the only water supply categories that will be recognized by the WUdata online submittal tool</i>		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)
<i>Add additional rows as needed</i>											
Purchased or Imported Water	CMWD	10,108		10,215		10,323		10,430		10,538	
Other	Planned North Pleasant Valley Desalter Credits from Table 6-8	1,500		1,500		1,500		1,500		1,500	
	<b>Total</b>	11,608	0	11,715	0	11,823	0	11,930	0	12,038	0
NOTES: UWMP Table 4-1											

**Table 7-1 Retail: Basis of Water Year Data**

Year Type	Base Year <i>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000</i>	Available Supplies if Year Type Repeats	
		<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location _____
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	2004	11608	100%
Single-Dry Year	1977	12768	110%
Multiple-Dry Years 1st Year	1992	12768	110%
Multiple-Dry Years 2nd Year	1992	11608	100%
Multiple-Dry Years 3rd Year	1992	10447	90%
Multiple-Dry Years 4th Year <i>Optional</i>			
Multiple-Dry Years 5th Year <i>Optional</i>			
Multiple-Dry Years 6th Year <i>Optional</i>			
<p>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.</p>			
<p>NOTES: Available volumes are projected total supplies available (and needed) in 2020. Base years are based on CMWD 2015 UWMP as supply availability is dependent on CMWD imported supplies.</p>			

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 <i>(Opt)</i>
Supply totals <i>(autofill from Table 6-9)</i>	11,608	11,715	11,823	11,930	12,038
Demand totals <i>(autofill from Table 4-3)</i>	11,608	11,715	11,823	11,930	12,038
Difference	0	(0)	0	(0)	(0)
NOTES:					

<b>Table 7-3 Retail: Single Dry Year Supply and Demand Comparison</b>					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	12,768	12,887	13,005	13,123	13,242
Demand totals	12,768	12,887	13,005	13,123	13,242
Difference	0	0	0	0	0
NOTES: UWMP Table 6-2					

**Table 7-4 Retail: Multiple Dry Years Supply and Demand Comparison**

		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	12,768	12,887	13,005	13,123	13,242
	Demand totals	12,768	12,887	13,005	13,123	13,242
	Difference	0	0	0	0	0
Second year	Supply totals	11,608	11,715	11,823	11,930	12,038
	Demand totals	11,608	11,715	11,823	11,930	12,038
	Difference	0	0	0	0	0
Third year	Supply totals	10,447	10,544	10,641	10,737	10,834
	Demand totals	10,447	10,544	10,641	10,737	10,834
	Difference	0	0	0	0	0
Fourth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Fifth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
Sixth year <i>(optional)</i>	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0

NOTES: UWMP Table 6-3

**Table 8-1 Retail  
Stages of Water Shortage Contingency Plan**

Stage	Complete Both	
	Percent Supply Reduction <sup>1</sup> <i>Numerical value as a percent</i>	Water Supply Condition <i>(Narrative description)</i>
<i>Add additional rows as needed</i>		
1	n/a	Moderate water supply shortage or threatened shortage
2	n/a	Severe water supply shortage or threatened shortage
3	50%	Critical water shortage emergency

<sup>1</sup> One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.

NOTES: UWMP Table 8-1

**Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses**

Stage	Restrictions and Prohibitions on End Users <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	Additional Explanation or Reference <i>(optional)</i>	Penalty, Charge, or Other Enforcement? <i>Drop Down List</i>
<i>Add additional rows as needed</i>			
0-3	Landscape - Limit landscape irrigation to specific times		yes
0-3	Landscape - Other landscape restriction or prohibition	limit on watering duration	yes
0-3	Landscape - Other landscape restriction or prohibition	Prohibition on excessive water flow or runoff	yes
0-3	Other - Prohibit use of potable water for washing hard surfaces		yes
0-3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		yes
0-3	Other water feature or swimming pool restriction	Recirculating water required	yes
0-3	Other	Vehicle washing, other than at commercial facility, only allowed with hand-held bucket or hose with shut-off valve.	yes
0-3	CII - Restaurants may only serve water upon request		yes
0-3	CII - Lodging establishment must offer opt out of linen service		yes
0-3	CII - Other CII restriction or prohibition	Prohibition on single-pass cooling system installation	yes
0-3	CII - Other CII restriction or prohibition	No installation of non-recirculating water systems in commercial car wash and laundry systems	yes
0-3	CII - Commercial kitchens required to use pre-rinse spray valves	Water conserving dish wash spray valves required	yes
0-3	CII - Other CII restriction or prohibition	Commercial car washers must incorporate re-circulating water systems	yes

1	Landscape - Limit landscape irrigation to specific days	3 days per week	yes
1	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Repair required within 4 days	yes
2	Landscape - Limit landscape irrigation to specific days	2 days per week	yes
2	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Repair required within 48 hrs	yes
2	Water Features - Restrict water use for decorative water features, such as fountains	Filling or re-filling with potable water only allowed to the extent needed to sustain aquatic life	yes
2	Other water feature or swimming pool restriction	Prohibition on re-filling of more than 1ft and initial filling.	yes
3	Landscape - Prohibit certain types of landscape irrigation		yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner	Repairs within 24 hrs	yes
3	Other	No new potable water services (with some exceptions)	yes
3	Other	Limits on building permits (with some exceptions)	yes
3	Other	Discontinue service for willful violation	yes
<p>NOTES: Stage 0-3 refers to requirements under all conditions, including normal water supply conditions.  UWMP Tables 8-2 and 8-3</p>			

**Table 8-3 Retail Only:  
Stages of Water Shortage Contingency Plan - Consumption Reduction Methods**

Stage	Consumption Reduction Methods by Water Supplier <i>Drop down list</i> <i>These are the only categories that will be accepted by the WUEdata online submittal tool</i>	Additional Explanation or Reference <i>(optional)</i>
<i>Add additional rows as needed</i>		
All	Expand Public Information Campaign	Extensive public information program exists under all conditions. Outreach and education has expanded during drought conditions, including additional public announcements, an updated website and additional educational opportunities.
All	Improve Customer Billing	Customer bills include inserts with water use conservation information, including water use graphics. Notices of drought conditions included, as appropriate.
All	Increase Frequency of Meter Reading	An AMR installation program is ongoing under all conditions. Follow-up occurs by water outreach staff when potential leaks are detected on properties with AMR.
All	Offer Water Use Surveys	With heightened drought awareness, the City anticipates increases in surveys.
All	Provide Rebates on Plumbing Fixtures and Devices	City provides rebates on an ongoing basis through MWDSC's regional rebate program.
All	Provide Rebates for Landscape Irrigation Efficiency	City provides rebates on an ongoing basis through MWDSC's regional rebate program.
All	Provide Rebates for Turf Replacement	City provides rebates through MWDSC's regional rebate program. Currently, the program only has a waiting list option for the event that additional funds become available.
All	Increase Water Waste Patrols	Under the Drought Action Plan, public works field staff will receive additional training on water conservation issues and rules and will report potential violations.
All	Other	Drought conditions are resulting in efforts to hire additional hourly and full-time staff to support and lead water conservation efforts.

NOTES: UWMP Table 8-4

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	9,634	9,634	9,634
NOTES: UWMP Table 8-5			

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

City Name	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
City of Thousand Oaks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
County Name <i>Drop Down List</i>	60 Day Notice	Notice of Public Hearing
<i>Add additional rows as needed</i>		
Ventura County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
UWMP Table 1-1		

**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*

NOTES:

**SB X7-7 Table-1: Baseline Period Ranges**

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	14,310	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period <sup>1, 2</sup>	10	Years
	Year beginning baseline period range	1999	
	Year ending baseline period range <sup>3</sup>	2008	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2004	
	Year ending baseline period range <sup>4</sup>	2008	

<sup>1</sup> 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. <sup>2</sup> The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

<sup>3</sup> The ending year must be between December 31, 2004 and December 31, 2010.

<sup>4</sup> The ending year must be between December 31, 2007 and December 31, 2010.

NOTES:

**SB X7-7 Table 2: Method for Population Estimates**

<b>Method Used to Determine Population</b> (may check more than one)	
<input type="checkbox"/>	<b>1. Department of Finance (DOF)</b> DOF Table E-8 (1990 - 2000) and (2000-2010) and DOF Table E-5 (2011 - 2015) when available
<input type="checkbox"/>	<b>2. Persons-per-Connection Method</b>
<input checked="" type="checkbox"/>	<b>3. DWR Population Tool</b>
<input type="checkbox"/>	<b>4. Other</b> DWR recommends pre-review
NOTES:	

**SB X7-7 Table 3: Service Area Population**

Year	Population	
<b>10 to 15 Year Baseline Population</b>		
Year 1	1999	50,091
Year 2	2000	50,805
Year 3	2001	51,024
Year 4	2002	51,242
Year 5	2003	51,461
Year 6	2004	51,679
Year 7	2005	51,898
Year 8	2006	52,116
Year 9	2007	52,335
Year 10	2008	52,553
<i>Year 11</i>		
<i>Year 12</i>		
<i>Year 13</i>		
<i>Year 14</i>		
<i>Year 15</i>		
<b>5 Year Baseline Population</b>		
Year 1	2004	51,679
Year 2	2005	51,898
Year 3	2006	52,116
Year 4	2007	52,335
Year 5	2008	52,553
<b>2015 Compliance Year Population</b>		
<b>2015</b>		53,347
NOTES:		

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

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Annual Gross Water Use
		Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>	
<b>10 to 15 Year Baseline - Gross Water Use</b>							
Year 1	1999	12,392			-		12,392
Year 2	2000	12,733			-		12,733
Year 3	2001	12,340			-		12,340
Year 4	2002	13,607			-		13,607
Year 5	2003	13,429			-		13,429
Year 6	2004	14,212			-		14,212
Year 7	2005	13,437			-		13,437
Year 8	2006	13,580			-		13,580
Year 9	2007	14,586			-		14,586
Year 10	2008	14,310			-		14,310
Year 11	0	-			-		-
Year 12	0	-			-		-
Year 13	0	-			-		-
Year 14	0	-			-		-
Year 15	0	-			-		-
<b>10 - 15 year baseline average gross water use</b>							<b>13,463</b>
<b>5 Year Baseline - Gross Water Use</b>							
Year 1	2004	14,212			-		14,212
Year 2	2005	13,347			-		13,347
Year 3	2006	13,580			-		13,580
Year 4	2007	14,586			-		14,586
Year 5	2008	14,310			-		14,310
<b>5 year baseline average gross water use</b>							<b>14,007</b>
<b>2015 Compliance Year - Gross Water Use</b>							
<b>2015</b>		9,334	-		-		<b>9,334</b>

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

NOTES:

**SB X7-7 Table 4-A: Volume Entering the Distribution System(s)**

Complete one table for each source.

**Name of Source** Calleguas Municipal Water District

**This water source is:**

The supplier's own water source

A purchased or imported source

<b>Baseline Year</b> <i>Fm SB X7-7 Table 3</i>	<b>Volume Entering Distribution System</b>	<b>Meter Error Adjustment*</b> <i>Optional (+/-)</i>	<b>Corrected Volume Entering Distribution System</b>
---	--	---	--

**10 to 15 Year Baseline - Water into Distribution System**

Year 1	1999	12,392		12,392
Year 2	2000	12,733		12,733
Year 3	2001	12,340		12,340
Year 4	2002	13,607		13,607
Year 5	2003	13,429		13,429
Year 6	2004	14,212		14,212
Year 7	2005	13,437		13,437
Year 8	2006	13,580		13,580
Year 9	2007	14,586		14,586
Year 10	2008	14,310		14,310
Year 11	0			-
Year 12	0			-
Year 13	0			-
Year 14	0			-
Year 15	0			-

**5 Year Baseline - Water into Distribution System**

Year 1	2004	14,212		14,212
Year 2	2005	13,347		13,347
Year 3	2006	13,580		13,580
Year 4	2007	14,586		14,586
Year 5	2008	14,310		14,310

**2015 Compliance Year - Water into Distribution System**

<b>2015</b>	9,334		9,334
-------------	-------	--	-------

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

NOTES:

**SB X7-7 Table 4-B: Indirect Recycled Water Use Deduction** (For use only by agencies that are deducting indirect recycled water)

Baseline Year <i>Fm SB X7-7 Table 3</i>	Surface Reservoir Augmentation					Groundwater Recharge			Total Deductible Volume of Indirect Recycled Water Entering the Distribution System	
	Volume Discharged from Reservoir for Distribution System Delivery	Percent Recycled Water	Recycled Water Delivered to Treatment Plant	Transmission/ Treatment Loss	Recycled Volume Entering Distribution System from Surface Reservoir Augmentation	Recycled Water Pumped by Utility*	Transmission/ Treatment Losses	Recycled Volume Entering Distribution System from Groundwater Recharge		
<b>10-15 Year Baseline - Indirect Recycled Water Use</b>										
Year 1	1999		-		-			-	-	
Year 2	2000		-		-			-	-	
Year 3	2001		-		-			-	-	
Year 4	2002		-		-			-	-	
Year 5	2003		-		-			-	-	
Year 6	2004		-		-			-	-	
Year 7	2005		-		-			-	-	
Year 8	2006		-		-			-	-	
Year 9	2007		-		-			-	-	
Year 10	2008		-		-			-	-	
Year 11	0		-		-			-	-	
Year 12	0		-		-			-	-	
Year 13	0		-		-			-	-	
Year 14	0		-		-			-	-	
Year 15	0		-		-			-	-	
<b>5 Year Baseline - Indirect Recycled Water Use</b>										
Year 1	2004		-		-			-	-	
Year 2	2005		-		-			-	-	
Year 3	2006		-		-			-	-	
Year 4	2007		-		-			-	-	
Year 5	2008		-		-			-	-	
<b>2015 Compliance - Indirect Recycled Water Use</b>										
<b>2015</b>			-		-			-	-	
*Suppliers will provide supplemental sheets to document the calculation for their input into "Recycled Water Pumped by Utility". The volume reported in this cell must be less than total groundwater pumped - See Methodology 1, Step 8, section 2.c.										
NOTES:										

**SB X7-7 Table 5: Gallons Per Capita Per Day (GPCD)**

<b>Baseline Year</b> <i>Fm SB X7-7 Table 3</i>		<b>Service Area Population</b> <i>Fm SB X7-7 Table 3</i>	<b>Annual Gross Water Use</b> <i>Fm SB X7-7 Table 4</i>	<b>Daily Per Capita Water Use (GPCD)</b>
<b>10 to 15 Year Baseline GPCD</b>				
Year 1	1999	50,091	12,392	221
Year 2	2000	50,805	12,733	224
Year 3	2001	51,024	12,340	216
Year 4	2002	51,242	13,607	237
Year 5	2003	51,461	13,429	233
Year 6	2004	51,679	14,212	246
Year 7	2005	51,898	13,437	231
Year 8	2006	52,116	13,580	233
Year 9	2007	52,335	14,586	249
Year 10	2008	52,553	14,310	243
<i>Year 11</i>	0	-	-	
<i>Year 12</i>	0	-	-	
<i>Year 13</i>	0	-	-	
<i>Year 14</i>	0	-	-	
<i>Year 15</i>	0	-	-	
<b>10-15 Year Average Baseline GPCD</b>				<b>233</b>
<b>5 Year Baseline GPCD</b>				
<b>Baseline Year</b> <i>Fm SB X7-7 Table 3</i>		<b>Service Area Population</b> <i>Fm SB X7-7 Table 3</i>	<b>Gross Water Use</b> <i>Fm SB X7-7 Table 4</i>	<b>Daily Per Capita Water Use</b>
Year 1	2004	51,679	14,212	246
Year 2	2005	51,898	13,347	230
Year 3	2006	52,116	13,580	233
Year 4	2007	52,335	14,586	249
Year 5	2008	52,553	14,310	243
<b>5 Year Average Baseline GPCD</b>				<b>240</b>
<b>2015 Compliance Year GPCD</b>				
<b>2015</b>		53,347	9,334	<b>156</b>
NOTES:				

**SB X7-7 Table 6:** Gallons per Capita per Day  
*Summary From Table SB X7-7 Table 5*

10-15 Year Baseline GPCD	233
5 Year Baseline GPCD	240
2015 Compliance Year GPCD	156
NOTES:	

**SB X7-7 Table 7: 2020 Target Method**  
*Select Only One*

Target Method		Supporting Documentation
<input checked="" type="checkbox"/>	Method 1	SB X7-7 Table 7A
<input type="checkbox"/>	Method 2	SB X7-7 Tables 7B, 7C, and 7D <i>Contact DWR for these tables</i>
<input type="checkbox"/>	Method 3	SB X7-7 Table 7-E
<input type="checkbox"/>	Method 4	Method 4 Calculator

NOTES:

**SB X7-7 Table 7-A: Target Method 1**

20% Reduction

10-15 Year Baseline GPCD	2020 Target GPCD
233	187

NOTES:

**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%)
<input type="checkbox"/>		North Coast	137	130
<input type="checkbox"/>		North Lahontan	173	164
<input type="checkbox"/>		Sacramento River	176	167
<input type="checkbox"/>		San Francisco Bay	131	124
<input type="checkbox"/>		San Joaquin River	174	165
<input type="checkbox"/>		Central Coast	123	117
<input type="checkbox"/>		Tulare Lake	188	179
<input type="checkbox"/>		South Lahontan	170	162
<input checked="" type="checkbox"/>	100%	South Coast	149	142
<input type="checkbox"/>		Colorado River	211	200
<p align="center"><b>Target</b> <i>(If more than one region is selected, this value is calculated.)</i></p>				<p align="center"><b>142</b></p>
<p>NOTES:</p>				

**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 <sup>1</sup>	Calculated 2020 Target <sup>2</sup>	<b>Confirmed 2020 Target</b>
240	228	187	<b>187</b>

<sup>1</sup> Maximum 2020 Target is 95% of the 5 Year Baseline GPCD  
<sup>2</sup> 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.

NOTES:

**SB X7-7 Table 8: 2015 Interim Target GPCD**

Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	<b>2015 Interim Target GPCD</b>
187	233	<b>210</b>

NOTES:

**SB X7-7 Table 9: 2015 Compliance**

Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments <i>(in GPCD)</i>					2015 GPCD <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015?
		Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2015 GPCD		
		Extraordinary Events	Weather Normalization	Economic Adjustment				
156	210	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	-	156	156	<b>YES</b>

NOTES:

# WUEdata - Thousand Oaks City Of

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Please print this page to a PDF and include as part of your UWMP submittal.

### Confirmation Information

<b>Generated By</b> Todd Davis	<b>Water Supplier Name</b> Thousand Oaks City Of	<b>Confirmation #</b> 6045301139	<b>Generated On</b> 2/24/2016 8:23:36 AM
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### Boundary Information

<b>Census Year</b>	<b>Boundary Filename</b>	<b>Internal Boundary ID</b>
1990	ServiceBoundary2005_v01.kml	731
2000	ServiceBoundary2005_v01.kml	731
2010	TO_Boundary_2010.kml	732

### Baseline Period Ranges

#### 10 to 15-year baseline period

Number of years in baseline period:	<b>10</b>
Year beginning baseline period range:	<b>1999</b>
Year ending baseline period range <sup>1</sup> :	2008

#### 5-year baseline period

Year beginning baseline period range:	<b>2004</b>
Year ending baseline period range <sup>2</sup> :	2008

<sup>1</sup> The ending year must be between December 31, 2004 and December 31, 2010.

<sup>2</sup> The ending year must be between December 31, 2007 and December 31, 2010.

### Persons per Connection

Year	Census Block Level	Number of Connections *	Persons per Connection
	Total Population		
1990	43,664		3.33
1991	-	-	3.33
1992	-	-	3.33
1993	-	-	3.33
1994	-	-	3.33
1995	-	-	3.33
1996	-	-	3.33
1997	-	-	3.33
1998	-	-	3.33
1999	-	-	3.33
2000	50,805		3.33
2001	-	-	3.33
2002	-	-	3.33
2003	-	-	3.33
2004	-	-	3.33
2005	-	-	3.33
2006	-	-	3.33
2007	-	-	3.33
2008	-	-	3.33
2009	-	-	3.33
2010	52,990	<b>15890</b>	3.33
2015	-	-	3.33 **

Population Using Persons-Per-Connection				
Year		Number of Connections *	Persons per Connection	Total Population
<b>10 to 15 Year Baseline Population Calculations</b>				
Year 1	1999		3.33	
Year 2	2000		3.33	
Year 3	2001		3.33	
Year 4	2002		3.33	
Year 5	2003		3.33	
Year 6	2004		3.33	
Year 7	2005		3.33	
Year 8	2006		3.33	
Year 9	2007		3.33	
Year 10	2008		3.33	
<b>5 Year Baseline Population Calculations</b>				
Year 1	2004		3.33	
Year 2	2005		3.33	
Year 3	2006		3.33	
Year 4	2007		3.33	
Year 5	2008		3.33	
<b>2015 Compliance Year Population Calculations</b>				
	2015	15997	3.33 **	53,347

[Hide Print Confirmation](#)

QUESTIONS / ISSUES? CONTACT THE [WUE DATA HELP DESK](#)

## Appendix C: Coordination and Outreach Materials

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City of

Thousand Oaks



# Public Works Department

2100 Thousand Oaks Boulevard • Thousand Oaks, CA 91362  
Phone 805/449.2400 • Fax 805/449.2475 • www.toaks.org

February 8, 2016

RECEIVED

FEB 16 2016

Jay T. Spurgin  
Public Works Director

Kimberly Prillhart  
County of Ventura  
800 S. Victoria Avenue, #1740  
Ventura, CA 93009-1740

KENNEDY JENKS CONSULTANTS  
COUNTY

Dear Ms. Prillhart:

## 2015 Urban Water Management Plan for the City of Thousand Oaks

The City of Thousand Oaks is undertaking review, update, and revision of its Urban Water Management Plan (UWMP). The City of Thousand Oaks is located in eastern Ventura County and serves as water purveyor to over one third of the City's population, approximately 17,000 accounts. The Urban Water Management Planning Act requires every "urban water supplier" of a certain size to prepare and adopt a UWMP at least once every five years. The UWMP is a planning document in which water suppliers evaluate and compare their water supply and reliability to their existing and projected demands. A complete UWMP is necessary for the City of Thousand Oaks to remain eligible for state drought water bank assistance and is a requirement of state grant and loan funding programs.

The 2015 UWMP will include an update of anticipated water demands in the City of Thousand Oaks water service area. The City of Thousand Oaks is encouraging participation by land use agencies, water use agencies, and other interested parties in the UWMP. The City of Thousand Oaks would like to extend to your agency an opportunity to meet with us to go over the various elements of the UWMP, including assumptions about future population, future water demand, future water supplies, and upcoming water conservation programs.

We anticipate that a draft UWMP will be available for public review starting in April 2016 and the City will hold a public hearing in June 2016, prior to adoption of the UWMP. Hence, we would like to solicit your input in the near future.

If your agency would like to learn more about the Urban Water Management Plan, please contact me at (805) 449-2423 or [bbussell@toaks.org](mailto:bbussell@toaks.org), no later than March 7, 2016.

Sincerely,

Brad Bussell  
Associate Civil Engineer  
City of Thousand Oaks

c: **Catrina Paez, Water Resource Specialist – Kennedy/Jenks Consultants**

DPW: 1000-45\bb\dlz\final\UWMP Invitation to Land Use Agencies.doc



toaks.org



# Public Works Department

2100 Thousand Oaks Boulevard • Thousand Oaks, CA 91362  
Phone 805/449.2400 • Fax 805/449.2475 • [www.toaks.org](http://www.toaks.org)

February 8, 2016

Jay T. Spurgin  
Public Works Director

Cy Johnson  
Calleguas Water District  
2100 Olsen Road  
Thousand Oaks, CA 91360

Dear Mr. Johnson:

## 2015 Urban Water Management Plan for the City of Thousand Oaks

The City of Thousand Oaks is undertaking review, update, and revision of its Urban Water Management Plan (UWMP). The City of Thousand Oaks is located in eastern Ventura County and serves as water purveyor to over one third of the City's population, approximately 17,000 accounts. The Urban Water Management Planning Act requires every "urban water supplier" of a certain size to prepare and adopt a UWMP at least once every five years. The UWMP is a planning document in which water suppliers evaluate and compare their water supply and reliability to their existing and projected demands. A complete UWMP is necessary for the City of Thousand Oaks to remain eligible for state drought water bank assistance and is a requirement of state grant and loan funding programs.

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If your agency would like to learn more about the Urban Water Management Plan, please contact me at (805) 449-2423 or [bbussell@toaks.org](mailto:bbussell@toaks.org), no later than March 7, 2016.

Sincerely,

Brad Bussell  
Associate Civil Engineer  
City of Thousand Oaks

c: Catrina Paez, Water Resource Specialist – Kennedy/Jenks Consultants

DPW: 1000-45\bb\dlz\final\UWMP Invitation to Land Use Agencies.doc



[toaks.org](http://toaks.org)

Jay T. Spurgin  
Public Works Director

June 10, 2016

Kimberly Prillhart  
Planning Director  
County of Ventura  
800 S. Victoria Avenue #1740  
Ventura, CA 93009-1740

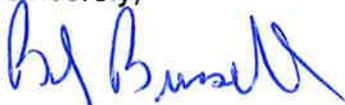
**Subject: Notice of Public Hearing  
2015 Urban Water Management Plan for the City of Thousand Oaks**

Dear Ms. Prillhart:

The City of Thousand Oaks is undertaking review, update, and revision of its Urban Water Management Plan (UWMP). The City of Thousand Oaks is located in eastern Ventura County and serves as water purveyor to over one third of the City's population, making up approximately 17,000 accounts. The Urban Water Management Planning Act requires every "urban water supplier" of a certain size to prepare and adopt a UWMP at least once every five years. The UWMP is a planning document in which water suppliers evaluate and compare their water supply and reliability to their existing and projected demands.

On June 28, 2016 at 6:00 p.m., in the City Council Chambers of the City of Thousand Oaks, the City Council will conduct a public hearing pursuant to California Water Code Sections 10642 and 10608.26 to consider and receive comments and input on the City of Thousand Oaks 2015 UWMP, to allow community input regarding the City's implementation plan for complying with Part 2.55 of the Water Code and to consider the potential economic impacts of the implementation plan, and to provide information on their baseline water use, water use targets, and implementation plan required by the Water Conservation Act of 2009 (Water Code section 10608.20(b)).

Sincerely,



Brad Bussell, P.E.  
Associate Civil Engineer

c: Catrina Paez, Water Resource Specialist – Kennedy/Jenks Consultants

DPW: 1000-45\etm\Final\Bussell\Notice of Public Hearing – 2015 UWMP for CTO



## Public Works Department

2100 Thousand Oaks Boulevard • Thousand Oaks, CA 91362  
Phone 805/449.2400 • Fax 805/449.2475 • www.toaks.org

Jay T. Spurgin  
Public Works Director

June 10, 2016

Cy Johnson  
Calleguas Municipal Water District  
2100 Olsen Road  
Thousand Oaks, CA 91360

**Subject: Notice of Public Hearing  
2015 Urban Water Management Plan for the City of Thousand Oaks**

Dear Mr. Johnson:

The City of Thousand Oaks is undertaking review, update, and revision of its Urban Water Management Plan (UWMP). The City of Thousand Oaks is located in eastern Ventura County and serves as water purveyor to over one third of the City's population, making up approximately 17,000 accounts. The Urban Water Management Planning Act requires every "urban water supplier" of a certain size to prepare and adopt a UWMP at least once every five years. The UWMP is a planning document in which water suppliers evaluate and compare their water supply and reliability to their existing and projected demands.

On June 28, 2016 at 6:00 p.m., in the City Council Chambers of the City of Thousand Oaks, the City Council will conduct a public hearing pursuant to California Water Code sections 10642 and 10608.26 to consider and receive comments and input on the City of Thousand Oaks 2015 UWMP, to allow community input regarding the City's implementation plan for complying with Part 2.55 of the Water Code and to consider the potential economic impacts of the implementation plan, and to provide information on their baseline water use, water use targets, and implementation plan required by the Water Conservation Act of 2009 (Water Code section 10608.20(b)).

Sincerely,

Brad Bussell, P.E.  
Associate Civil Engineer

c: Catrina Paez, Water Resource Specialist – Kennedy/Jenks Consultants

DPW: 1000-45\etm\Final\Bussell\Notice of Public Hearing – 2015 UWMP for CTO

# Certificate of Publication

2016 JUN 27 PM 4:49

CITY CLERK DEPARTMENT  
CITY OF THOUSAND OAKS

Ad #1133649

In Matter of Publication of:

Public Notice

State of California)

))§

County of Ventura)

I, **Darleshia Warner**, hereby certify that the **Ventura County Star Newspaper** has been adjudged a newspaper of general circulation by the Superior Court of California, County of Ventura within the provisions of the Government Code of the State of California, printed in the City of Camarillo, for circulation in the County of Ventura, State of California; that I am a clerk of the printer of said paper; that the annexed clipping is a true printed copy and publishing in said newspaper on the following dates to wit:

June 14, 21, 2016

I, Darleshia Warner certify under penalty of perjury, that the foregoing is true and correct.

Dated this June 21, 2016; in Camarillo,  
California, County of Ventura.

**Darleshia Warner**

## NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that a Public Hearing, as provided by law, will be held by the City Council of the City of Thousand Oaks, to consider and decide the following matter:

### Resolution Adopting the 2015 Urban Water Management Plan.

This Public Hearing is scheduled to be heard by City Council on Tuesday June 28, 2016, at 6:00 p.m., in the City Council Chambers/Scherr Forum Theatre, City Hall, 2100 Thousand Oaks Boulevard, Thousand Oaks, California 91362. Any person is privileged to attend and be heard on this matter. If you challenge the decision of the City Council on this matter in court, you may be limited to raising 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, this Public Hearing. Inquiries concerning this Public Hearing may be directed to: **Jay T. Spurgin, Public Works Director, (805) 449-2444.**

DATED THIS 8th day of June, 2016.

Cynthia M. Rodriguez, City Clerk

PUBLISH: June 14, 2016 and June 21, 2016 Ad No.1133649

## Appendix D: UWMP Adoption Resolution

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RESOLUTION NO. 2016-046

RESOLUTION OF THE CITY COUNCIL OF THE CITY  
OF THOUSAND OAKS ADOPTING THE CITY'S 2015  
URBAN WATER MANAGEMENT PLAN

WHEREAS, the California Legislature enacted Assembly Bill No. 797, known as the Urban Water Management Planning Act, during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every urban 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 primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, the California Legislature enacted Senate Bill No. 7 (SBx7-7), known as the Water Conservation Act, during the 2009-2010 Regular Session, which mandates that a water agency outline water use reduction targets and procedures for achieving those targets; and

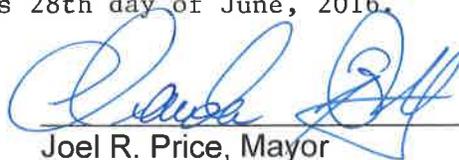
WHEREAS, the City Council of the City of Thousand Oaks adopted a Water Conservation Plan pursuant to Assembly Bill No. 797 on November 26, 1985, and subsequently adopted revised Plans on January 15, 1991, January 28, 1997, January 23, 2001, December 13, 2005, and June 28, 2011; and

WHEREAS, State Law requires that said Plan be revised after five years and adopted after public review and hearing, and be filed with the California Department of Water Resources within 30 days of adoption; and

WHEREAS, the City Council has considered and on June 28, 2016, held a Public Hearing regarding the City's 2015 Urban Water Management Plan; and

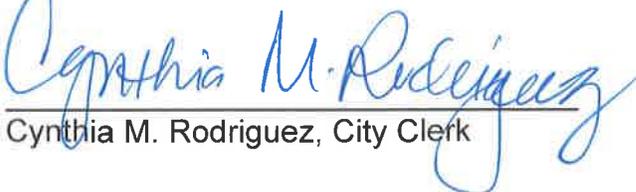
NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Thousand Oaks hereby adopts the 2015 Urban Water Management Plan, with the intention of revising said plan at such times as may be appropriate to ensure an effective water management program.

PASSED AND ADOPTED this 28th day of June, 2016.



Joel R. Price, Mayor  
City of Thousand Oaks, CA

ATTEST:



Cynthia M. Rodriguez, City Clerk

APPROVED AS TO FORM:

*Felicia Liberman*  
Felicia Liberman, Assistant City Attorney

APPROVED AS TO ADMINISTRATION:

*Scott Mitnick*  
Scott Mitnick, City Manager

CERTIFICATION

STATE OF CALIFORNIA     )  
COUNTY OF VENTURA    ) SS.  
CITY OF THOUSAND OAKS   )

I, CYNTHIA M. RODRIGUEZ, City Clerk of the City of Thousand Oaks, DO HEREBY CERTIFY that the foregoing is a full, true, and correct copy of Resolution No. 2016-046 which was duly and regularly passed and adopted by said City Council at a regular meeting held June 28, 2016, by the following vote:

AYES: Councilmembers Fox, Adam, McCoy, and Mayor Pro Tem Bill-de la Peña

NOES: None

ABSENT: Mayor Price

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of Thousand Oaks, California.

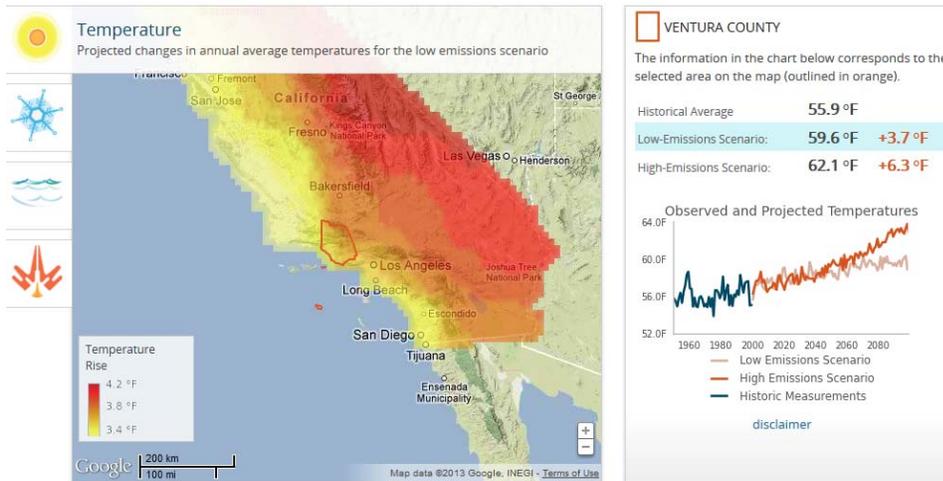
*Cynthia M. Rodriguez*  
Cynthia M. Rodriguez, City Clerk  
City of Thousand Oaks, California

*6/29/16*  
Date Attested

Appendix E: Climate Change Section from the WCVC  
Integrated Regional Water Management Plan

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## SECTION 13.0 - CLIMATE CHANGE



The IRWM Plan Standards require that IRWM Plans address adapting to the effects of climate change and mitigating the effects of climate change by reducing greenhouse gas emissions. Specifically, IRWM Plans must include a discussion of the potential effects of climate change on the Region, including an evaluation of the Region’s vulnerabilities to the effects of climate change, and potential adaptation responses to those vulnerabilities, as well as a process that discloses and considers greenhouse gas emissions when choosing between project alternatives.

IRWM Regions are encouraged to consider and implement “no regret” adaptations to the general effects of climate change. Such adaptations are those that make sense in light of the current water management context for a Region and also help in terms of effects of climate change. These “no regret” adaptations, such as increasing water use efficiency, practicing integrated flood management and seeking to enhance and sustain ecosystems.

### 13.1 Overview of Climate Change Impacts

#### 13.1.1 Statewide Impacts and Vulnerability

Climate change has already begun to impact California. Climate change, caused by the accumulation of greenhouse gases in the atmosphere, will have an increasing impact in future decades. Climate change is causing warmer temperatures, altered patterns of precipitation, runoff, and rising sea levels. Climate change compromises our ability to effectively manage water supplies, floods and other natural resources. Planning for and adapting to these changes, particularly their impacts on public safety, ecosystems, and long-term water supply reliability, will be among the most significant challenges of this century.



According to Dr. Daniel Cayan (Research Meteorologist at the Scripps Institution of Oceanography (SIO), University of California, San Diego, and Researcher in the U.S. Geological Survey), "To prepare for and to reduce these problems requires us to make decisions based on projections of conditions that have never been experienced by humans."

Some basic information about climate change (excerpted from "Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water, California Department of Water Resources, October 2009):

- ◆ Historic hydrologic patterns can no longer be solely relied upon to forecast the water future;
- ◆ Precipitation and runoff patterns are changing, increasing the uncertainty for water supply and quality, flood management, and ecosystem functions;
- ◆ Significant and ongoing investments must be made in monitoring, researching, and understanding the connection between a changing climate, water resources and the environment;
- ◆ Extreme climatic events will become more frequent, necessitating improvements in flood protection, drought preparedness and emergency response;
- ◆ Water and wastewater managers and customers – businesses, institutions, farms, and individuals – can play a key role in water and energy efficiency, the reduction of greenhouse gas emissions, and the stewardship of water and other natural resources;
- ◆ Impacts and vulnerability will vary by region, as will the resources available to respond to climate change, necessitating regional solutions to adaptation rather than the proverbial one-size-fits-all approach; and
- ◆ An array of adaptive water management strategies must be implemented to better address the risk and uncertainty of changing climate patterns.

### Statewide Assessments of Vulnerability

California produces periodic scientific assessments on the potential impacts of climate change in California and reports potential adaptation responses. Required by [Executive Order #S-03-05](#), these assessments influence legislation and inform policy makers.

- The [First Climate Change Assessment](#), released in 2006, looked at the potential impacts of climate change on key state resources such as the water supply, public health, agriculture, coastal areas, forestry, and electricity production and demand. The assessment influenced the passage of Assembly Bill 32, the California [Global Warming Solutions Act of 2006](#).
- The [Second Climate Change Assessment](#), released in 2009, attempted to provide initial estimates of the economic impacts of climate change. It concluded that adaptation - as a complementary approach to mitigation - could substantially reduce the economic impacts of loss and damage that result from a changing climate. Findings from the Second Assessment were instrumental in preparing [California's 2009 statewide adaptation strategy](#).
- The Third Climate Change Assessment, released in 2012, was shaped by the request for more information on vulnerability and adaptation options discussed in the 2009 California



Adaptation Strategy. It made significant progress in projecting climate change impacts, but also in better understanding the interactions of those potential impacts with on the ground exposure, sensitivity, and response capacity of natural and human systems.

The Third Climate Change Assessment concluded that:

**Temperatures in California will rise significantly during the 21<sup>st</sup> century.**

- By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century.
- By 2100, average temperatures could increase by 4.1 to 8.6°F, depending on emissions levels.
- Springtime warming – a critical influence on snowmelt – will be particularly pronounced.
- Summer temperatures are projected to rise more than winter temperatures, and increases are projected to be greater in inland California, compared to the coast.
- Heat waves are projected to be more frequent, hotter, and longer. There are projected to be fewer extremely cold nights.

**Precipitation models continue to show a Mediterranean pattern of weather.**

- Wet winters and dry summers with variability are projected to persist.
- Several climate models indicate drier conditions by the mid-to-late century, in Central and Southern California.

**Wildfire risk in California will increase as a result of climate change.**

- Earlier snowmelt, higher temperatures and longer dry periods over a longer fire season would directly increase wildfire risk.
- That risk is also projected to be influenced by changes in vegetation, lightning strikes, and human activities, particularly land use development patterns.

**Climate change could have major impacts on public health and well-being.**

- Sensitive segments of the human population are particularly vulnerable to extreme heat and ground-level ozone.

**Climate change will impact the supply of water throughout the State.**

- The State will be challenged to manage water under changing climate conditions, including responding to increased demand for water as temperatures rise, snowmelts and runoff occur earlier and faster than in the past, and historical sea level rise threatens aging coastal water infrastructure.
- Climate change effects on water supplies and stream flows are expected to increase competition among urban and agricultural users.



- Water districts with limited or no access to state water would need to rely on local sources for water, making sustainable groundwater management more critical than in the past.

**Increases in average temperature and higher frequency of extreme heat events combined with new residential development across the state are projected to drive up the demand for cooling in summertime.**

- The Third Assessment notes that climate change is leading to an increase in energy demand.
- Energy supply from hydropower, especially in higher elevations, is vulnerable to changes in snowpack and spring runoff.
- Transmission lines for electricity are not designed to carry the higher loads projected by the assessment, and are projected to be more vulnerable to destruction by fire as a result of higher temperatures and more wildfires.

**Sea level rise is occurring more quickly than had been anticipated in earlier assessments and this impacts coastal flooding.**

- Sea level along the state's coastline in 2050 could be 10-18 inches higher than in 2000, and 31-55 inches higher by the end of this century. This represents a four- to eightfold increase in the rate of sea-level rise over that observed in the last century.
- By 2050, coastal 100 year storm events could strike annually on average as a result of sea-level rise.
- Sea level rise and coastal flooding are expected to put critical infrastructure at risk, including ports, transportation routes, power plants, etc.

**California's ecosystems are vulnerable to the effects of climate change.**

- Climate conditions are changing so rapidly that some vegetation cannot keep pace and some species are unable to quickly adapt to changing temperatures, precipitation and sea level rise.
- Identifying and then providing migration corridors that will allow species to migrate to more suitable habitat will be critical to their survival as the climate changes.

**California's agriculture is also vulnerable to climate change.**



Changes in temperature and water availability — annual and seasonal shifts as well as extreme highs and lows — affect both crop yield and quality, making the sector highly sensitive to climate change.<sup>1</sup>

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<sup>1</sup> “Our Changing Climate 2012: Vulnerability and Adaptation to the Increasing Risks from Climate Change in California”, CEC Publication # CEC-500-2012-007, July 31, 2012.



### 13.1.2 Local Climate Change Stressors and Vulnerabilities

#### Overview of Current Ventura County Climate

Ventura County has a Mediterranean climate, with wet, mild winters and dry, warm summers. The average July high temperature is 79 degrees, and the average January low temperature is 42 degrees. The average annual rainfall is approximately 18 inches. Most of the precipitation comes between the months of November through March with very little precipitation during the rest of the year. Ventura County has six diverse microclimates:

- Highlands and mountains of the Western Transverse Mountain Range in the northern portion of the County
- Coastal Plains, primarily located on the Oxnard Plain Coastal Strip
- Interior valleys such as the Ojai Valley
- Interior valleys with coastal influence such as the Santa Clara River Valley
- Interior valleys without coastal influence, such as the Conejo and Simi Valleys

#### Process for Addressing Climate Change in the WVCV IRWM Region:

Stakeholders in WVCV began to focus intently on the potential impacts of climate change in 2011 through discussions in each watershed, and at the regional level. A consultant was hired to assist with development of this portion of the IRWM Plan update. In March of 2012 WVCV, together with the Santa Barbara County and Upper Santa Clara River IRWM Regions and DWR, conducted a local climate change workshop. The workshop was well attended, and resulted in a compilation of information that was posted on the WVCV website:

[http://www.ventura.org/wcvc/documents/climate\\_change.htm](http://www.ventura.org/wcvc/documents/climate_change.htm)

#### WVCV Climate Change Stressors and Vulnerabilities

This section identifies the potential climate change stressors and vulnerabilities in the WVCV Region. Climate change assessment is performed using the output of computer models that project future conditions from inputs of GHG emissions. These models provide potential climate scenarios that are used for planning purposes.

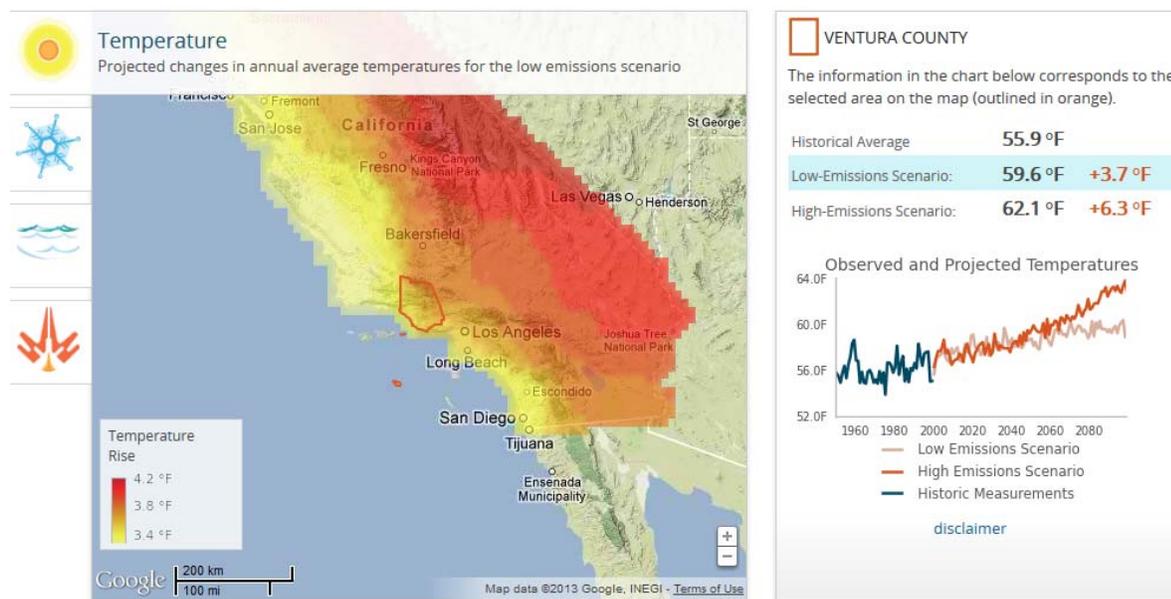
The primary climate stressors projected by global climate models that are important to this Region are changes in air temperature, changes in precipitation patterns (longer, more frequent droughts and more extreme flood events), and sea level rise. A stressor related to higher temperatures and changes in precipitation is more frequent and intense wildfires. The State of California 2009 Climate Change Impacts Assessment prepared by DWR (DWR 2009) provides the scientific basis for developing statewide climate change impact projections, and provides future climate projections to support water resources decision-making in California.

In 2012, the California Energy Commission’s Public Interest Energy Research Program (PIER) established the Cal-Adapt website (<http://cal-adapt.org>). The website provides output from four climate models and two internationally accepted GHG emissions scenarios. Scenario A2 assumes high growth in population, higher GHG emissions and little to no global cooperation on reducing GHGs, while Scenario B1 assumes social consensus for sustainable development and lower GHG emissions. Given the inability to reach global decisions on climate change mitigation measures, and adopting a precautionary approach, this document, for the most part, analyzes stressors and vulnerabilities based on Scenario A2. In those cases where a comparison between the two Scenarios could assist with future decision-making, data from both is used.

## Climate Stressors

### *Stressor: Higher Temperatures*

Under Scenario A2 (high emissions scenario) overall air temperatures in Ventura County are expected to rise 6.3°F by 2100. The historical average temperature is 55.9°F. The increase in temperatures would likely be accompanied by more frequent heat events, with related ecosystem and human health impacts.



While average temperatures will increase by 6.3°F, the expected rise in minimum temperatures is 7.2°F. This means warmer nights, fewer freezing events and warmer winters, with implications for agriculture and ecosystems.

### *Stressor: More Frequent and Intense Wildfires*

Because wildfire risk is determined by a combination of factors including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In years with wet winters, annual vegetation growth is plentiful. But



accentuated dryness during summer would produce a hazardous fuel load that worsens the wildfire problem in some of Southern California wildlands. With expanding development into the urban/wildland interface, threats to human safety and property are even greater. The spread of invasive species that are more fire-prone, coupled with more frequent and prolonged periods of drought, are projected to increase the risk of fires and reduce the capacity of native species to recover. Wildfires also impact air quality, human health and soil erosion, and are an added stress on the watersheds. Increased soil erosion following fires can reduce the capacity of flood control infrastructure and increase flooding.

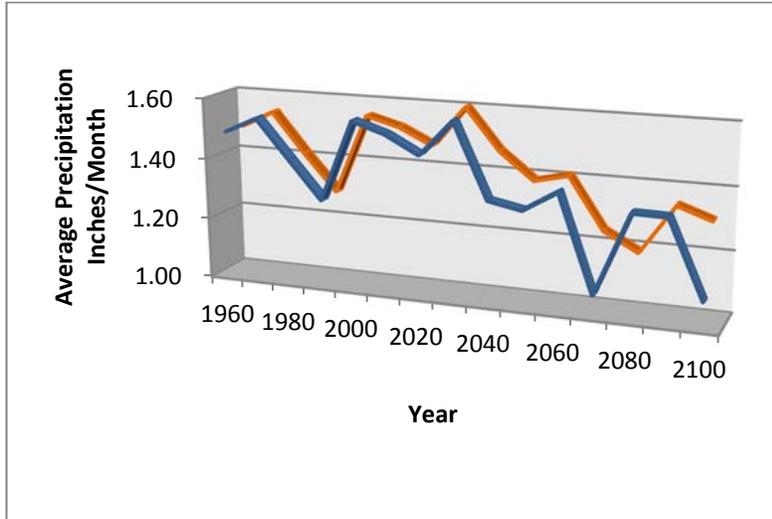
The potential for more frequent wildfires, combined with changes to precipitation, mean that higher rates of soil erosion and runoff are likely in the County's watersheds, affecting water supply and quality, and reducing ecosystem services provided in these watersheds.

***Stressor: Longer, More Frequent Droughts and More Extreme Flood Events***

Global models clearly indicate reduced precipitation for California's mountains and inland valleys. Because the County depends, at least partially, on water from the State Water Project, any changes to precipitation for State sources would result in reduced availability and increased costs for that water. While global models include fluctuations, with increased rainfall predicted to occur in the 2030 decade, the general trend is towards lower monthly and annual precipitation levels. By 2100, using Scenario A2 (the higher emissions scenario), Ventura County's 2100 rainfall totals are projected to decline by 2.16 inches below rainfall levels in 1960.

It is important to note that global models also predict differences in the way precipitation occurs, with more extreme weather events possible. The combination of flood events and sea level rise is particularly critical to coastal communities and ecosystems.

**Average Precipitation (Inches Per Month)  
1960 to 2100**

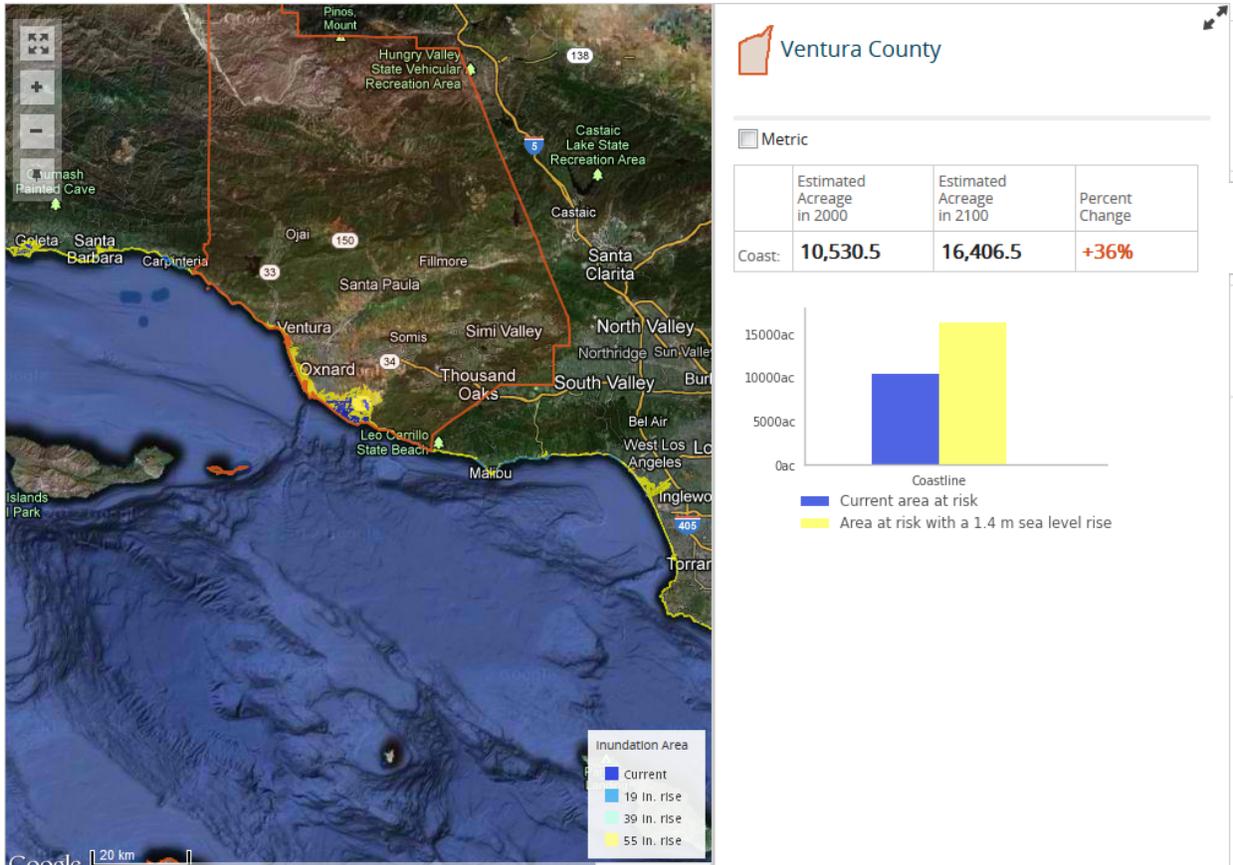


Year	Scenario A2: High Emissions	Scenario B1: Low Emissions
1960	1.49	1.49
1970	1.54	1.54
1980	1.41	1.41
1990	1.29	1.29
2000	1.55	1.55
2010	1.52	1.52
2020	1.46	1.47
2030	1.58	1.60
2040	1.34	1.47
2050	1.31	1.38
2060	1.38	1.41
2070	1.07	1.24
2080	1.34	1.18
2090	1.33	1.34
2100	1.09	1.30

Source: Cal-Adapt

*Stressor: Sea Level Rise*

**SEA LEVEL RISE: THREATENED AREAS MAP**



California’s Cal-Adapt website states that “Global models indicate that California may see up to a 55 inch (1.4 meter) rise in sea level within this century given expected rise in temperatures around the world.”<sup>2</sup> This type of sea level rise, combined with a 100 year flood event, would lead to significant inundation in the coastal regions of Ventura County.

These data were developed by scientists from the United States Geological Survey (USGS) in the Bay Area and the Pacific Institute (Coast). The darker blue areas are already threatened today, while the lighter shades are areas projected to also be threatened given the expected sea level rise.

<sup>2</sup> This projection is based on a paper prepared by the California Climate Change Center: “The Impacts of Sea-Level Rise on the California Coast”, CEC-500-2009-024-D. This is consistent with the National Research Council’s conclusions, published in “Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present and Future”, National Academies Press, 2012.



The USGS and Scripps Institute estimate that the replacement value of buildings and contents in Ventura County vulnerable to a 100 year coastal flood with a 1.4 meter sea-level rise would be \$2.2 billion.

### *Climate Change Vulnerabilities*

The purpose of identifying climate change vulnerabilities is to identify opportunities for making substantive changes today to enhance future resilience. This allows planners to determine the degree to which a system is susceptible to the adverse effects of climate change, including climate variability and climate extremes. Through a series of workshops and meetings, WCVC stakeholders developed a detailed matrix to identify vulnerabilities related to the climate change stressors described above.

Water demands and water supply, water quality, water-related infrastructure, agriculture and human populations are the key vulnerabilities associated with climate change in the IRWMP planning area. Those vulnerabilities vary depending upon the results of climate change. Based upon the scenarios and assumptions of this plan, the results that are most likely to impact vulnerabilities across the three watersheds in the planning area are: longer, more frequent droughts, higher temperatures, more extreme flood events, more frequent and intense wildfires and sea level rise. A tabular version of the following analysis is attached as Appendix "A".

### *Available Water Supply*

With longer and more frequent droughts and higher temperatures, there would be higher water use, especially for agriculture and landscape irrigation. This would likely be exacerbated by increased evaporation and evapotranspiration. More frequent and intense wildfires would increase water demands for firefighting. Sea level rise would make coastal agricultural wells more vulnerable to salt water intrusion, increasing the demand for surface or imported water. Less predictable precipitation may result in changes to when and how much local water is available for use and recharge and how water supply is managed.

Reliability of water supply is a function of local and imported water sources being available when needed. A portion of the water supply for eastern Ventura County is imported through Metropolitan Water District. MWD's Integrated Water Resources Plan, 2010 Update describes uncertainties that create the potential for dramatic shifts in water management. With respect to imported water, the Update states: "Metropolitan's planning relies on nearly 100 years of historical data to forecast future conditions, including the frequency and abundance of rainfall. However, analysis of thousands of years of climate variability, along with models of potential future climate, indicate weather patterns may fall outside the range of the historic data used in Metropolitan's planning models. Changes in climate could significantly affect water supply reliability." (MWD Integrated Water Resources Plan, 2010 Update, Executive Summary).

The State Water Project issued its Final Delivery Reliability Report for 2011, in June 2012. The report states: "...as climate change continues to affect California, past hydrology is no longer a



reliable guide to future conditions.” (p. 28). Specific aspects related to climate change that may alter reliability are: decreased water availability with reduced snowpack, increased SWP water demands, and sea level rise in the Delta.

### *Water Quality*

Longer, more frequent droughts and higher temperatures that result from climate change could impact water quality by increasing eutrophication and algal biomass, reducing dissolved oxygen levels and cold water pools for fish. These factors may also impact water managers’ ability to meet water quality standards, made worse if extreme floods, wildfires and sea level rise occur simultaneously. Poor water quality may result from increased sedimentation and accelerated runoff from burned areas. Severe storms and floods would generally increase turbidity, and deposit waste and other pollutants into local streams and rivers. Sea level rise would increase salinity in estuaries and near shore aquifers, reducing their availability for the current ecosystem and human uses.

### *Water Related Infrastructure*

Impacts on water related infrastructure are direct and indirect. Direct impacts include lack of reliable power supplies when transmission lines and power plants are threatened by fires, floods and sea level rise. Direct impacts can result from damage to water conveyance systems. Indirect impacts on water related infrastructure include reduced access to reliable electricity for pumping and distribution when high temperatures increase summer energy demands. While the State is increasing the supply of renewable energy sources (water, solar), these sources are also vulnerable to the results of climate change. In addition to lack of reliability, damage and competitive demands for power are likely to result in increased costs for electricity used to purvey water.

### *Ecosystems and Habitats*

Ecosystems and habitats are vulnerable to less and/or more variable in-stream water. More droughts, higher temperatures and wildfires increase aquatic and ecosystem stress, by increasing water temperatures and reducing instream water quality. As the climate changes, the range, composition, distribution and migrations patterns of plant and animal communities are also likely to change. With increased pests, invasive species and diseases, ecosystem services<sup>3</sup> would likely be reduced. They would likely be reduced further by alteration in stream channels and sediment transport due to altered precipitation patterns producing drought conditions, larger storms, and increased coastal erosion and salinity in estuaries and near shore aquifers.

### *Agriculture*

Agriculture is an important part of the IRWMP Plan area’s economy. As noted above, agriculture is particularly vulnerable to water reliability. In the worst case scenario, cropland may be taken out of production due to lack of water and agricultural land in coastal areas may become less productive as a result of sea level rise and salt water intrusion. With increased temperatures and

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<sup>3</sup> Ecosystem services are defined as the important benefits for human beings that arise from healthily functioning ecosystems, including but not limited to production of oxygen, soil genesis, and water detoxification.



more frequent droughts, evapotranspiration would likely increase and soil moisture levels would likely decline, increasing water demands and costs. Changes to nighttime temperatures and seasonal water supplies would likely result in shifts in crop behavior and health. Increased pests and diseases that result from heat and drought, along with other factors, would likely impact crop productivity.

### *Human Populations*

The IRWM Plan area includes a range of population distribution, including cities, suburbs and less densely populated areas. Climate change impacts on human populations occur both directly and indirectly. Humans may be directly impacted by higher temperatures, exposure to fires and intense floods and landslides brought on by more intense rain events. Public health officials are exploring the impacts of climate change on provision of services to the frail and elderly. From an economic perspective, because climate change may result in reduced availability of water, the impacts range from increased costs to displacement of people and businesses.

Please see the watershed specific sections of the IRWM Plan (Appendices A, B and C) for information about climate stressors in each watershed. There is some variability in climate among the three watersheds.



## Appendix A Regional Vulnerabilities to Climate Change Ventura County

	Longer, More Frequent Droughts	Higher Temperatures	More Extreme Flood Events	More Frequent & Intense Wildfires	Sea Level Rise
<b>Water Demand (demands on available supply)</b>					
1. Higher water use, especially for agricultural and landscape irrigation	✓	✓			
2. Increased evaporation and evapotranspiration	✓	✓			
3. Higher water demands for firefighting				✓	
4. Increased water demand from contaminated coastal agricultural wells					✓
<b>Water Supply (available water)</b>					
5. Less predictable precipitation	✓				
6. Less groundwater recharge	✓	✓			
7. Reduced water supply reliability	✓	✓	✓		
8. Less usable water supply due to reduced water quality from increased sedimentation and accelerated runoff in burned areas			✓	✓	
9. Damage to reservoir operations, wells, water diversions and conveyance systems			✓		
10. Near shore groundwater supplies threatened by salt water intrusions					✓
<b>Water Quality</b>					
11. Increased eutrophication and algal biomass	✓	✓			
12. Reduced dissolved oxygen	✓	✓			
13. Reduced cold water pools for fish (e.g. California steelhead trout)	✓	✓			
14. Inability to meet water quality standards	✓	✓	✓	✓	✓
15. Poor water quality from increased sedimentation (turbidity) and accelerated runoff in burned areas			✓	✓	
16. Increased turbidity, pathogens, trash and other pollutant loads from severe storms			✓		
17. Increased salinity in estuaries and near shore aquifers					✓
18. Reduced groundwater and lake water quality	✓	✓		✓	✓



<b>Water Related Infrastructure</b>					
19. Access to electricity for pumping and distribution threatened by higher summer energy demands and increased power outages	✓	✓			
20. Access to electricity threatened by potential fires, floods and sea level rise			✓	✓	✓
21. Increased sediment in water systems			✓	✓	
22. Insufficient capacity and/or water to address firefighting needs	✓	✓		✓	
23. Levee stress/failure			✓		✓
24. Impacts to wastewater treatment plants and reservoir operations within the watershed			✓		✓
25. Impacts to wastewater treatment plant (Ventura Water Reclamation Plant) outside the watershed (near Santa Clara River mouth) from discharges within the watershed			✓		✓
26. Damage to conveyance systems			✓		
27. Increased sediment in water systems	✓	✓	✓	✓	
<b>Ecosystems and Habitats</b>					
28. Less and more variable in-stream water	✓	✓			
29. Increased aquatic and terrestrial ecosystem stress	✓	✓		✓	
30. Increased water temperature and plant/animal mortality	✓	✓			
31. Changes to the range, composition, distribution and migration of plant/animal communities	✓	✓	✓		✓
32. Increased pests, invasive species and diseases	✓	✓		✓	✓
33. Decreased ecosystem services	✓	✓	✓		
34. Short-term habitat loss	✓	✓			
35. Habitat changes from frequent fires due to loss of seedbeds/vegetative restarts				✓	
36. Reduced in-stream water quality	✓	✓	✓	✓	
37. Alteration in stream channels and sediment transport			✓		
38. Increased frequency of disturbance	✓	✓	✓	✓	
39. Increased salinity in estuaries and near shore aquifers		✓			✓
40. Increased coastal erosion			✓		✓
<b>Agriculture</b>					
41. Increased evapotranspiration and soil moisture deficits	✓	✓			
42. Increased water demands and costs	✓	✓			
43. Shifts in crop behavior (flowering/ripening)	✓	✓			
44. Increased pests and diseases	✓	✓			
45. Reduced crop productivity	✓	✓	✓		



46. Cropland taken out of production due to lack of water	✓				
47. Crop losses	✓	✓		✓	
48. Range land losses (reduced soil moisture; fires)		✓		✓	
49. Increased soil erosion			✓		
50. Increased salinity in near shore aquifers used by agriculture					✓
51. Loss of agricultural land near coast					✓
<b>Human Populations</b>					
52. Insufficient local water supplies	✓		✓		
53. Increased water costs (from increased demand)	✓	✓			
54. Displacement of people and services	✓	✓	✓	✓	✓
55. Reduced recreational opportunities	✓	✓	✓	✓	✓
56. Economic losses and potential wide scale economic losses due to lack of water	✓	✓	✓	✓	✓
57. Property damage and losses			✓	✓	✓
58. Mortality and morbidity (from heat, fires and intense flood flows and landslides)		✓	✓	✓	
59. Increased water and sewer costs from reduced water quality and infrastructure damage	✓		✓		✓
60. Increased energy costs		✓	✓		
61. Increased property insurance costs			✓	✓	

### 13.2 Climate Change Adaptation Analysis

The California Department of Water Resources (DWR) provides guidance to IRWM Regions in identifying and addressing climate change impacts. In 2011 DWR published *The Climate Change Handbook for Regional Water Planning* as a resource for IRWM Regions. In addition, DWR and other State agencies have published a number of climate change resources. The State has also created a web-portal with information regarding recent climate models, links, adaptation and mitigation strategies and many other related topics: <http://www.climatechange.ca.gov/>.

The *Climate Change Handbook* outlines a four-step process for completing a climate change adaptation analysis: (1) Assess Vulnerability, (2) Measure Impacts, (3) Develop and Evaluate Strategies, and (4) Implement Under Uncertainty:

**Assess Vulnerability:** Identify the region-specific water resources (including source areas for imported water) that are potentially vulnerable to climate change in a way that is both significant for the stakeholders involved and measurable in some way. This information was used to help the WVCV conduct the vulnerability analysis above.



**Measure Impacts:** To the extent appropriate, quantify the climate change impacts to a region's most vulnerable water resources. This step can be highly analytical or qualitative, depending on the estimated level of vulnerability and system, operational complexity, and resources available for the analysis. This information was used to identify impacts to the Region.

**Evaluate Strategies:** Compare and rank existing and potential resource management strategies (RMS) based on their effectiveness in mitigating and adapting to climate change impacts. New potential projects or programs may be identified during this step of the process. Evaluating strategies for climate change adaptive capacity is an important component of the overall evaluation of individual strategies or projects, as well as integrated project portfolios, in any IRWM planning process. This information helped guide the Region in selecting appropriate RMS for local implementation.

**Implement Under Uncertainty:** Incorporate regional management strategies into a broader planning context that considers the uncertainties associated with climate change. This can be done in many ways, for example using approaches based on adaptive management, robust decision making, and other decision-support methods. Uncertainty influences every step of a planning process involving climate change, including methods for climate change impact measurement, project selection, implementation, and performance monitoring. This will guide future efforts of the Region in addressing climate change.

### WCVC Adaptation Approaches

Stakeholders in the Region recognize the importance of developing strategies and projects which will help in adapting to climate change impacts. No regrets adaptations are already being implemented through the projects and programs included in the IRWM Plan. These include increased water use efficiency, water recycling, integrated flood management and ecosystem management.

The adaptation strategies included in the State document *2009 California Climate Adaptation Strategy*, include several strategies being implemented within the Region:

- ◆ Developing the full potential of the IRWM Plan
- ◆ Aggressively increasing water use efficiency
- ◆ Practicing and promoting integrated flood management
- ◆ Enhancing and sustaining ecosystems
- ◆ Expanding (upgrading, restoring) water storage and conjunctive management of surface and groundwater resources
- ◆ Upgrade and increase monitoring, data analysis and management
- ◆ Plan for and adapt to sea-level rise
- ◆ Support and utilize focused climate change impacts and adaptation research and analysis



The adaptation capacity of the implementing Resource Management Strategies in the Region is addressed at a high level in Section 6 – Resource Management Strategies. Adaptation does not occur at a fixed point in time and needs to be an integral part of future planning for projects and programs. In the future, more work will be needed to further define and refine appropriate adaptation projects and programs as new information becomes available.

A number of local and State entities working in the Region are engaged in conducting studies regarding specific impacts of climate change that will benefit IRWM Planning efforts. A few of these are listed below:

- The Nature Conservancy’s Coastal Resilience Ventura Project
- Cities engaged in climate action planning
- County of Ventura Climate Protection Plan and related sustainability program
- The Coastal Conservancy Climate Ready Grant program and climate adaptation elements of local projects such as the Santa Clara River Parkway and Ormond Beach restoration efforts
- Southern California Association of Governments (SCAG) climate change programs
- California Dept. of Fish and Wildlife Climate Science Program - ecosystem protection efforts related to climate change
- USGS project to downscale climate models, and Southern California Bight Modeling project

These efforts need to be tied together more effectively in the future and the Region needs to prepare a more comprehensive assessment of impacts and adaptation strategies. The WCVC will create a climate change task force to work with all the entities engaged in climate change planning. The purpose of the task force will be to develop a more coordinated effort to collect and share data and information regarding climate change impacts and adaptation/mitigation and develop a more comprehensive local inventory of vulnerable infrastructure. The task force will also review and consider the results of ongoing studies, climate models and other resources to update the information in the WCVC IRWM Plan.

### 13.3 Reducing Greenhouse Emissions

The State’s IRWM Plan Standards require IRWM Regions to disclose and consider greenhouse gas (GHG) emissions when choosing between project alternatives. IRWM Plans can help mitigate climate change by reducing energy consumption, especially the energy embedded in water use, and ultimately reducing GHG emissions. Significant amounts of energy are consumed in California as a result of water management (conveyance, treatment, distribution, heating). The Region will consider the impacts of the energy requirements of projects selected for implementation as part of the IRWM Plan.



The County of Ventura is actively involved with other stakeholders in the Central Coast to implement comprehensive energy efficiency measures. This includes the energy use related to water resources. There is strong link between management of water and energy resources; the County's energy programs are closely coordinated with the IRWM Program.

Water has always been linked to energy but recently the relationship between water and energy is emerging as a topic of importance. As water constraints increase, energy production becomes more vulnerable and concerns are raised regarding the effect energy operations have on availability and quality of water. The complex and mutually dependent relationship between water and energy is known as the water-energy nexus. Simply defined; a large amount of water is required to produce energy, and energy is required for water treatment and transportation.

Energy is required to treat wastewater and transport drinking water; Water is required to make electricity and produce transportation fuels; Energy and water are required to grow food; An increasing portion of certain crops is being used for fuel instead of food; and Water quality can be adversely impacted by food and energy production.

Balancing these competing needs and increasingly scarce resources will require behavior modification, development of innovative technology, and adoption of supporting policy by individuals, businesses, and governments.

The Ventura County Regional Energy Alliance (VCREA) is a Joint Powers Agency composed of public agencies working in collaboration to address good energy stewardship through integrated demand side management practices in the Ventura County region. Through this partnership, local governments have strived to establish Ventura County as a leader in supporting sensible growth, healthy environment and economy, enhanced quality of life, and greater self-reliance for the region.

In 2013 alone, VCREA and its partner cities completed 13 eligible energy-efficiency projects leveraging resources available through Southern California Edison's Energy Leader Partnership Program. These projects resulted in energy savings of more than 1,100,000 kWh and 103 kW. In addition to implementing energy-efficiency projects, local governments are taking other actions to combat climate change. These other actions include investing in solar installations and other renewable energy sources, reducing water usage by changing landscape and irrigation practices, implementing green building and purchasing policies, encouraging further development of environmental business by providing training and education opportunities, and encouraging behavioral change throughout the community through outreach and education programs.

All of these efforts combined have contributed to significant County-wide energy savings but in order to continue to lead the community with innovative energy efficiency and climate change programs, a comprehensive, community-based inventory of energy use and associated GHG emissions is needed. In 2013, VCREA received a grant from Southern California Edison to develop a regional GHG inventory and to combine the results into a regional Climate Action Plan. Completion of this plan will help provide a better understanding of energy use and emission producing



activities in the region and to identify potential target areas to be considered for the VCREA Board, individual members, and other entities.

The County of Ventura and a few local cities have joined the California Climate Action Registry to report GHG emissions related to County facilities and activities. The County of Ventura has also developed a Climate Protection Plan that calls for a 15 percent reduction in GHG emissions in County facilities by the year 2020 (for more information visit <http://www.ventura.org/sustain/for-community/climate-protection/>).

As part of the IRWM project review and selection process in the Region described in Section 7 – Project Review Process, a high level analysis of GHG emissions is conducted. The lead agency for a project undergoing CEQA review, must conduct a more detailed assessment of the impacts of GHG emissions associated with the project, and make a determination of significance.

A helpful resource for conducting this analysis is the California Air Pollution Control Officers Association (CAPCOA) handbook *Quantifying Greenhouse Gas Mitigation Measures – A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures*. Section 4 of that document includes water supply projects such as recycled water, gray water, locally sourced water and water use management projects such as low-flow water fixtures, conservation strategies, water-efficient landscape designs and irrigation systems, reduction of turf in landscapes and installation of native and drought-resistant landscape plantings. This information will be used by project proponents when project-specific analysis is conducted.

### **13.4 Plan for Ongoing Data Gathering and Analyzing Vulnerabilities**

As part of the Data Management System (Section 9) and with the help of the climate change task force referenced above, the Region will incorporate and analyze data related to climate change and continue to assess and modify when necessary the vulnerabilities, inventory of vulnerable infrastructure, and adaptation strategies.

## Appendix F: AWWA Water Loss Report Output

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# AWWA Free Water Audit Software v5.0

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This spreadsheet-based water audit tool is designed to help quantify and track water losses associated with water distribution systems and identify areas for improved efficiency and cost recovery. It provides a "top-down" summary water audit format, and is not meant to take the place of a full-scale, comprehensive water audit format.

Auditors are strongly encouraged to refer to the most current edition of AWWA M36 Manual for Water Audits for detailed guidance on the water auditing process and targetting loss reduction levels

The spreadsheet contains several separate worksheets. Sheets can be accessed using the tabs towards the bottom of the screen, or by clicking the buttons below.

## Please begin by providing the following information

Name of Contact Person:

Email Address:

Telephone (incl Ext.):

Name of City / Utility:

City/Town/Municipality:

State / Province:

Country:

Year:  Financial Year

Start Date:  Enter MM/YYYY numeric format

End Date:  Enter MM/YYYY numeric format

Audit Preparation Date:

Volume Reporting Units:

PWSID / Other ID:

## The following guidance will help you complete the Audit

All audit data are entered on the [Reporting Worksheet](#)

- Value can be entered by user
- Value calculated based on input data
- These cells contain recommended default values

Use of Option (Radio) Buttons:  0.25%

Select the default percentage by choosing the option button on the left

To enter a value, choose this button and enter a value in the cell to the right

The following worksheets are available by clicking the buttons below or selecting the tabs along the bottom of the page

<p><b><u>Instructions</u></b></p> <p>The current sheet. Enter contact information and basic audit details (year, units etc)</p>	<p><b><u>Reporting Worksheet</u></b></p> <p>Enter the required data on this worksheet to calculate the water balance and data grading</p>	<p><b><u>Comments</u></b></p> <p>Enter comments to explain how values were calculated or to document data sources</p>	<p><b><u>Performance Indicators</u></b></p> <p>Review the performance indicators to evaluate the results of the audit</p>	<p><b><u>Water Balance</u></b></p> <p>The values entered in the Reporting Worksheet are used to populate the Water Balance</p>	<p><b><u>Dashboard</u></b></p> <p>A graphical summary of the water balance and Non-Revenue Water components</p>
<p><b><u>Grading Matrix</u></b></p> <p>Presents the possible grading options for each input component of the audit</p>	<p><b><u>Service Connection Diagram</u></b></p> <p>Diagrams depicting possible customer service connection line configurations</p>	<p><b><u>Definitions</u></b></p> <p>Use this sheet to understand the terms used in the audit process</p>	<p><b><u>Loss Control Planning</u></b></p> <p>Use this sheet to interpret the results of the audit validity score and performance indicators</p>	<p><b><u>Example Audits</u></b></p> <p>Reporting Worksheet and Performance Indicators examples are shown for two validated audits</p>	<p><b><u>Acknowledgements</u></b></p> <p>Acknowledgements for the AWWA Free Water Audit Software v5.0</p>

If you have questions or comments regarding the software please contact us via email at: [wlc@awwa.org](mailto:wlc@awwa.org)



# AWWA Free Water Audit Software: Reporting Worksheet

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? Click to access definition  
+ Click to add a comment

**Water Audit Report for:** City of Thousand Oaks (CA5610020)  
**Reporting Year:** 2014/15 7/2014 - 6/2015

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 (n/a or 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**

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

**WATER SUPPLIED**

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="10,771.460"/>	acre-ft/yr
Water imported:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="10,771.460"/>	acre-ft/yr
Water exported:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value=""/>	acre-ft/yr

**Master Meter and Supply Error Adjustments**

Pcnt:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value=""/>	Value:	<input type="text" value=""/>	acre-ft/yr
	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value=""/>		<input type="text" value=""/>	acre-ft/yr
	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value=""/>		<input type="text" value=""/>	acre-ft/yr

Enter negative % or value for under-registration  
Enter positive % or value for over-registration

**WATER SUPPLIED:** 10,771.460 acre-ft/yr

**AUTHORIZED CONSUMPTION**

Billed metered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="10,709.160"/>	acre-ft/yr
Billed unmetered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value=""/>	<input type="text" value=""/>	acre-ft/yr
Unbilled metered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value=""/>	<input type="text" value=""/>	acre-ft/yr
Unbilled unmetered:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="4.840"/>	acre-ft/yr

**AUTHORIZED CONSUMPTION:** 10,714.000 acre-ft/yr

**WATER LOSSES (Water Supplied - Authorized Consumption)**

57.460 acre-ft/yr

**Apparent Losses**

Unauthorized consumption:    26.929 acre-ft/yr

Enter a positive value, otherwise a default percentage of 0.25% is applied and a grading of 5 is applied but not displayed

Customer metering inaccuracies:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="0.000"/>	acre-ft/yr
Systematic data handling errors:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="26.773"/>	acre-ft/yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:**  53.702 acre-ft/yr

**Real Losses (Current Annual Real Losses or CARL)**

**Real Losses = Water Losses - Apparent Losses:**  3.758 acre-ft/yr

**WATER LOSSES:** 57.460 acre-ft/yr

**NON-REVENUE WATER**

**NON-REVENUE WATER:**  62.300 acre-ft/yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

**SYSTEM DATA**

Length of mains:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="225.0"/>	miles
Number of <u>active</u> AND <u>inactive</u> service connections:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="16,638"/>	
Service connection density:	<input type="button" value="?"/>	<input type="text" value=""/>	<input type="text" value="74"/>	conn./mile main	

Are customer meters typically located at the curbside or property line?

Average length of customer service line:   (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:     psi

**COST DATA**

Total annual cost of operating water system:	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="\$3,500,000"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="\$4.54"/>	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	<input type="button" value="+"/>	<input type="button" value="?"/>	<input type="text" value="10"/>	<input type="text" value="\$1,100.00"/>	\$/acre-ft

Use Customer Retail Unit Cost to value real losses

**WATER AUDIT DATA VALIDITY SCORE:**

\*\*\* YOUR SCORE IS: 94 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: Unauthorized consumption
- 2: Systematic data handling errors
- 3: Billed metered



## AWWA Free Water Audit Software: System Attributes and Performance Indicators

WAS v5.0

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Water Audit Report for: City of Thousand Oaks (CA5610020)  
 Reporting Year: 2014/15 7/2014 - 6/2015

\*\*\* YOUR WATER AUDIT DATA VALIDITY SCORE IS: 94 out of 100 \*\*\*

### System Attributes:

	Apparent Losses:	53.702	acre-ft/yr
	+	3.758	acre-ft/yr
	=	<b>57.460</b>	acre-ft/yr

? Unavoidable Annual Real Losses (UARL): 270.34 acre-ft/yr

Annual cost of Apparent Losses: \$106,201

Annual cost of Real Losses: \$4,134

Valued at **Variable Production Cost**  
 Return to Reporting Worksheet to change this assumption

### Performance Indicators:

Financial:	{	Non-revenue water as percent by volume of Water Supplied:	0.6%	
		Non-revenue water as percent by cost of operating system:	3.3%	Real Losses valued at Variable Production Cost

Operational Efficiency:	{	Apparent Losses per service connection per day:	2.88	gallons/connection/day
		Real Losses per service connection per day:	0.20	gallons/connection/day
		Real Losses per length of main per day*:	N/A	
		Real Losses per service connection per day per psi pressure:	0.00	gallons/connection/day/psi

From Above, Real Losses = Current Annual Real Losses (CARL): 3.76 acre-feet/year

? Infrastructure Leakage Index (ILI) [CARL/UARL]: 0.01

\* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline



# AWWA Free Water Audit Software: User Comments

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Use this worksheet to add comments or notes to explain how an input value was calculated, or to document the sources of the information used.

<b>General Comment:</b>	
-------------------------	--

Audit Item	Comment
<a href="#">Volume from own sources:</a>	
<a href="#">Vol. from own sources: Master meter error adjustment:</a>	
<a href="#">Water imported:</a>	
<a href="#">Water imported: master meter error adjustment:</a>	
<a href="#">Water exported:</a>	
<a href="#">Water exported: master meter error adjustment:</a>	
<a href="#">Billed metered:</a>	
<a href="#">Billed unmetered:</a>	
<a href="#">Unbilled metered:</a>	
<a href="#">Unbilled unmetered:</a>	

Audit Item	Comment
<a href="#">Unauthorized consumption:</a>	
<a href="#">Customer metering inaccuracies:</a>	
<a href="#">Systematic data handling errors:</a>	
<a href="#">Length of mains:</a>	
<a href="#">Number of active AND inactive service connections:</a>	
<a href="#">Average length of customer service line:</a>	
<a href="#">Average operating pressure:</a>	
<a href="#">Total annual cost of operating water system:</a>	
<a href="#">Customer retail unit cost (applied to Apparent Losses):</a>	
<a href="#">Variable production cost (applied to Real Losses):</a>	



# AWWA Free Water Audit Software: Water Balance

WAS v5.0

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Water Audit Report for:	<b>City of Thousand Oaks (CA5610020)</b>	
Reporting Year:	<b>2014/15</b>	<b>7/2014 - 6/2015</b>
Data Validity Score:	<b>94</b>	

	Water Exported	Billed Water Exported				
	<i>0.000</i>					
<b>Own Sources</b> (Adjusted for known errors)  <i>0.000</i>	<b>Water Supplied</b>  <i>10,771.460</i>	<b>Authorized Consumption</b>  <i>10,714.000</i>	<b>Billed Authorized Consumption</b>  <i>10,709.160</i>	<b>Billed Metered Consumption (water exported is removed)</b>  <i>10,709.160</i>	<b>Revenue Water</b>  <i>10,709.160</i>	
				<b>Billed Unmetered Consumption</b>  <i>0.000</i>		
			<b>Unbilled Authorized Consumption</b>  <i>4.840</i>	<b>Unbilled Metered Consumption</b>  <i>0.000</i>	<b>Non-Revenue Water (NRW)</b>  <i>62.300</i>	
				<b>Unbilled Unmetered Consumption</b>  <i>4.840</i>		
			<b>Water Losses</b>  <i>57.460</i>	<b>Apparent Losses</b>  <i>53.702</i>		<b>Unauthorized Consumption</b>  <i>26.929</i>
					<b>Customer Metering Inaccuracies</b>  <i>0.000</i>	
		<b>Systematic Data Handling Errors</b>  <i>26.773</i>				
<b>Water Imported</b>  <i>10,771.460</i>		<b>Real Losses</b>  <i>3.758</i>	<b>Leakage on Transmission and/or Distribution Mains</b> <i>Not broken down</i>			
			<b>Leakage and Overflows at Utility's Storage Tanks</b> <i>Not broken down</i>			
			<b>Leakage on Service Connections</b> <i>Not broken down</i>			



# AWWA Free Water Audit Software: Dashboard

WAS v5.0

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The graphic below is a visual representation of the Water Balance with bar heights proportional to the volume of the audit components

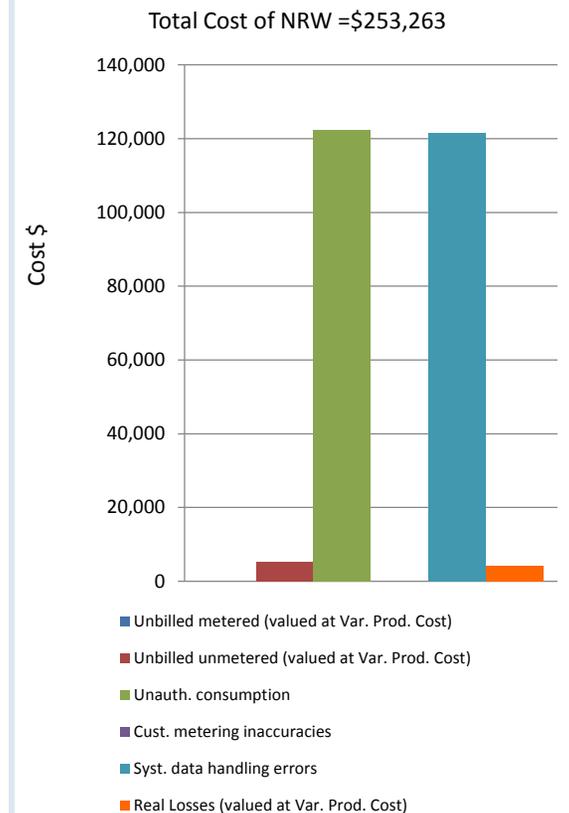
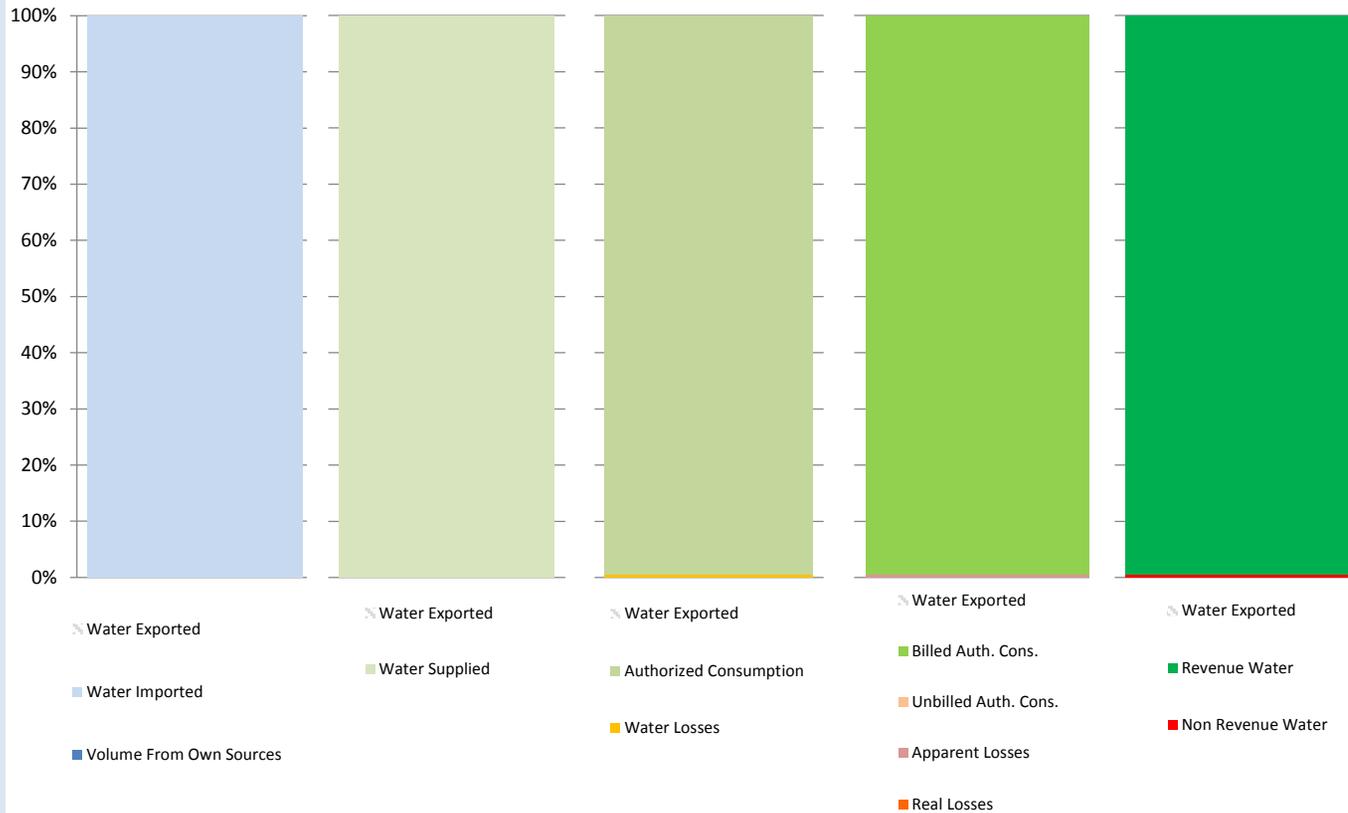
Water Audit Report for: **City of Thousand Oaks (CA5610020)**

Reporting Year: **2014/15**    **7/2014 - 6/2015**

Data Validity Score: **94**

Show me the VOLUME of Non-Revenue Water

Show me the COST of Non-Revenue Water



## Appendix G: City Ordinances Related to Prevention of Water Loss

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**ORDINANCE NO. 1603-NS**

**AN ORDINANCE OF THE CITY COUNCIL OF THE  
CITY OF THOUSAND OAKS ADJUSTING AND  
SETTING RATES AND FEES OF THE CITY WATER  
DIVISION (UNCODIFIED)**

WHEREAS, Section 5471 of the Health and Safety Code requires that rates and fees of the City Water Division be adopted by Council action; and

WHEREAS, the City Council of the City of Thousand Oaks has adopted Ordinance No. 1594-NS which establishes the authority for imposing and charging fees for the Water Division; and

WHEREAS, Thousand Oaks Municipal Code Section 10-2.701 (d) and Sections I B, II B, and III B of said Ordinance No. 1594-NS provided for the automatic annual escalation of such connection fees and charges, those sections stating that water plant investment, special facilities and fire flow surcharge charges shall automatically be adjusted each year based on the percentage change in the Engineering News Record (ENR) Construction Cost Index for Los Angeles as of July of that year; and

WHEREAS, the July 2014 ENR Construction Cost Index for Los Angeles was 10737.43; and

WHEREAS, the July 2014 ENR Construction Cost Index for Los Angeles increased by 4.2 percent from July 2013; and

WHEREAS, in the adoption of this Ordinance, the City of Thousand Oaks desires to adjust the existing, water plant investment fee, special facilities surcharge fees and fire flow surcharge fee; and

WHEREAS, in the adoption of this Ordinance, the City of Thousand Oaks has followed the provisions of Government Code Section 66000 et seq. relating to the conducting of a noticed Public Hearing on December 16, 2014, to hear both oral and written testimony and to the setting of fees and charges that do not exceed the estimated reasonable cost of providing the services for which the fees or charges are made, as well as complied with Proposition 218; and

NOW, THEREFORE, the City Council of the City of Thousand Oaks DOES ORDAIN as follows:

Part 1

(Uncodified)

Ordinance No. 1594-NS is hereby repealed to the extent inconsistent with this Ordinance, concurrent with the effective date of this Ordinance. For ease of

administration, one of the purposes of this Ordinance is to have all of the City's water fees, rates, charges, formulas, and related cost recovery matters in one document (or one Ordinance). Some of the water fees, charges, formulas, and related cost recovery matters are restated in this Ordinance and have not been modified or altered from the earlier Ordinance No. 1594-NS therefore, the respective portions of the facility or capital improvement financial plans, operating expense reports and budgets, future facility needs and cost studies, City Council findings and nexus reports associated with the earlier Ordinance are incorporated herein and re-approved by the City Council.

Part 2

(Uncodified)

That the following rates, charges and fees shall be set for the City Water Division in accordance with Chapter 2 of Title 10 of the Thousand Oaks Municipal Code:

I. In accordance with Section 10-2.701, plant investment fees shall be as follows:

A. Plant Investment Fee. The assessment of the plant investment fee shall be computed as follows:

<u>By Customer Type*</u>	<u>Ratio**</u>	
Single family detached home	1.00	\$7,723
Single family detached condominium	1.00	\$7,723
Residential condominium, townhouse, mobile home	0.75	\$5,792
Apartment, duplex, granny flat, secondary unit, per dwelling unit	0.75	\$5,792
Motel, hotel, congregate care units, with kitchens per dwelling unit	0.50	\$3,862
Commercial if 10 or less fixture units & low water use ***	0.50	\$3,862

All others by meter size

<u>By Meter Size*</u>		
5/8"x3/4" or 3/4"	1.00	\$ 7,723
1"	2.00	\$ 15,447
1-1/2"	4.00	\$ 30,893
2"	6.40	\$ 49,429
3"	13.00	\$100,403
4"	22.00	\$169,913
6"	45.00	\$347,549

\* Generally, a customer is charged based upon the "customer type" amounts unless that category does not fit. Exceptions include a single family dwelling or condominium project having larger than a 3/4" meter, kitchen and dining facilities at a motel, hotel or congregate-care facility and any irrigation meter. The charge for these customers is to be based on equivalent meter size of the estimated water demand.

\*\* Approximate ratio to single family detached home or to 5/8" x 3/4" or 3/4" meter as appropriate.

\*\*\* Fixture units as defined in the City of Thousand Oaks Plumbing Code using the water demand weight of fixtures; low water usage corresponds to 10 hundred cubic feet per month or less.

B. Escalation. In December of each year, all Plant Investment Fee charges in this Ordinance shall be increased by a factor based upon the change from the preceding July-to-July period in the ENR Construction Cost Index for Los Angeles.

II. In accordance with Section 10-2.702, special facilities surcharge fees shall be as follows:

A. Special Facilities Surcharge Fees

Single Family Detached: per Unit	
- Rolling Oaks Zone	\$12,870
- Kelley/Ventu Zone	\$ 3,537
- Wilder/Grissom Zone	\$ 4,820
Condominiums, Townhouses, Mobile Homes: per Unit	0.75 x above SFD fees
- Rolling Oaks Zone	
- Kelley/Ventu Zone	
- Wilder/Grissom Zone	
Apartments, Duplex: per Unit:	0.75 x above SFD fees
- Rolling Oaks Zone	
- Kelley/Ventu Zone	
- Wilder/Grissom Zone	
Motel, Hotel, Congregate Care: per Room or Suite	0.50 x above SFD fees
Commercial Projects with 10 or less Fixture Units	0.50 x above SFD fees
Irrigation Meters	-0-

All others, on a building by building basis

\*Per formula below with a minimum charge equal to "SFD" charge per site/project

$$* \text{SFS} = \text{SFD amount} \times \left( \frac{\text{FF}}{1000} \times 0.5 + \frac{\text{F.U.}}{20} \times 0.25 + \frac{\text{Sq.Ft.}}{3000} \times 0.25 \right)$$

Where: SFS = Special facilities surcharge per site/project  
SFD = Single family dwelling  
FF = Required fire flow for site/project  
F.U. = Fixture units in site/project  
Sq. Ft. = Total site/project square footage

B. Escalation. In December of each year, all Special Facilities Surcharge Fee charges in this Ordinance shall be increased or decreased by a factor based upon the percent increase or decrease in the ENR Construction Cost Index for Los Angeles as of July of that year

III. In accordance with Section 10-2.703, the fire flow surcharge fees shall be as follows:

A. Fire Flow Surcharge Fees

	<u>Residential</u>	<u>All Others</u>
Required fire flow 0 - 1,250 gpm*	\$ -0-	\$ -0-
Required fire flow 1,251 - 1,750 gpm*	10% of PIF	\$5,584 or 10% of PIF**
Required fire flow 1,751 - 2,250 gpm*	20% of PIF	\$11,148 or 20% of PIF**
Required fire flow over 2,250 gpm*	30% of PIF	\$16,732 or 30% of PIF**

\* Fire flow as set by Ventura County Fire Department.

\*\* Whichever is greater, per site/project.

Fire flow surcharge fees shall not be applied to the PIF for any irrigation meter.

B. Escalation. In December of each year, all Fire Flow Surcharge Fee charges in this Ordinance shall be increased or decreased by a factor based upon the percent increase or decrease in the ENR Construction Cost Index for Los Angeles as of July of that year.

C. Refunds of Previous Payments. Where payments of fire flow surcharge fees have been made at higher rates, refunds shall not be made. Where

an agreement has been executed for the deferred payment of this fee, the amount due shall be the amount shown on the deferred agreement.

IV. In accordance with Section 10-2.705, the base or minimum domestic use rate shall be as follows:

A. Single Units Rate:

Meter Size	Base Rate (Monthly)*
3/4"	\$ 18.19
1"	\$ 33.11
1-1/2"	\$ 62.76
2"	\$ 102.57
3"	\$ 199.96
4"	\$ 302.28
6"	\$ 671.87

\*Most customers are billed bimonthly.

B. Multiple Units Rate (including multiple family dwellings, apartments, commercial buildings and trailer courts):

Meter Size	Minimum Rate (Monthly)
3/4"	\$ 37.99
1"	\$ 49.66
Above 1"	Same as single units

C. Conejo Oaks Provision. Effective January 1, 2008, the City of Thousand Oaks Public Works Department will be the official water purveyor and owner of the water facilities within the Conejo Oaks area. Commencing December 31, 2008 and terminating December 31, 2018, properties within the Conejo Oaks service area, shall pay \$4.64 per month. This charge shall represent additional infrastructure provided by the City to serve these customers including pressure reduction vaults construction, pipeline installation, pump station abandonment, demolition and site clean-up, and telemetry improvements.

D. Groundwater accounts are not charged a base meter charge as total program costs are collected through the quantity rate.

E. Charges for portions of billing period. A property connected to the water system for a portion of a billing period shall be billed for the portion of the period service is received.

V. In accordance with Section 10-2.705, the quantity rate shall be as follows per one hundred (100) cubic feet.

A. Non-Single Family Residential

Quantity Rate	\$4.57
B. Single Family Residential Quantity Rate	
Tier 1 (0 - 15 HCF)	\$4.22
Tier 2 (16 - 35 HCF)	\$4.51
Tier 3 (36+ HCF)	\$4.81

VI. In accordance with Section 10-2.705, the pumping lift charge is sixteen cents (\$0.16) per one hundred (100) cubic feet per pumping lift. It shall be charged to all water services which rely on one or more pumping lifts in the City system.

VII. In accordance with Section 10-2.706, the groundwater rate shall be one dollar and eighty three cents (\$1.83) per one hundred (100) cubic feet. This rate is based on charging forty (40%) percent of the current non-single family residential water quantity rate.

VIII. In accordance with Sections 10-2.707 and 10-2.708, the following shall apply for construction water and unmetered water furnished by the City:

A. Construction Water

The construction water rate shall be six dollars and seventeen cents (\$6.17) per one hundred cubic feet with a base rate of \$599.88. These rates are based on charging 135 percent of the current non-single family resident quantity potable water rate and three (3) times the current base rate for a 3-inch meter.

Deposit: \$620.00 for a 3-inch meter or as determined by the Public Works Director for larger meter sizes.

Installation Charge: \$90.00 with a signed application by an authorized person, for initial installation.

\$45.00 each time the meter is relocated to another hydrant at the customer's request.

B. Unmetered Water

For projects where a water system has been declared usable but has not been accepted by the City Council and the subdivider, builder, or developer requests the use of or uses unmetered water for incidental onsite construction purposes, a monthly fee equal to that of the base rate of a 3/4" water meter shall be charged per lot. The subdivider, builder or developer shall be responsible for the payment of the charge until such time as the new owner or occupant signs an application for metered service at which time the regular service charges shall apply.

If water use during the period the availability rate is in effect is estimated to exceed 3 hcf per service per month, the Public Works Director, at his option, may increase such monthly service charge to reflect the estimated usage.

C. Payment Due Date:

Payment is due on all invoices for construction water and unmetered water within 40 days of the date of the invoice; the invoice becomes delinquent then after.

IX. In accordance with Section 10.2.902, delinquent invoices shall be assessed a basic penalty equal to ten (10%) percent of the unpaid water service charge. An additional penalty, equal to one-half of one percent (0.5%) of the unpaid water service charge and the basic penalty, shall be charged each month, or fraction thereof, that the water service charge and the basic penalty of the previous billing period remain unpaid.

X. In accordance with Section 10-2.712, the overhead rate is included in the approved fully burdened hourly rate.

XI. In accordance with Section 10-2.713 and 10-2.305, the minimum rate for each automatic fire sprinkler service and each private fire hydrant shall be as follows:

<u>Size of Service Connection</u>	<u>Monthly Charge</u>
2-inch & smaller	\$ 7.60
3-inch	\$11.40
4-inch	\$15.20
6-inch	\$22.70
8-inch	\$30.30
10-inch	\$37.90
12-inch	\$45.50

XII. In accordance with Section 10-2.715, the overhead rate is included in the approved fully burdened hourly rate.

XIII. Repeal of any provision of this ordinance will not affect any penalty, forfeiture, or liability incurred before, or preclude prosecution and imposition of penalties for any violation occurring before, this Ordinance's effective date. Any such repealed part will remain in full force and effect for sustaining action or prosecuting violations occurring before the effective date of this Ordinance.

XIV. Any water-related fees not set forth in this ordinance may be set forth in the User Fee Manual or other ordinance or resolution.

Part 3  
Continuation  
(Uncodified)

Repeal of any provision of Ordinance No. 1594-NS herein will not affect any penalty, forfeiture, or liability incurred before, or preclude prosecution and imposition of penalties for any violation occurring before, this Ordinance's effective date. Any such repealed part will remain in full force and effect for sustaining action or prosecuting violations occurring before the effective date of this Ordinance.

Part 4  
Severability

If any section, sentence, clauses, or phrase of this ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions. The City Council hereby declares that it would have passed this ordinance, and each section, sentence, clause, or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clause, or phrases be declared invalid or unconstitutional.

Part 5  
Effective Date

This Ordinance shall take effect on the 31<sup>st</sup> day following final passage and adoption.

**PASSED AND ADOPTED** this 13th day of January, 2015.



Al Adam, Mayor  
City of Thousand Oaks

**ATTEST:**

  
Linda D. Lawrence, City Clerk

**APPROVED AS TO FORM:**

Office of the City Attorney

*Felicia Liberman*

Felicia Liberman, Assistant City Attorney

**APPROVED AS TO ADMINISTRATION:**

*Scott Mitnick*

Scott Mitnick, City Manager

**CERTIFICATION**

STATE OF CALIFORNIA     )  
COUNTY OF VENTURA    )   SS.  
CITY OF THOUSAND OAKS )

I, LINDA D. LAWRENCE, City Clerk of the City of Thousand Oaks, DO HEREBY CERTIFY that the foregoing is a full, true, and correct copy of Ordinance No. 1603-NS that was introduced by said City Council at a regular meeting held December 16, 2014 and adopted by said City Council at a regular meeting held January 13, 2015 by the following vote:

AYES:     Councilmembers Fox, Bill-de la Peña, Price, and Mayor Adam

NOES:     None

ABSENT:   None

I further certify that said Ordinance No.1602-NS was published as required by law in the THOUSAND OAKS STAR, a newspaper of general circulation printed and published in said City.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of Thousand Oaks, California.

*Linda D. Lawrence*

Linda D. Lawrence, City Clerk  
City of Thousand Oaks, California

*1/14/15*

Date Attested

## Appendix H: Water Shortage Contingency Plan and Drought Action Plan

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## **Article 11. Water Conservation**

### **Sec. 10-2.1101. Conservation Measures Established.**

Mandatory water conservation measures are hereby established as set forth in this article.

(Ord. 1516-NS, eff. June 5, 2009)

### **Sec. 10-2.1102. Application.**

(a) To the extent authorized by law, this article shall apply to all customers and property within the City and the City's water service area, with no distinction as to whether service is provided by the City or a private water purveyor of potable water that operates water service systems within the City.

(b) The provisions of this article do not apply to uses of water necessary to protect public health and safety or for essential health care or government services such as police, fire and other similar emergency services.

(Ord. 1516-NS, eff. June 5, 2009)

### **Sec. 10-2.1103. General Prohibition: Enforcement, Penalties.**

(a) No customer of the City water system or of a water purveyor serving customers within the City shall make, cause, use, or permit the use of potable water in a manner contrary to any provision of this article. Any violation of the use restrictions set forth in this article shall be reported to the City by the water purveyor. Each customer shall be guilty of a separate offense for each day during which such unauthorized use occurred, continued or was permitted.

(b) Any violation of the water use restrictions set forth in this article shall be subject to prosecution and fines and penalties as set forth in Title 1, Chapter 2, Articles 1 and 2 of this code. Furthermore, any violation of the water use restrictions set forth in this article is a public nuisance under TOMC Section 1-6.01 et seq.

(c) Water Flow Restrictors: In addition to any fines or penalties, the City may install a water flow restrictor device for willful violations of mandatory water use restrictions set forth in this article.

(d) Disconnecting Service: In addition to any fines and the installation of a water flow restrictor, the City may disconnect a customer's water service for continued willful violations of mandatory water use restrictions set forth in this article.

(e) Cost of Flow Restrictor and Disconnecting Service: A person or entity that violates this ordinance is responsible for payment of charges for installing and/or removing any flow restricting device and for disconnecting and/or reconnecting service per the City's schedule of charges then in effect. Such charges must be paid to the City before the flow restricting device is

removed or the water service is reconnected. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.

(Ord. 1516-NS, eff. June 5, 2009)

#### **Sec. 10-2.1104. Permanent Water Conservation Requirements: Prohibition Against Waste.**

The following water conservation requirements are effective at all times and are permanent. Violations of this section shall be considered waste and an unreasonable use of water.

(a) **Limits on Watering Hours:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for short periods of time for the express purpose of adjusting or repairing an irrigation system.

(b) **Limit on Watering Duration:** Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that use highly efficient components such as low volume drip type irrigation, stream rotator sprinklers and/or soil moisture-based or weather-based controllers.

(c) **No Excessive Water Flow or Runoff:** Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

(d) **No Washing Down Hard or Paved Surfaces:** Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary for safety or sanitary purposes, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom. The discharge of pollutants to the storm drain system is prohibited pursuant to Section 7-8.201 of this code.

(e) **Obligation to Fix Leaks, Breaks or Malfunctions:** Excessive use, loss or release of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such release of water should have reasonably been discovered and corrected and, in no event more than seven (7) days of receiving notice from the City, is prohibited.

(f) **Re-circulating Water Required for Decorative Water Fountains and Features:** Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited.

(g) **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

(h) **Drinking Water Served Upon Request Only:** Eating or drinking establishments, including but not limited to a restaurant, hotel, café, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, shall only provide drinking water to any person upon request.

(i) **Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services:** Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

(j) **No Installation of Single Pass Cooling Systems:** Installation of single pass cooling systems is prohibited in buildings requesting new water service.

(k) **No Installation of Non-recirculating Commercial Car Wash and Laundry Systems:** Installation of non-recirculating water systems is prohibited in new commercial car wash and new industrial laundry systems.

(l) **Restaurants Required to Use Water Conserving Dish Wash Spray Valves:** Effective on January 1, 2010, food preparation establishments such as restaurants must use water conserving dish wash spray valves.

(m) **Commercial Car Wash Systems:** Effective on January 1, 2010, all commercial conveyor car wash systems must have installed operational re-circulating water systems, or must have secured a waiver of this requirement from the City.

(Ord. 1516-NS, eff. June 5, 2009)

### **Sec. 10-2.1105. Level 1 Water Conservation Measures.**

(a) A Level 1 Water Supply Shortage exists when the City Council determines, that due to drought or other water supply conditions, a moderate water supply shortage or threatened shortage exists and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the City Council of a Level 1 Water Supply Shortage condition, the City will implement mandatory Level 1 conservation measures identified in this section.

(b) **Additional Water Conservation Measures:** In addition to the prohibited uses of water identified in Section 10-2.1104, the following water conservation requirements apply during a declared Level 1 Water Supply Shortage:

(1) **Limits on Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three days per week. During November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than two days per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for short periods of time for the express purpose of adjusting or repairing an irrigation system.

(2) **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the City unless other arrangements are made with the City.

(Ord. 1516-NS, eff. June 5, 2009)

### **Sec. 10-2.1106. Level 2 Water Conservation Measures.**

(a) A Level 2 Water Supply Shortage exists when the City Council determines, that due to drought or other water supply conditions, a severe water supply shortage or threatened shortage exists and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the City Council of a Level 2 Water-Supply Shortage condition, the City will implement mandatory Level 2 conservation measures identified in this section.

(b) **Additional Conservation Measures:** In addition to the prohibited uses of water identified in Sections 10-2.1104 and 10-2.1105, the following additional water conservation requirements apply during a declared Level 2 Water Supply Shortage:

(1) **Limits on Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week. During November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for short periods of time for the express purpose of adjusting or repairing an irrigation system.

(2) **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the City unless other arrangements are made with the City.

(3) **Limits on Filling Ornamental Lakes or Ponds:** Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this article.

(4) **Limits on Filling Residential Swimming Pools and Spas:** Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.

(Ord. 1516-NS, eff. June 5, 2009)

### **Sec. 10-2.1107. Level 3 Water Conservation Measures.**

(a) A Level 3 Water Supply Shortage condition is also referred to as an "Emergency" condition. A Level 3 condition exists when the City Council declares a critical water shortage emergency and notifies its residents and businesses that a significant reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety. Upon the declaration of a Level 3 Water Supply Shortage condition, the City will implement mandatory Level 3 conservation measures identified in this section.

(b) Additional Conservation Measures: In addition to the prohibited uses of water identified in Sections 10-2.1104, 10-2.1105, and 10-2.1106, the following water conservation requirements apply during a declared Level 3 Water Supply Shortage Emergency:

(1) No Watering or Irrigating: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use:

(i) Maintenance of trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or device;

(ii) Maintenance of existing landscape necessary for fire protection;

(iii) Maintenance of existing landscape for soil erosion control;

(iv) Maintenance of plant materials identified to be rare or essential to the well-being of protected species;

(v) Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two days per week in accordance with the time restrictions in Section 10.2-1104;

(vi) Actively irrigated environmental mitigation projects.

(vii) Maintenance of landscaping installed for the purpose of mitigating the effects of stormwater pollution.

(2) Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by the City unless other arrangements are made with the City.

(3) No New Potable Water Service: Except for the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less, no new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates, or letters of availability) will be issued, except under the following circumstances:

(i) A valid, unexpired building permit has been issued for the project; or

(ii) The project is necessary to protect the public health, safety, and welfare; or

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

(4) Limits on Building Permits: The City will limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare, or in cases which meet the City's adopted conservation offset requirements.

(5) Discontinue Service: The City may discontinue service to consumers who willfully violate provisions of this section.

(Ord. 1516-NS, eff. June 5, 2009)

### **Sec. 10-2.1108. Procedures for Determination: Notification of Water Supply Shortage.**

Declaration and Notification of Water Supply Shortage: The existence of Level 1, Level 2 or Level 3 Water Supply Shortage conditions shall be declared by resolution of the City Council adopted at a regular or special public meeting held in accordance with State law.

(Ord. 1516-NS, eff. June 5, 2009)

### **Sec. 10-2.1109 Hardship Waiver.**

(a) Undue and Disproportionate Hardship: If, due to unique circumstances, a specific requirement of this chapter would result in undue hardship to a person using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water users, then the person may apply for a waiver to the requirements as provided in this section.

(b) Written Finding: The waiver may be granted or conditionally granted only upon a written finding of the existence of facts demonstrating an undue hardship to a person using water or to property upon which water is used, that is disproportionate to the impacts to 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 waiver must be on a form prescribed by the City and accompanied by a non-refundable processing fee in an amount set by City Council resolution.

(2) Supporting Documentation: The application should include photographs, maps, drawings, and other information, including a written statement of the applicant.

(3) Required Findings for Waiver: An application for a waiver will be denied unless the City 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 as shown by water use records, all of the following:

(i) That the waiver does not constitute a grant of special privilege inconsistent with the limitations upon other residents and businesses;

(ii) That because of special circumstances applicable to the property or its use, the strict application of this chapter would have a disproportionate impact on the property or use that exceeds the impacts to residents and businesses generally;

(iii) That the authorizing of such waiver will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the City to effectuate the purpose of this chapter and will not be detrimental to the public interest; and

(4) Approval Authority: The Public Works Director must act upon any completed application no later than fourteen (14) days after submittal and may approve, conditionally approve, or deny the waiver. The applicant requesting the waiver must be promptly notified in writing of any action taken. Unless specified otherwise at the time a waiver is approved, the waiver will apply to the subject property during the period of the mandatory water supply shortage condition.

(Ord. 1516-NS, eff. June 5, 2009)

### **Sec. 10-2.1110. Additional Water Conservation Measures.**

The City Council upon adoption of a resolution may implement additional water conservation measures in addition to the prohibited uses of water identified in Sections 10-2.1104, 10-2.1105, 10-2.1106 and 10-2.1107.

(Ord. 1516-NS, eff. June 5, 2009)

**TO:** Scott Mitnick, City Manager

**FROM:** Jay T. Spurgin, Public Works Director

**DATE:** May 26, 2015

**SUBJECT: Water Supply Shortage Declaration and Drought Action Plan**

**RECOMMENDATION:**

1. Adopt resolution declaring a Level 2 water supply shortage and adopting state mandated water conservation requirements pursuant to Municipal Code sections 10-2.1106 and 10-2.1110.
2. Approve Drought Action Plan.
3. Direct Code Compliance staff to discontinue enforcement for the following:
  - a. Dead or brown vegetation that is otherwise well maintained, even if shown on an approved landscape plan.
  - b. Landscape containing weeds if low cut and otherwise not creating a public safety hazard.
  - c. Landscape areas of single-family dwellings with bare dirt, if neatly maintained (no dirt piles and/or significant holes in yard, etc).
4. Direct Code Compliance staff to continue regular enforcement of the following conditions:
  - a. Dead, overgrown or neglected landscape that creates a public safety hazard (excessive weeds, excessive dead/unmaintained plantings, etc).
  - b. Landscaping installed as part of an approved landscape plan that is needed to support stability of a manufactured slope area.

**FINANCIAL IMPACT:**

**No Additional Funding Requested.** Staff time required to prepare this report is included in the adopted FY 2014-15 Water Operating Fund Budget. Costs for the implementation of the Drought Action Plan are included in the FY 2014-15 Water Operating Budget and the proposed FY 2015-16 Water Operating Budget.

**BACKGROUND:**

California's unprecedented drought conditions have severely depleted water supplies state-wide, degraded wildlife habitat, increased wildfire risk, and threatened already stressed groundwater basins.

In response to the continuing drought, Governor Brown declared a drought state of emergency on January 17, 2014. On April 25, 2014 the Governor signed an Executive Order calling on the State to redouble state drought actions, including limiting outdoor irrigation and restricting other wasteful water practices. In July 2014, The State Water Resources Control Board (Water Board) issued emergency regulations that prohibit washing down driveways and sidewalks, excess irrigation runoff, and using potable water in a fountain or decorative water feature unless the water is recirculated. Larger water suppliers were required to activate their Water Shortage Contingency Plan to a level where outdoor irrigation restrictions are mandatory. The City was in compliance with all of these requirements through its Permanent Conservation Measures.

As California entered a fourth year of drought, the Water Board adopted expanded emergency regulations on March 17, 2015. New prohibitions included restaurants only serving water on request, and hotel operators must provide the option of choosing not to have towels and linens laundered daily. The Water Board also ordered water suppliers to limit the number of days per week that customers can irrigate outdoors.

On April 1, 2015, Governor Brown issued an Executive Order that directed the Water Board to impose restrictions to achieve an aggregate statewide 25 percent reduction in urban water use through February 2016. These restrictions consider the average per capita water usage in each water supplier's service area, and require that those with higher per capita usage achieve proportionally greater reductions than those with low usage. The Executive Order also directed the Water Board to develop regulations that impose restrictions on watering turf street medians.

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On May 5, 2015, the Water Board adopted additional emergency regulations that implement the requirements in the Governor's Executive Order. Beginning in June 2015, the City system is required to reduce usage by 28 percent as compared to the same months in 2013.

In addition, the Water Board has enacted two additional prohibitions that the City must enforce.

- The application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall is prohibited; and
- The irrigation with potable water of ornamental turf on public street medians is prohibited.

At its April Board meeting, the Metropolitan Water District of Southern California (MWD) activated their Water Supply Allocation Plan at a Level 3 Regional Shortage Level effective July 1, 2015. The Calleguas Municipal Water District, the agency that delivers State Project water in Ventura County and provides 100 percent of Thousand Oaks water supply, has in turn informed the City that our water supply allocation for the coming fiscal year will be 15 percent of recent usage. The allocation includes severe penalties if conservation is not achieved. For example, if the City were to use 10 percent over its allocation, then a penalty of approximately \$1,600,000 is possible. If there is no reduction in usage, then a penalty of \$3,200,000 is possible.

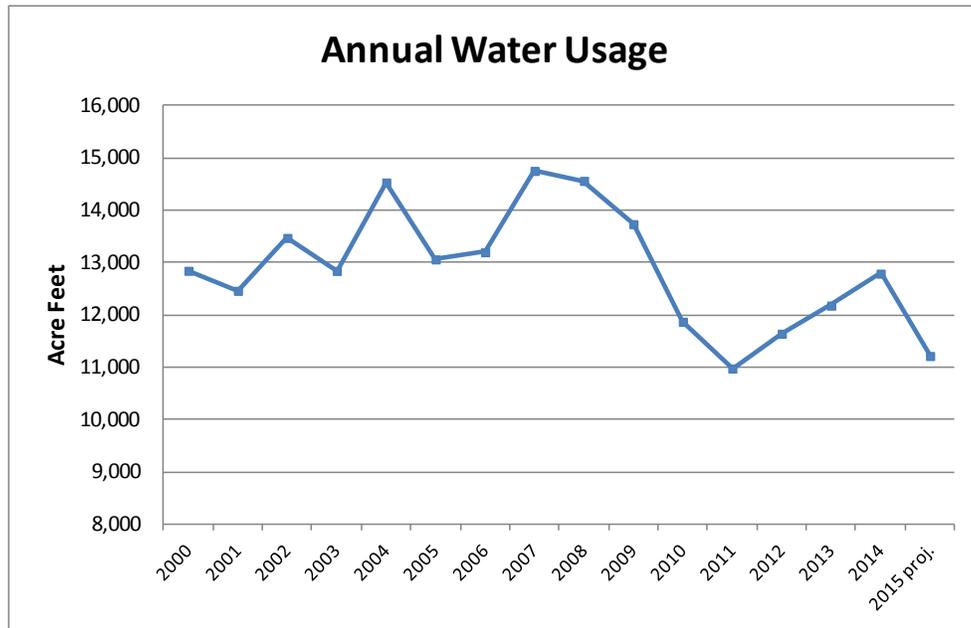
In 2009, City Council adopted a new water conservation ordinance (Attachment #1). The ordinance includes Permanent Water Conservation Requirements that limit watering hours and duration, prohibit excessive runoff and washing down of paved surfaces, obligate customers to fix leaks, limit washing of vehicles, and restrict serving drinking water in restaurants. The Permanent Water Conservation Requirements remain in place at all times citywide, not just during drought conditions. Also in 2009, City Council declared a Level 1 Water Supply Shortage in response to a state-wide drought at that time. The Level 1 declaration was rescinded in 2011.

Increasing levels of water-use restrictions and conservation measures may be enacted by City Council. A Level 1 Water Supply Shortage condition restricts landscape watering to three days per week in April through October, and two days per week for the rest of the year. A Level 2 Water Supply Shortage condition limits watering to two days per week in April through October and one day per week for the remainder of the year. A Level 2 condition also prohibits the initial filling of residential swimming pools and spas and refilling pools by more than one foot of water.

**DISCUSSION/ANALYSIS:**

City water usage over the past eight years is shown in Table 1 below. Residents and businesses have already responded to the current drought conditions as evidenced by the lower water usage this year.

**Table 1**



The MWD's Water Supply Allocation Plan and the State Water Board regulations require the City to reduce usage by two different amounts, from two different baselines over two different time periods.

MWD's Water Supply Allocation Plan requires a reduction of 15 percent from a baseline that is the average of usage in FYs 2012-13 and 2013-14. The Allocation Plan reductions are effective for FY 2015-16. Penalties for exceeding the allocations (if applicable) will be assessed in July 2016.

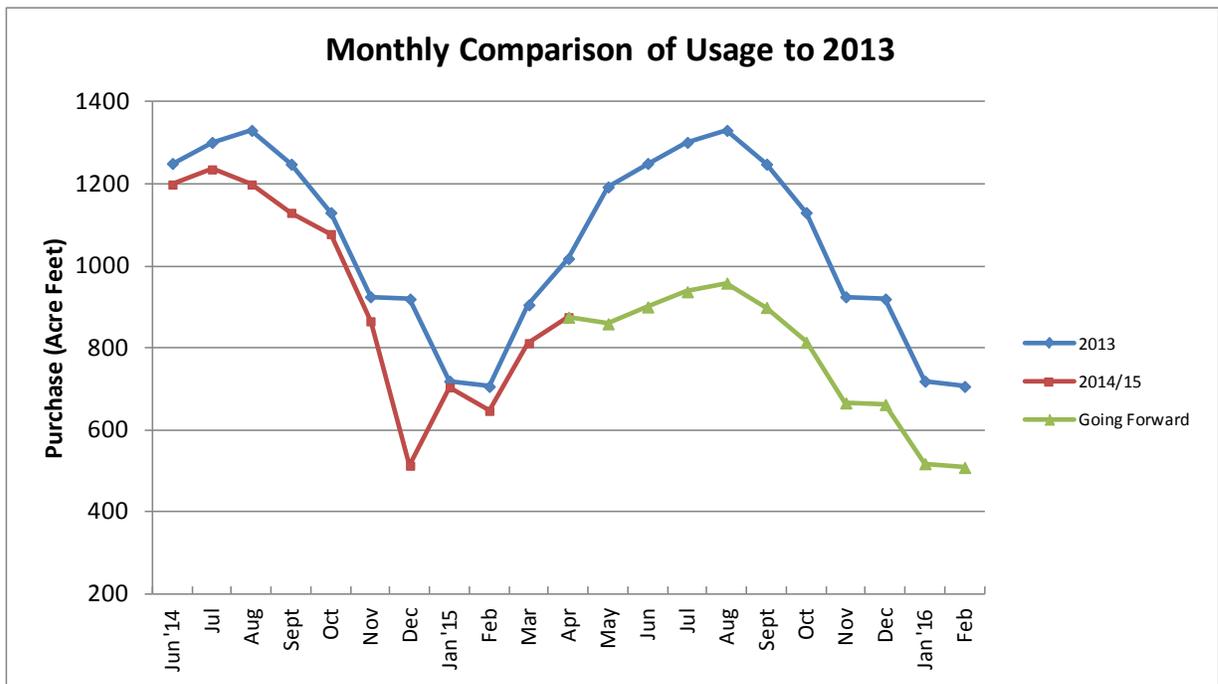
The Water Board determined that the most effective way to reach a 25 percent reduction in urban water use statewide was to allocate conservation requirements for all urban water suppliers across nine tiers of increasing levels of residential water use (Residential Gallons Per Capita per Day or R-GPCD). Suppliers have been assigned a conservation standard that ranges between eight percent and 36 percent based on their R-GPCD for the months of July – September, 2014. From June 2015 through February 2016, the City system

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must reduce usage by 28 percent as compared to usage during the same months in 2013 (see Table 2 below). California American Water Company has been assigned a reduction of 32 percent, while California Water Service Company has been assigned a reduction of 36 percent.

A 28 percent reduction in water usage, particularly during the summer months, will require an extraordinary level of conservation from water customers. Usage must essentially match levels that have not been achieved since the drought in 1990-91 or, if the 1990-91 drought years are ignored, since the early 1980s (when there were far fewer customers).

**Table 2**



**Drought Action Plan**

A Drought Action Plan (Attachment #2) has been prepared to serve as a “road map” to help the City navigate the difficult and serious statewide drought and the regulatory requirements. In order to meet the requirements of the Water Board regulations and MWD’s Water Supply Allocation Plan, it is recommended that City Council declare a Level 2 Water Supply Shortage. A Level 2 Water Supply Shortage exists when City Council determines that due to drought or other water supply conditions, a severe water supply shortage or threatened shortage exists and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the

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declaration by City Council of a Level 2 Water Supply Shortage condition the City will implement mandatory Level 2 conservation measures, which include the following:

**Limits on Watering Days:** Watering or irrigating of lawn landscape or other vegetated area with potable water is limited to two days per week. During November through March watering or irrigating of lawn landscape or other vegetated area with potable water is limited to no more than one day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand held bucket or similar container, a hand held hose equipped with a positive self-closing water shut off nozzle or device or for short periods of time for the express purpose of adjusting or repairing an irrigation system.

**Limits on Filling Ornamental Lake or Ponds:** Filling or re-filling ornamental lakes or ponds with potable water is prohibited except to the extent needed to sustain aquatic life provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level.

**Limits on Filling Residential Swimming Pools & Spas:** Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.

It is important to note that the City's water conservation regulations contain a "Hardship Waiver" provision. If, due to unique circumstances, a specific requirement of the water conservation regulations result in undue hardship to a person using water or to property upon which water is used that is disproportionate to the impacts to water users generally, or to similar property or classes of water users, then the person may apply for a waiver to the requirements. The Public Works Director must act upon any completed application no later than fourteen days after submittal and may approve, conditionally approve or deny the waiver.

It is recommended that City Council consider allowing residents or businesses that have submitted an application to construct a swimming pool or spa prior to June 1, 2015, to initially fill the pool or spa when construction is complete.

The Drought Action Plan contains information regarding plans to reduce usage at City facilities, including the Civic Arts Plaza and the Los Robles Golf Course.

Since the Water Board's regulation prohibit the use of potable water to irrigate turf on public street medians, Municipal Service Center staff have developed an

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inventory of turf medians in the City. The Water Board has stated that as this provision is implemented, it is important to ensure that existing trees remain healthy and do not present a public safety hazard. The Water Board intends to develop guidance on this issue. Municipal Service Center staff have discontinued irrigation of turf medians as of May 15. Browning of turf will result. Irrigation in some median areas where trees exist will continue on a one day per week schedule. Additional information on this subject can be found in the Drought Action Plan.

The Drought Action Plan also contains information on enforcement, public outreach, staffing levels, required reporting to the state and evaluating the City's compliance with Water Board regulations and the Water Supply Allocation Plan. Staff intends to launch a robust public outreach campaign in conjunction with our local water agency partners. Public outreach will be important as residential compliance will be critical to achieving the required reductions.

Private Property Landscaping

The City of Thousand Oaks, through the Code Compliance Division, enforces City laws relating to maintenance of landscaping throughout the City. This is accomplished using three sections of the Thousand Oaks Municipal Code, as follows (full text in Attachment #3):

1. TOMC Section 1-6.01(e)(4) – The Municipal Code defines the maintaining of dead, overgrown, or neglected landscaping in the general public view as a public nuisance if it constitutes unsightly appearance or is a danger to public safety and welfare.
2. TOMC Section 1-6.01(e)(10) - The Municipal Code defines the lack of landscape treatment in yard areas of single-family detached dwellings to be a public nuisance. Landscape treatment is not defined, but the City allows live plantings, bark, rock, or a combination thereof.
3. TOMC Section 9-4.3005 – The Municipal Code requires that the conditions of any issued zoning permit (development entitlement) be followed in perpetuity or as specifically designated. Many entitlements contain requirements for the installation and maintenance of landscape material (mostly in commercial, industrial and other developments with common areas). Installed landscape must be maintained throughout the existence of a development. This includes properties where landscaping is required to be installed to stabilize manufactured slope areas.

An important consideration will be landscape enforcement in light of the ongoing drought, and the City's initiation of significant water conservation measures as recommended. The implementation of water conservation measures will affect

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installed landscape throughout the City. Under Level 2 measures, landscape irrigation will be limited to two days per week (one day per week during November through March). Depending on weather, this amount of watering may not be enough to maintain many types of live landscaping, particularly lawns.

Existing Municipal Code provisions define dried or dead landscape, including brown/dead lawns, as a public nuisance, and therefore such a condition would be pursued as a violation upon a complaint being filed with the City’s Code Compliance Division. As deteriorating landscape conditions will become a more common occurrence under the proposed water conservation measures being recommended, staff believes a stay on enforcement of certain landscape related violations should be considered by City Council.

The State of California recently enacted AB 2100 (Attachment #4) which restricts homeowners associations from imposing fines to their members for reducing or limiting watering of vegetation during a declared water emergency. Also, a bill currently passed by the State Assembly and being considered by the State Senate (AB 1), would prohibit a local jurisdiction from imposing any fines for failure to water or for maintaining a brown lawn during a declared water emergency.

Staff contacted other local cities to determine the current enforcement posture they are taking regarding landscape violations. Generally, most cities are conducting very limited landscape enforcement, either because their regulations do not contain or have limited landscape maintenance standards, or due to modified enforcement due to drought related conditions. Table 3 below shows whether local laws are being enforced for various landscape conditions in these cities:

**Table 3 – Agency Drought Enforcement**

City	Conditions			
	Lack of landscape (but otherwise neat and maintained)	Dead landscape but otherwise maintained	Unmaintained, dead, overgrown landscape (weeds, etc.)	Landscape installed pursuant to an approved plan
Thousand Oaks	Yes	Yes	Yes	Yes
Camarillo	Yes	Yes	Yes	Yes

City	Conditions			
	Lack of landscape (but otherwise neat and maintained)	Dead landscape but otherwise maintained	Unmaintained, dead, overgrown landscape (weeds, etc.)	Landscape installed pursuant to an approved plan
Oxnard	No	No	Yes	Yes (but not if brown due to water cutback and otherwise maintained)
Simi Valley	No	No	Yes	Yes (but not if brown due to water cutback and otherwise maintained)
Ventura	No	No	Yes	Yes (but not if brown due to water cutback and otherwise maintained)

The City of Westlake Village does not conduct any landscape maintenance enforcement other than landscaping installed pursuant to an approved plan, but have had few reported landscape issues. According to Westlake Village staff, most residential areas are currently within homeowners associations that enforce their own CC&Rs for landscape issues.

Based on staff's evaluation regarding the impacts that the proposed water conservation measures will have on existing landscape, the following enforcement recommendations are proposed for City Council consideration during the water shortage declaration:

1. Direct Code Compliance staff to discontinue enforcement for the following:
  - a. Dead or brown vegetation that is otherwise well maintained, even if shown on an approved landscape plan.
  - b. Landscape containing weeds if low cut and otherwise not creating a public safety hazard.
  - c. Landscape areas of single-family dwellings with bare dirt, if neatly maintained (no dirt piles and/or significant holes in yard, etc).

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2. Direct Code Compliance staff to continue regular enforcement of the following conditions:
  - a. Dead, overgrown or neglected landscape that creates a public safety hazard (excessive weeds, excessive dead/unmaintained plantings, etc).
  - b. Landscaping installed as part of an approved landscape plan that is needed to support stability of a manufactured slope area.

At such time City Council modifies or eliminates the enhanced water conservation measures, Code Compliance staff will return to enforcement of the regulations as adopted.

Staff recommends City Council adopt a resolution (Attachment #5) which declares a Level 2 water shortage condition and prohibits the application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall. In addition, it is recommended that the provision on initial filling of swimming pools and spas apply to applications for pool or spa permits that are received by the City on or after June 1, 2015.

**COUNCIL GOAL COMPLIANCE:**

**Meets City Council Goal E:**

- E. Provide and enhance essential infrastructure to ensure that the goals and policies of the Thousand Oaks General Plan are carried out and the City retains its role and reputation as a leader in protecting the environment and preserving limited natural resources.

**PREPARED BY:** JoAnne Kelly, Resource Division Manager

**Attachments:**

- Attachment #1 - City Water Conservation Regulations
- Attachment #2 - Drought Action Plan
- Attachment #3 - Municipal Codes for Landscape Violations
- Attachment #4 - Copy of AB 2100
- Attachment #5 - Resolution Declaring a Level 2 Water Supply Shortage and Enacting Additional Water Conservation Measures

The City of Thousand Oaks, CA Municipal Code

**Article 11. Water Conservation**

**Sec. 10-2.1101. Conservation Measures Established.**

Mandatory water conservation measures are hereby established as set forth in this article.

(Ord. 1516-NS, eff. June 5, 2009)

**Sec. 10-2.1102. Application.**

(a) To the extent authorized by law, this article shall apply to all customers and property within the City and the City's water service area, with no distinction as to whether service is provided by the City or a private water purveyor of potable water that operates water service systems within the City.

(b) The provisions of this article do not apply to uses of water necessary to protect public health and safety or for essential health care or government services such as police, fire and other similar emergency services.

(Ord. 1516-NS, eff. June 5, 2009)

**Sec. 10-2.1103. General Prohibition: Enforcement, Penalties.**

(a) No customer of the City water system or of a water purveyor serving customers within the City shall make, cause, use, or permit the use of potable water in a manner contrary to any provision of this article. Any violation of the use restrictions set forth in this article shall be reported to the City by the water purveyor. Each customer shall be guilty of a separate offense for each day during which such unauthorized use occurred, continued or was permitted.

(b) Any violation of the water use restrictions set forth in this article shall be subject to prosecution and fines and penalties as set forth in Title 1, Chapter 2, Articles 1 and 2 of this code. Furthermore, any violation of the water use restrictions set forth in this article is a public nuisance under TOMC Section 1-6.01 et seq.

(c) Water Flow Restrictors: In addition to any fines or penalties, the City may install a water flow restrictor device for willful violations of mandatory water use restrictions set forth in this article.

(d) Disconnecting Service: In addition to any fines and the installation of a water flow restrictor, the City may disconnect a customer's water service for continued willful violations of mandatory water use restrictions set forth in this article.

(e) Cost of Flow Restrictor and Disconnecting Service: A person or entity that violates this ordinance is responsible for payment of charges for installing and/or removing any flow restricting device and for disconnecting and/or reconnecting service per the City's schedule of charges then in effect. Such charges must be paid to the City before the flow restricting device is

removed or the water service is reconnected. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.

(Ord. 1516-NS, eff. June 5, 2009)

**Sec. 10-2.1104. Permanent Water Conservation Requirements: Prohibition Against Waste.**

The following water conservation requirements are effective at all times and are permanent. Violations of this section shall be considered waste and an unreasonable use of water.

(a) **Limits on Watering Hours:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited between the hours of 9:00 a.m. and 5:00 p.m. on any day, except by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for short periods of time for the express purpose of adjusting or repairing an irrigation system.

(b) **Limit on Watering Duration:** Watering or irrigating of lawn, landscape or other vegetated area with potable water using a landscape irrigation system or a watering device that is not continuously attended is limited to no more than fifteen (15) minutes watering per day per station. This subsection does not apply to landscape irrigation systems that use highly efficient components such as low volume drip type irrigation, stream rotator sprinklers and/or soil moisture-based or weather-based controllers.

(c) **No Excessive Water Flow or Runoff:** Watering or irrigating of any lawn, landscape or other vegetated area in a manner that causes or allows excessive water flow or runoff onto an adjoining sidewalk, driveway, street, alley, gutter or ditch is prohibited.

(d) **No Washing Down Hard or Paved Surfaces:** Washing down hard or paved surfaces, including but not limited to sidewalks, walkways, driveways, parking areas, tennis courts, patios or alleys, is prohibited except when necessary for safety or sanitary purposes, and then only by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off device, a low-volume, high-pressure cleaning machine equipped to recycle any water used, or a low-volume high-pressure water broom. The discharge of pollutants to the storm drain system is prohibited pursuant to Section 7-8.201 of this code.

(e) **Obligation to Fix Leaks, Breaks or Malfunctions:** Excessive use, loss or release of water through breaks, leaks or other malfunctions in the water user's plumbing or distribution system for any period of time after such release of water should have reasonably been discovered and corrected and, in no event more than seven (7) days of receiving notice from the City, is prohibited.

(f) **Re-circulating Water Required for Decorative Water Fountains and Features:** Operating a water fountain or other decorative water feature that does not use recirculated water is prohibited.

(g) **Limits on Washing Vehicles:** Using water to wash or clean a vehicle, including but not limited to any automobile, truck, van, bus, motorcycle, boat or trailer, whether motorized or not is prohibited, except by use of a hand-held bucket or similar container or a hand-held hose equipped with a positive self-closing water shut-off nozzle or device. This subsection does not apply to any commercial car washing facility.

(h) Drinking Water Served Upon Request Only: Eating or drinking establishments, including but not limited to a restaurant, hotel, café, cafeteria, bar, or other public place where food or drinks are sold, served, or offered for sale, shall only provide drinking water to any person upon request.

(i) Commercial Lodging Establishments Must Provide Guests Option to Decline Daily Linen Services: Hotels, motels and other commercial lodging establishments must provide customers the option of not having towels and linen laundered daily. Commercial lodging establishments must prominently display notice of this option in each bathroom using clear and easily understood language.

(j) No Installation of Single Pass Cooling Systems: Installation of single pass cooling systems is prohibited in buildings requesting new water service.

(k) No Installation of Non-recirculating Commercial Car Wash and Laundry Systems: Installation of non-recirculating water systems is prohibited in new commercial car wash and new industrial laundry systems.

(l) Restaurants Required to Use Water Conserving Dish Wash Spray Valves: Effective on January 1, 2010, food preparation establishments such as restaurants must use water conserving dish wash spray valves.

(m) Commercial Car Wash Systems: Effective on January 1, 2010, all commercial conveyor car wash systems must have installed operational re-circulating water systems, or must have secured a waiver of this requirement from the City.

(Ord. 1516-NS, eff. June 5, 2009)

#### **Sec. 10-2.1105. Level 1 Water Conservation Measures.**

(a) A Level 1 Water Supply Shortage exists when the City Council determines, that due to drought or other water supply conditions, a moderate water supply shortage or threatened shortage exists and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the City Council of a Level 1 Water Supply Shortage condition, the City will implement mandatory Level 1 conservation measures identified in this section.

(b) Additional Water Conservation Measures: In addition to the prohibited uses of water identified in Section 10-2.1104, the following water conservation requirements apply during a declared Level 1 Water Supply Shortage:

(1) Limits on Watering Days: Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to three days per week. During November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than two days per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for short periods of time for the express purpose of adjusting or repairing an irrigation system.

(2) **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within seventy-two (72) hours of notification by the City unless other arrangements are made with the City.

(Ord. 1516-NS, eff. June 5, 2009)

**Sec. 10-2.1106. Level 2 Water Conservation Measures.**

(a) A Level 2 Water Supply Shortage exists when the City Council determines, that due to drought or other water supply conditions, a severe water supply shortage or threatened shortage exists and a consumer demand reduction is necessary to make more efficient use of water and appropriately respond to existing water conditions. Upon the declaration by the City Council of a Level 2 Water-Supply Shortage condition, the City will implement mandatory Level 2 conservation measures identified in this section.

(b) **Additional Conservation Measures:** In addition to the prohibited uses of water identified in Sections 10-2.1104 and 10-2.1105, the following additional water conservation requirements apply during a declared Level 2 Water Supply Shortage:

(1) **Limits on Watering Days:** Watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to two days per week. During November through March, watering or irrigating of lawn, landscape or other vegetated area with potable water is limited to no more than one day per week. This provision does not apply to landscape irrigation zones that exclusively use very low flow drip type irrigation systems when no emitter produces more than two (2) gallons of water per hour. This provision also does not apply to watering or irrigating by use of a hand-held bucket or similar container, a hand-held hose equipped with a positive self-closing water shut-off nozzle or device, or for short periods of time for the express purpose of adjusting or repairing an irrigation system.

(2) **Obligation to Fix Leaks, Breaks or Malfunctions:** All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within forty-eight (48) hours of notification by the City unless other arrangements are made with the City.

(3) **Limits on Filling Ornamental Lakes or Ponds:** Filling or re-filling ornamental lakes or ponds with potable water is prohibited, except to the extent needed to sustain aquatic life, provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level under this article.

(4) **Limits on Filling Residential Swimming Pools and Spas:** Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.

(Ord. 1516-NS, eff. June 5, 2009)

**Sec. 10-2.1107. Level 3 Water Conservation Measures.**

(a) A Level 3 Water Supply Shortage condition is also referred to as an "Emergency" condition. A Level 3 condition exists when the City Council declares a critical water shortage emergency and notifies its residents and businesses that a significant reduction in consumer demand is necessary to maintain sufficient water supplies for public health and safety. Upon the declaration of a Level 3 Water Supply Shortage condition, the City will implement mandatory Level 3 conservation measures identified in this section.

(b) Additional Conservation Measures: In addition to the prohibited uses of water identified in Sections 10-2.1104, 10-2.1105, and 10-2.1106, the following water conservation requirements apply during a declared Level 3 Water Supply Shortage Emergency:

(1) No Watering or Irrigating: Watering or irrigating of lawn, landscape or other vegetated area with potable water is prohibited. This restriction does not apply to the following categories of use:

(i) Maintenance of trees and shrubs, that are watered using a hand-held bucket or similar container, hand-held hose equipped with a positive self-closing water shut-off nozzle or device;

(ii) Maintenance of existing landscape necessary for fire protection;

(iii) Maintenance of existing landscape for soil erosion control;

(iv) Maintenance of plant materials identified to be rare or essential to the well-being of protected species;

(v) Maintenance of landscape within active public parks and playing fields, day care centers, golf course greens, and school grounds, provided that such irrigation does not exceed two days per week in accordance with the time restrictions in Section 10.2-1104;

(vi) Actively irrigated environmental mitigation projects.

(vii) Maintenance of landscaping installed for the purpose of mitigating the effects of stormwater pollution.

(2) Obligation to Fix Leaks, Breaks or Malfunctions: All leaks, breaks, or other malfunctions in the water user's plumbing or distribution system must be repaired within twenty four (24) hours of notification by the City unless other arrangements are made with the City.

(3) No New Potable Water Service: Except for the resetting or turn-on of meters to provide continuation of water service or the restoration of service that has been interrupted for a period of one year or less, no new potable water service will be provided, no new temporary meters or permanent meters will be provided, and no statements of immediate ability to serve or provide potable water service (such as, will-serve letters, certificates, or letters of availability) will be issued, except under the following circumstances:

(i) A valid, unexpired building permit has been issued for the project; or

(ii) The project is necessary to protect the public health, safety, and welfare; or

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

(4) Limits on Building Permits: The City will limit or withhold the issuance of building permits which require new or expanded water service, except to protect the public health, safety and welfare, or in cases which meet the City's adopted conservation offset requirements.

(5) Discontinue Service: The City may discontinue service to consumers who willfully violate provisions of this section.

(Ord. 1516-NS, eff. June 5, 2009)

**Sec. 10-2.1108. Procedures for Determination: Notification of Water Supply Shortage.**

Declaration and Notification of Water Supply Shortage: The existence of Level 1, Level 2 or Level 3 Water Supply Shortage conditions shall be declared by resolution of the City Council adopted at a regular or special public meeting held in accordance with State law.

(Ord. 1516-NS, eff. June 5, 2009)

**Sec. 10-2.1109 Hardship Waiver.**

(a) Undue and Disproportionate Hardship: If, due to unique circumstances, a specific requirement of this chapter would result in undue hardship to a person using water or to property upon which water is used, that is disproportionate to the impacts to water users generally or to similar property or classes of water users, then the person may apply for a waiver to the requirements as provided in this section.

(b) Written Finding: The waiver may be granted or conditionally granted only upon a written finding of the existence of facts demonstrating an undue hardship to a person using water or to property upon which water is used, that is disproportionate to the impacts to 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 waiver must be on a form prescribed by the City and accompanied by a non-refundable processing fee in an amount set by City Council resolution.

(2) Supporting Documentation: The application should include photographs, maps, drawings, and other information, including a written statement of the applicant.

(3) Required Findings for Waiver: An application for a waiver will be denied unless the City 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 as shown by water use records, all of the following:

(i) That the waiver does not constitute a grant of special privilege inconsistent with the limitations upon other residents and businesses;

(ii) That because of special circumstances applicable to the property or its use, the strict application of this chapter would have a disproportionate impact on the property or use that exceeds the impacts to residents and businesses generally;

(iii) That the authorizing of such waiver will not be of substantial detriment to adjacent properties, and will not materially affect the ability of the City to effectuate the purpose of this chapter and will not be detrimental to the public interest; and

(4) Approval Authority: The Public Works Director must act upon any completed application no later than fourteen (14) days after submittal and may approve, conditionally approve, or deny the waiver. The applicant requesting the waiver must be promptly notified in writing of any action taken. Unless specified otherwise at the time a waiver is approved, the waiver will apply to the subject property during the period of the mandatory water supply shortage condition.

(Ord. 1516-NS, eff. June 5, 2009)

**Sec. 10-2.1110. Additional Water Conservation Measures.**

The City Council upon adoption of a resolution may implement additional water conservation measures in addition to the prohibited uses of water identified in Sections 10-2.1104, 10-2.1105, 10-2.1106 and 10-2.1107.

(Ord. 1516-NS, eff. June 5, 2009)



# Drought Action Plan

May 2015



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# **City of Thousand Oaks Drought Action Plan**

On April 1, 2015, Governor Brown issued an emergency mandate on urban water agencies to reduce state-wide water usage by 25 percent. This Drought Action Plan is the City's roadmap to achieving those reductions. This document reflects the contributions from many City Departments and staff and the collaborative efforts required to meet the mandates that will span the City's operations.

## **Section 1: Background and Overview**

California's unprecedented drought conditions have severely depleted water supplies state-wide, degraded wildlife habitat, increased wildfire risk, and threatened already stressed groundwater basins.

In response to the continuing drought, Governor Brown declared a drought state of emergency on January 17, 2014. On April 25, 2014 the Governor signed an Executive Order calling on the State to redouble state drought actions, including limiting outdoor irrigation and restricting other wasteful water practices. In July 2014, The State Water Resources Control Board (Water Board) issued emergency regulations that prohibit washing down driveways and sidewalks, excess irrigation runoff, and using potable water in a fountain or decorative water feature unless the water is recirculated. Larger water suppliers were required to activate their Water Shortage Contingency Plan to a level where outdoor irrigation restrictions are mandatory. The City was in compliance with the July 2014 Water Board requirements through the Permanent Conservation Measures.

As California entered a fourth year of drought, the Water Board adopted expanded emergency regulations on March 17, 2015. New prohibitions included restaurants only serving water on request and requiring hotel operators to provide the option of choosing not to have towels and linens laundered daily. The Water Board also ordered water suppliers to limit the number of days per week that customers can irrigate outdoors.

On April 1, 2015, Governor Brown issued an Executive Order that directed the Water Board to impose restrictions to achieve an aggregate statewide 25 percent reduction in urban water use through February 2016. These restrictions consider the average per capita water usage in each water suppliers' service area, and require that those with higher per capita usage achieve proportionally greater reductions than those with low usage. The Executive Order also directed the Water Board to develop regulations the impose restrictions on watering turf street medians.

On May 5, 2015, the Water Board adopted additional emergency regulations that implement the requirements in the Governor's Executive Order. Beginning in June 2015, the City system is required to reduce usage by 28 percent as compared to the same months in 2013. The Water Board has the ability to levy fines of \$10,000 a day for non-compliance.

In addition, the Water Board has enacted two additional prohibitions that the City must enforce.

1. The application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall is prohibited; and
2. The irrigation with potable water of ornamental turf on public street medians is prohibited.

## **Local Water Wholesalers**

At its April board meeting, the Metropolitan Water District of Southern California (MWD) activated their Water Supply Allocation Plan at a Level 3 Regional Shortage Level effective July 1, 2015. The Calleguas Municipal Water District, the agency that delivers imported State Project water in Ventura County and provides 100 percent of Thousand Oaks water supply, has set the City's allocation for the coming fiscal year to 15 percent of recent usage. The allocation includes severe penalties if conservation is not achieved. For example, if the City were to use 10 percent over its allocation, then a penalty of approximately \$1,600,000 is possible. If there is no reduction in usage, then a penalty of \$3,200,000 is possible.

## **Water Conservation Ordinance – Adopted 2009**

In 2009, the Thousand Oaks City Council adopted a new water conservation ordinance. The ordinance includes Permanent Water Conservation Requirements that:

- limit watering hours and duration,
- prohibit excessive runoff and washing down of paved surfaces,
- obligate customers to fix leaks,
- limit washing of vehicles, and
- restrict serving drinking water in restaurants unless requested.

The Permanent Water Conservation Requirements remain in place at all times Citywide, not just during drought conditions.

There are three additional levels of water-use restrictions and conservation measures that may be enacted by City Council. A Level 1 Water Supply Shortage condition restricts landscape watering to three days per week in April through October, and two days per week for the rest of the year; a Level 2 Water Supply Shortage condition limits watering to two days per week in April through October and one day per week for the remainder of the year. A Level 2 condition also prohibits the initial filling of residential swimming pools and spas and refilling pools by more than one foot of water. A Level 3 is reserved for an emergency situation, such as a major earthquake or other disaster that disrupts water supplies.

## May 26, 2015 City Council Meeting

Staff is recommending a Level 2 declaration by the City Council at the May 26, 2015 Council Meeting. If enacted the City will implement the following mandatory Level 2 conservation measures:

- **Limits on Watering Days:** Watering or irrigation of lawn landscape or other vegetated area with potable water is limited to two days per week between the months of April through October. During November through March watering or irrigating of lawn landscape or other vegetated area with potable water is limited to no more than one day per week. This provision does not apply to landscape irrigation zones that exclusively use very low-flow drip type irrigation systems when no individual emitter produces more than two (2) gallons of water per hour. Watering or irrigating by use of a hand held bucket or a hand held hose equipped with a positive, self-closing water shut-off nozzle for short periods of time for the express purpose of adjusting or repairing an irrigation system is allowed under this provision.
- **Limits on Filling Ornamental Lakes or Ponds:** Filling or re-filling ornamental lakes or ponds with potable water is prohibited except to the extent needed to sustain aquatic life provided that such animals are of significant value and have been actively managed within the water feature prior to declaration of a supply shortage level.
- **Limits on Filling Residential Swimming Pools & Spas:** Re-filling of more than one foot and initial filling of residential swimming pools or outdoor spas with potable water is prohibited.
- **Watering after a Rain:** The application of potable water to outdoor landscapes during and within 48 hours after measurable rainfall will also be prohibited.

## Hardship Waivers

The City's water conservation regulations contain a "Hardship Waiver" provision. If, due to unique circumstances, a specific requirement of the water conservation regulations result in undue hardship to a person using water or to property upon which water is used that is disproportionate to the impacts to water users generally, or to similar property or classes of water users, then the person may apply for a waiver to the requirements. The Public Works Director must act upon any completed application no later than fourteen days after submittal and may approve, conditionally approve, or deny the waiver.

The person requesting a Hardship Waiver will be required to document what they have done to reduce water usage. In essence, if they can't comply, they must make a "Good Faith Effort" to do their fair share.

## **California American Water Company and California Water Service Company**

The City's water conservation regulations apply to all properties in the City, regardless of which retail purveyor provides water service. California American Water Company (Cal Am) and California Water Service Company (Cal Water) are regulated by the California Public Utilities Commission (PUC) and have approved water conservation requirements. Both companies have updated their conservation plans to be consistent with City adopted measures.

Cal Am and Cal Water are responsible for public outreach and enforcement within their own service areas, including levying fines and installing flow restrictors.

A comparison of the three agencies' water conservation regulations is included at the end of the document.

### **Conservation Strategy**

It is critical that the public adopts conservation behaviors and implement changes quickly to maximize conservation savings. Therefore, it is important that the City take a leadership role in aggressively implementing water conservation measures at city facilities and public areas to serve as a model and to underscore that this is a serious issue. Getting the public to quickly adopt additional changes in behavior, or implement measures like turf removal allows the City to maximize water savings needed to meet the mandate.

Specifics on water conservation projects throughout the city will be covered later in the document. However, projects like removing the City's 900,000 square feet of turf in street medians is a major undertaking and will take a substantial amount of time. Ongoing media stories explaining the process will be important in conveying that the City is actively reducing water usage and will serve as a reminder for residents to conserve. These strategies are oriented to meet the immediate conservation needs for this year. In the event that the drought extends years into the future, it is also important that longer-term changes be evaluated. Therefore, the Community Development Department will evaluate existing planning and building requirements to determine if they should be modified to encourage additional conservation measures in future developments or upgrade existing fixtures during renovations.

Staff intends to evaluate current ordinances and policies related to water conservation measures, graywater usage standards, and landscaping requirements for new development. Staff will also analyze the practices adopted by other municipalities to determine if they should be implemented within Thousand Oaks. For example, some municipalities require a water audit upon the sale of a home or business to determine if there are leaks or outdated fixtures like toilets that should be upgraded as part of the sale.

A public education and outreach plan is covered in Section 3 of this Plan.

## Enforcement

The City maintains a Water Conservation Hotline [(805) 375-5747] where residents can report leaks or excess water usage.

The intent of the City's conservation program is to gain voluntary compliance. However, there may be cases where a property owner does not voluntarily comply. This is a summary of the current enforcement guidelines and process.

1. Enforcement is complaint driven or based on field observations by staff.
2. The objective is voluntary compliance.
3. Education (door hanger, personal visit, or phone call) is the first step in enforcement.
4. Warning letter is the second step in enforcement.
5. Subsequent or serious violations will be referred to the City Attorney (after verification by City staff) for further enforcement. The City Attorney may revise enforcement procedures to ensure compliance with State mandates.
6. Hardship Waivers are available, subject to criteria in the ordinance.
7. All investigation and enforcement activities will be documented.

To assist in determining the accuracy of repeated community reported violations at the same property an AMR may be installed, which will verify water usage during the reported time frame.

Enforcement activities will be recorded in a central database for reporting to the Water Board.

Cal Am and Cal Water will be responsible for enforcement within their service areas.

## Staff

- **Sustainability Analyst** – The City is in the process of hiring a Sustainability Analyst (Assistant Analyst) who will have primary responsibility for coordinating and implementing the Drought Action Plan. The Analyst will also be the primary outreach staff and will share coordination of the water team with the Senior Analyst.
- **DPW Hourly staff** – In the new fiscal year budget, additional hourly staff are proposed to assist on water conservation efforts.
- **Finance Customer Service Representatives and Public Works Administrative staff** – This team receives many of the calls from our water customers and residents. They will be trained on how to answer the basic questions from customers and will be knowledgeable on the available resources to assist residents with more detailed inquiries.
- **Utilities Maintenance staff** – This group performs water surveys upon request, which frequently result from a letter sent to a resident indicating that there may be a possible leak at their property. These surveys take approximately 30-60 minutes to conduct. Based upon a more aggressive leak campaign and heightened drought awareness, we anticipate a significant increase in the number of surveys.

- **Public Works Field staff** – Municipal Service Center, Water Quality, Code Enforcement, Inspectors, and other field staff will be important in our outreach activities and in observing violations. They will also receive training on the basic issues and rules, and be given a flier to hand out to the public on water conservation resources and where to go for more information. The staff will be provided with “Water Conservation Courtesy Notice” door hangers to handout if they observe an issue and will report any potential violations.
- **Water Education Team** – This will be a group made up of volunteer and paid interns primarily from universities, but also including high school students and older adults. They are a critical component of our outreach program and their role is covered more extensively in the Public Education and Outreach section.

## **Monitoring & Reporting**

In order to assess compliance with state water conservation regulations, the Water Board requires urban water purveyors to report to them on a monthly basis. The following information is required to be reported:

- Water production for the month
- Water production for the same month in 2013
- The percentage usage by residential customers
- Residential gallons per capita per day
- Commercial, industrial, and institutional usage
- Enforcement activities

## **Ecodashboard**

This will be a visual representation available online allowing the public to track our ongoing progress in meeting the state mandates.

## **Section 2: City Facilities & Public Landscape Areas**

This section describes the efforts underway at City facilities and landscape areas including medians throughout the City.

### **Facilities Division**

The Facilities Division manages over 228,000 square feet of buildings with over 425 combined toilets, urinals, sinks, and faucets. Water conservation has been and always will be a priority and challenge in managing these locations. It is worthy to note that internal building water is not the major source of water consumption in the City-owned properties. Irrigation water for landscaping accounts for over 60 percent of the property water usage at most locations and thereby the most practical way to lower usage and promote water conservation.

## **Restroom Water Management**

All facilities have been constructed in compliance with California's high standards for water conservation through the years including low-flow toilets and faucets. There is now a new generation of ultra low-flow models currently on the market, however, which includes dual flush toilets and waterless urinals. Due to the large volume of users and varying needs, these ultra low-flow models are not always practical to ensure proper cleanliness and sanitary conditions. There is also an increased maintenance cost to the waterless urinals, making them less desirable in high-use facilities, which describes the majority of the City properties. The Facilities Division has been testing these products at various locations and continues to install and replace units as it is appropriate and within budgetary constraints.

## **Mechanical Systems**

The mechanical systems at the larger facilities (Civic Arts Plaza/Libraries/403 W. Hillcrest) require tens of thousands of gallons of water each year to produce adequate amounts of chilled water for air-conditioning. The Facilities Division has recently converted to a chemical-free water treatment system that reduces water consumption considerably. Data from this new system is still being analyzed, but it is expected to have a significant water savings once it is fine-tuned.

## **Water Conservation Outreach/Awareness**

Posters and notices advertising water conservation are posted in all restrooms at City-owned facilities to help promote public awareness and emphasize water conservation among City staff.

## **Maintenance/Operations**

The Facilities Division does not hose-down areas for cleaning or maintenance but rather utilizes high-pressure washers or steam equipment for cleaning which only uses a minimal amount of water to complete the task.

## **Los Robles Golf Course**

The City-owned Los Robles Golf Course (LRGC) is the largest single-location water consumer of City properties. City staff works closely with golf course management (Eagle Golf) to promote water conservation and practical water reduction techniques at the course. City staff is also exploring options for the on-site City-owned water well, which is not a practical source of water due to the poor quality of the water. The salts and other minerals are harmful to turf and other plant material and unless treated must be heavily supplemented by fertilizers and other chemicals. Public Works staff is looking at options to treat this well water which could then be used to off-set domestic potable water consumption. This will be a long-term solution developed over the coming year.

LRGC staff is also acutely aware of water conservation and efficient use because of their large volume of use and cost. Areas of water conservation management include:

- **Turf Reduction:** Eagle has been reducing turf area over the past few years, and is working on a second phase of turf reduction currently. They are also developing a plan to remove 10-15 acres of turf.
- **Irrigation Audits:** LRGS staff completes internal audits by monitoring the irrigation heads by visual inspection looking for proper distribution and coverage. They have replaced all nozzles that were wearing out and causing distribution issues. Staff has received a quote from two Certified Irrigation Auditors for a complete system audit and catch-can tests. A catch-can test sets up specific containers in the fairway, runs the sprinklers for a specific time to collect water which they measure for efficiency.
- **Efficient Irrigation Systems:** The field satellite controllers and sprinkler heads are ready for replacement and are planned to be replaced in the coming year with more efficient models.
- **Water Task Force:** LRGC staff is actively involved with the Ventura County Golf Operators Water Task Force.
- **Development of Drought Emergency Plan:** LRGC staff has developed a drought contingency plan for the course that includes the 25 percent reduction in turf. They have also identified areas where they would reduce further if mandated by the State Board. Areas have been prioritized and identified based on watering needs.
- **Soil Moisture Meters:** Staff currently uses soil probes to physically inspect soil moisture in greens, tees, and fairways. To aid in this process, staff is purchasing soil moisture meters for greens.
- **Wetting Agents:** LRGC applies wetting agents to greens, tees, and fairways on a monthly basis. These agents reduce water evaporation and increase soil moisture retention.
- **Continuing Education:** LRGC staff has attended water management seminars, most recently the Gold Industry Show in San Antonio, TX – Water Management by the Numbers.
- **Fast and Firm:** Limited water makes the playing surface fast and firm due to the hardness of soil and quality of the grass. Staff has experimented with this practice over the last year. The challenge is to educate golfers that during these times of extreme drought that lush green grass is not attainable throughout the entire facility. Some areas may be drier and off color, but are still playable.
- **Turf grass Research:** Staff has experimented with different products and grass varieties to determine the efficacy of more drought tolerant products and continues to attend meetings and seminars to follow up on latest research in this area.

## Groundwater Recharge & Water Detention

Supplementing below surface aquifers, also known as groundwater recharge is a complementary action to water conservation. As a demonstration project, the Newbury Park Library parking lot was retrofitted in 2013 with pervious pavers over a large portion of the parking lot which allows up to approximately ½” per hour rainfall to saturate into

the ground rather than leaving the site via the storm water system which is bound for the ocean. Three large cisterns were installed which hold approximately 24,000 gallons of rainwater and promote groundwater recharge by draining slowly into a bioswale in the rear area of the property. This demonstration project has been considered a success and will be replicated in the future where feasible at City-owned properties.

## City Ornamental Water Features

The Civic Arts Plaza fountain will be drained and the Heritage Park water feature will be turned off.

## Landscaping

The landscaping at all City-owned properties is managed by the Public Works Department in cooperation with the Facilities Division. Over the past several years, irrigation at various locations has been changed from spray heads to drip/bubblers and plant materials have migrated to more drought tolerant species. This practice will continue with additional turf reduction as a priority where applicable. The first phase will focus on immediate water conservation needs like removal of ornamental turf, capping off spray heads (sprinklers), converting spray heads to bubblers for trees, and considering plant removal where necessary. The second phase will include the implementation of a Landscape Master Plan that will include public workshops to develop a look and feel for the community landscape, including trees and water conservation

The following is the drought action plan for City-owned facilities in conjunction with the City's efforts to conserve at minimum of 28 percent and comply with State mandated Level 2 conservation efforts:



*Civic Arts Plaza – Small lawn area near 2-hr parking*

Remove turf and irrigation, add minimal shrubs, mulch under oak and bare areas.



*Civic Arts Plaza – Small lawn area under oak*

Remove turf and irrigation under drip line, add mulch to bare areas.



*Civic Arts Plaza – East lawn at picnic tables.*

Remove turf and irrigation, irrigate only trees, add mulch to bare areas. Picnic tables to remain.



*Civic Arts Plaza – Large front lawn.*

Irrigate two days per week and monitor for stress and future options. This area has been aerated and biochar was added. All sprinklers are high efficiency to minimize water waste.



*Transportation Center – Parking Lot Finger Planters*

Eliminate irrigation in parking lot planters except for trees.



*Transportation Center – Large Parking Lot Planters*

Remove dead/dying planter materials and their corresponding irrigation. No new plant material to be added at this time.



*Hillcrest Center (401 & 403 W. Hillcrest Drive) – Civic Center Drive (entry drive up hill)*

Remove non-native plant materials and irrigation except for trees and their associated irrigation. Plant materials to return to natural state complimentary to surrounding open space setting.



*Hillcrest Center (401 & 403 W. Hillcrest Drive) – Small lawn on southwest corner of property*

Remove turf and irrigation and return to natural state.



*Hillcrest Center (401 & 403 W. Hillcrest Drive) – Parking lot planters and adjacent to parking on upper level.*

Remove non-native plant materials and irrigation except for trees and their associated irrigation.



*Grant Brimhall Library – Large ivy plantings.*

Remove ivy plant materials and irrigation except for trees and their associated irrigation.



*Grant Brimhall Library – Small grassy knoll.*

Remove turf and irrigation, add mulch.



*Library, Goebel Adult & Fiore Teen Centers – Parking lot planters.*

Remove selective plant materials and irrigation except for trees and their associated irrigation.



*Goebel Adult & Fiore Teen Centers – Areas adjacent to park.*

Remove selective plant materials and irrigation except for trees and their associated irrigation.

All areas listed above will be completed as efficiently as possible over the coming six months. No new planting areas will be developed in the anticipated future.

## **Public Works Facilities**

### **Hill Canyon Wastewater Treatment Plant (HCTP)**

HCTP uses reclaimed water for outside irrigation and for any water needed as part of the treatment cycle. All bathroom urinals are waterless and all toilets are low flow already. Other uses of potable water are minimal.

There are no additional water conservation opportunities currently at HCTP.

## **Municipal Service Center (MSC)**

MSC staff eliminated a total of 75 bubblers, and 102 spray heads in medians at the MSC. Estimated savings are approximately 2,253 gallons per week, 9,012 gallons per month, or 108,144 gallons per year.

The Household Hazardous Waste (HHW) facility was developed with drought tolerant plants, bioswales and pervious pavers. No additional changes are needed at this time.

## **Landscape Master Plan & Street Medians**

The Master Plan is envisioned to propose improvements based on a priority-based list that will carry beyond the funding dates. The priority list and the associated improvements will be developed through a series of public workshops and include stakeholders from other agencies/departments/commercial/HOAs.



Staff has identified 117 medians with turf totaling 916,355 square feet. The Landscape Division is developing a plan to meet the Governors mandate to eliminate turf watering in medians. Tree watering is acceptable. Municipal Service Center staff have discontinued irrigation of turf medians as of May 15. Browning of turf will result. Irrigation in some median areas where trees exist will continue on a one day per week basis. MSC staff applied for a rebate on May 11<sup>th</sup> from the Metropolitan Water District (MWD) which has been offering \$2/SF for turf removal. On May 12<sup>th</sup>, the MWD posted a notice on their website stating that all funds have been exhausted and temporarily halting the program. The website indicated that revised terms for the program may be forthcoming on May 26. If the application is successful, the City could receive a substantial rebate to help offset the costs of this conversion.

## **Heritage Park**

This site which has traditionally been a turf based beautification site with a water feature is planned for a demonstration garden that will include conservation minded plantings, new benches, LED lights, and conversion to a dry stream feature.

## **Groundwater Study**

Staff is conducting a groundwater study to determine the potential for using groundwater for landscaping. The study will be finished in the fall of 2015. Preliminary results indicate that there is the potential for approximately 3,000 - 4,000 acre feet of water, which would be about 10 percent of the entire City's current use.

There are numerous stakeholders that staff are collaborating with to assess the potential benefits and impacts. In many areas, the water is poor quality and will require mixing with potable water or treatment prior to use on landscaping. New wells will also be required, and the anticipated locations are park sites, golf courses, or other areas with significant irrigation needs.

## **Water Infrastructure**

Automated Meter Readers (AMR) meters continue to be installed in City water areas. Currently there are approximately 6,700 in service (out of 17,000 City accounts). AMR's store usage data on an hourly basis; these data profiles are used to determine when and how much water passes through the meter. Installations of new meters are budgeted for approximately 1,800 residential and 100 commercial/irrigation meters annually.

AMR meters generate data reports that include leak codes. The leak code is used to generate automated letters to customers to check for potential leaks on their property and repair for public health purposes.

Flushing operations are required after all water main shut-downs. The water will be directed to the nearest wastewater maintenance hole to allow for reuse through the Hill Canyon Wastewater Treatment Plant. Due to the drought some maintenance activities that require flushing have been temporarily eliminated, such as, valve exercising, where valves are opened to ensure they remain operational.

## **Sister Agencies**

The Conejo Recreation and Parks District (CRPD) is developing a water conservation plan for FY 2015/16. They have been actively reducing non-playable turf and implementing other water conservation measures. Current items under consideration include:

- Additional turf conversions (about 9 acres total – which represents about 2 percent of irrigated turf)
- Recycled water at north ranch neighborhood, north ranch playfield, Triunfo community park (all Cal Water)

- Irrigation efficiency projects at a few parks
- Addition of an Irrigation Tech position – total job is to save water
- Modifying annual refurbishment process
- Continue investigating and implementing conservation measures (biochar)
- Additional public outreach via print, social media, on site signage

The Conejo Valley Unified School District (CVUSD) is planning on replacing non-essential turf with drought tolerant plants and mulch. They are also using biochar on their playing fields and “learning to live with fields that are a bit browner”.

### **Section 3: Community Conservation Opportunities**

This section covers public outreach and engagement efforts, advertising, incentives and the volunteer water outreach team.

#### **Public Outreach and Education**

Public Outreach and Education staff are working closely with the other water providers to develop a coordinated message about the mandates and eliminate confusion about the different conservation goals for each agency (Cal Am = 32 percent; Cal Water = 36%; and City = 28 percent) between the agencies.

The public education and outreach program has three goals:

1. Consistency among the three City water purveyors for requirements and outreach campaigns,
2. Achieving significant water reduction which will require sacrifices (lifestyle, lawns), and
3. Immediate action to maximize savings.

Meeting these goals will require the City communicate the urgency of water conservation through direct appeals at public events and lead the way on implementing water conservation measures. As water conservation improvements are made at City facilities they will be broadcast through social media channels, illustrating that the City is leading by example.

The City’s Water Conservation page, [www.toaks.org/savewater](http://www.toaks.org/savewater), is being redesigned and will be the hub for information on all water related issues including rebates, water conservation tips, progress in meeting the mandates, and the latest water information. A clickable graphic has been placed on [www.toaks.org/gogreen](http://www.toaks.org/gogreen) to emphasize this new area for water conservation. The main City webpage will also include a prominent link to this page.

Traditional print media such as advertising in the Acorn and the Star will be used to alert subscribers about this resource, the water hotline to report leaks, and a call-in number if they have questions. These resources will be augmented through both the City and the GoGreen team’s social media channels and e-newsletters. The GoGreen newsletter has over 8,400 active subscribers and averages a 35-40 percent open rate for the monthly newsletters. An insert is scheduled to be placed in water bills starting with the

June 1<sup>st</sup> bills. It takes two months to completely cycle through all of the invoices, but this will notify all water customers of the new requirements. Social media channels will also be used to engage the public.

Targeted outreach through direct mail will be used to connect with Home Owners Associations (HOAs), property management associations, landscape businesses, and large water users, with information targeted to their needs and responsibilities.

The Theatre Department will place a water conservation message on their in-house monitor and place brochures related to the drought in their brochure rack.

The Library Department is actively assisting in getting the message out and educating the public. The libraries are particularly important since many residents rely on both their materials and on the librarians' expertise for more in-depth research on issues. They also have a substantial amount of daily foot traffic averaging over 14,000 a week at the main library and almost 3,000 weekly at the Newbury Park Library.

Library staff is assessing their current materials and online offerings related to water conservation, landscaping, graywater and related topics to determine if there are gaps. A speaker's series on water conservation related topics is being developed and the library will host water conservation displays to help get the message out to the public. Staff is also evaluating the feasibility of developing a specialized kiosk that would highlight water conservation as well as the other conservation measure the City has undertaken.

Staff will be seeking out organizations such as churches or service clubs that offer opportunities to speak to larger audiences and enlist their support.

## **Water Wholesale Agency Support**

Calleguas MWD hosts ongoing meetings with the area water purveyors to discuss opportunities for sharing outreach materials and costs. In addition, staff will be working closely with Cal Am and Cal Water to ensure consistency in our messages and maximize advertising dollars and staff resources.

To achieve the fastest reductions, staff will:

- Target the highest users first with letters noting that they use significantly more water than the norm and direct them to our resources for reducing water usage.
- Letters will be sent out twice a week instead of every two weeks to newly identified properties with potential leaks identified by the Automated Meter Readers (AMRs).
- Attend and host informational tables at community events, farmers markets, street fairs, malls, etc.
- Give water conservation presentations at schools, churches, service clubs, homeowner associations, and other venues as available.

- Meet with homeowner association managers, real estate associations, and property manager groups as available.
- Coordinate events with CVUSD, Cal Am, Cal Water, and elected officials, such as the water conservation event sponsored by Assemblywoman Irwin that the City is hosting on June 27.

## **Water Outreach Team**

To obtain reductions of this magnitude will require a very substantial community presence. To provide this extensive coverage a volunteer Water Outreach Team is being recruited to help staff events and respond to residents' requests for information. The majority of the volunteers are anticipated to be college interns in environmental or marketing and communication related fields. There is also a substantial senior volunteer group and other community members with expertise and a desire to help; they will be encouraged to participate as well. In particular, some of the community members may be able to assist with more specialized concerns or questions related to gardening or maintenance.

The Water Outreach Team will be highly visible and will have a uniform look with blue shirts (naturally) and caps and insignia indicating they are part of the City's water conservation efforts. The volunteers can assist the public with questions about what they can do to conserve water, help them fill out a rebate form or find out what they are eligible to receive, direct them to resources that may assist low-income residents with free or discounted services, and answer general questions to clear up any confusion.

Simply being out and visible in the community will serve as a tangible reminder to anyone walking by about the importance of water conservation.

### **Scheduled Education and Outreach Events**

May 25	Informational Booth - CRPD Concert in the Park
June 3	Water Conservation Mandates Overview - Thousand Oaks Library
June 15	Water Conservation Mandates Overview - Newbury Park Library
June 27	Defeat the Drought – City Hall (co-sponsor with Assemblywoman Irwin)
July 6	Speaker TBD - Newbury Park Library
July 14	Business Water Conservation - Chamber of Commerce
July 16	Speaker TBD - Thousand Oaks Library
August 3	Speaker TBD - Newbury Park Library
August 24	Speaker TBD - Thousand Oaks Library

## **Landscape**

Special attention will be placed on encouraging turf removal and transitioning to attractive, alternative landscapes that are water efficient. The benefits of landscaping with native plants, which provides habitat for pollinators like bees and butterflies, will also be emphasized. This is the most significant water usage for most residents and offers the biggest potential savings. However, many people are confused about the process, what options are available for turf replacement, or have misperceptions about water efficient lawns.

A Facebook contest has been launched for residents to upload pictures of their lawn conversions and share their experiences. The contest is intended to help illustrate the diversity of efficient landscape designs and acceptable alternatives. Pictures will be downloaded and featured in City outreach events to help spark interest from residents that are not routinely online.

## Businesses

Commercial facilities use 13 percent of the water in the City’s service area. These facilities have restrooms and kitchens, and may also have manufacturing processes that use water.

GoGreen staff is working with businesses on the mandatory commercial recycling program, upcoming organics diversion mandates, or for certifying as a Green Business will also use that opportunity to discuss water conservation with the businesses. If they indicate an interest in implementing conservation measures and need additional assistance, they will be referred to the new Sustainability Analyst or appropriate water purveyor.

Staff will work with the Conejo Chamber of Commerce and the Thousand Oaks Business Roundtable to identify opportunities to engage business decision-makers.

## Customer Incentive Programs

City water customers are eligible for a robust slate of water conservation incentives through MWD’s Regional Conservation Program. Customers can easily apply for rebates online at [www.bewaterwise.com](http://www.bewaterwise.com)

**MWD Residential Rebate Program**

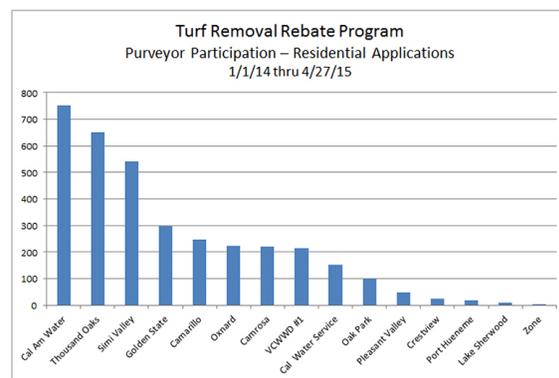
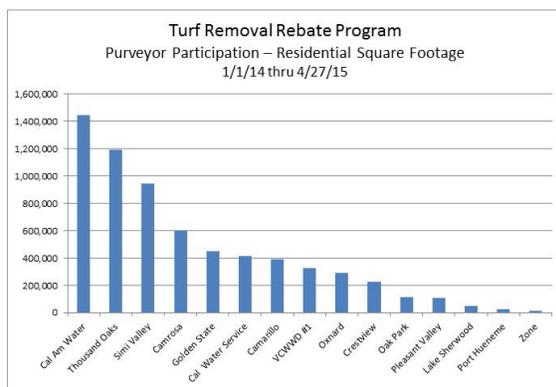
Device	MWD Rebate
High Efficiency Clothes Washers	\$ 85
High Efficiency Toilets	\$100
Weather Based Irrigation Controllers	\$ 80
Rotating Sprinkler Nozzles	\$ 4
Soil Moisture Sensors	\$ 80
Rain Barrels	\$ 75
Turf Removal (per square foot)	\$ 2

## Turf Removal Rebates

Calleguas had previously offered an additional \$1.00/SF rebate for turf removal. However, they have determined that the program has very strong interest and that this incentive will no longer be needed. Therefore, they will not offer this additional incentive in the next fiscal year.

As noted previously, MWD has halted their turf rebate program and will be revising the eligibility criteria. The website indicated that it may be reinstated on May 27, 2015.

City of Thousand Oaks residents in both the Cal Am and the City water areas were very receptive to the turf removal rebate incentives and were the highest users of the program as can be seen from the charts below supplied by Calleguas.



Commercial, industrial and institutional customers can receive rebates for devices and also free irrigation surveys (if the irrigated area is at least one acre in size):

### Commercial, Industrial and Institutional Rebate Program

Conservation Measure	MWD Rebate
<b>Plumbing fixtures:</b>	
High Efficiency Toilets (Tank-Type) (multifamily toilet)	\$ 100
High Efficiency Toilets (Tank-Type) (commercial toilet)	\$ 100
High Efficiency Toilets (Flushometers)	\$ 100
Ultra Low and Zero Water Urinals	\$ 200
Plumbing Flow Control Valves	\$ 5
<b>Landscaping Equipment and Turf Removal:</b>	
Irrigation Controllers (per station)	\$ 35
Rotating Sprinkler Nozzles	\$ 4
Large Rotary Nozzles (per set)	\$ 13
In-stem Flow Regulators	\$ 1

<b>Conservation Measure</b>	<b>MWD Rebate</b>
Soil Moisture Sensor Systems (per station)	\$ 35
Turf Removal (per square foot)	\$ 2
<b><i>Food Equipment:</i></b>	
Connectionless Food Steamers (per compartment)	\$ 485
Air-cooled Ice Machines	\$1,000
Laminar flow Restrictors	\$ 10
<b><i>HVAC Equipment:</i></b>	
Cooling Tower Conductivity Controllers	\$ 625
Cooling Tower pH Controllers	\$1,750
<b><i>Medical and Dental Equipment:</i></b>	
Dry Vacuum Pumps	\$ 125

### **Disadvantaged Communities**

Special efforts will be made to assist disadvantaged communities and low-income seniors with limited resources or ability to change shower heads or repair leaky toilets. Community partners will be enlisted where possible such as the California Conservation Corps (CCC), service clubs, and others that may be able to provide the necessary labor. In such cases where the labor is provided, but materials are needed, the City may provide the materials such as faucet aerators and shower heads to facilitate the project. Cal Am and Cal Water will be requested to provide these items to customers in their territory.

The CCC can provide supervised crews of 10 corps members at no cost to schools, public agencies, and commercial properties to assist with high-quality water conservation projects in response to the drought. Projects must be consistent with the CCC's mission and Senate Bill 103.

Eligible Projects include water-efficient landscaping, water-efficient irrigation, replacement of plumbing fixtures for schools, public agencies, and commercial properties, replacement and installation of water-efficient plumbing fixtures, including low-flow toilets, water-efficiency education and outreach activities in disadvantaged communities, and energy projects that contribute to energy and water conservation.

## Comparison of Purveyor Restrictions

<b>Tier 2 Water Restrictions</b>			
Regulation	Cal Am	Cal Water	CTO
<b>Commercial Businesses</b>	water served only upon request; commercial car washes must recycle potable water used as required by the California Water Code Sections 10950-10953.	water served only upon request	water served only upon request; all commercial car wash and laundry systems must install re-circulating water systems OR have secured a waiver from the City; food preparation establishments (restaurants) must use water conservation dish wash spray valves
<b>Excessive flow or run-off</b>	prohibited	prohibited	prohibited
<b>Excessive use for dust control or earth compaction</b>	prohibited	not specified	not specified
<b>Filling ornamental lakes or ponds</b>	<b>not specified</b> until stage 3 where it is prohibited, except to maintain aquatic life	Re-fill and fill with potable water = <b>prohibited, except to maintain aquatic life</b> , as long as the animals are of significant value and have been actively managed prior to implementation of rule	Re-fill and fill with potable water = <b>prohibited, except to maintain aquatic life</b> , as long as the animals are of significant value and have been actively managed prior to implementation of rule
<b>Filling single-family residential swimming pools</b>	<b>not specified</b> until stage 3 where it is prohibited to refill or initially fill a residential pool or spa	re-fill and initial fill with potable water = prohibited, unless to maintain required operating level or complete structural repair	<b>initial fill</b> and re-fill with <b>more than 1 ft of potable water = prohibited</b> of pools and spas
<b>Hotel/motel Operators</b>	choice <b>not</b> to have towels and linens laundered daily	choice <b>not</b> to have towels and linens laundered daily, using clear understandable language	choice <b>not</b> to have towels and linens laundered daily, using clear understandable language
<b>Irrigation outside newly constructed homes or businesses</b>	not specified	drip and micro spray irrigation only	not specified

Regulation	Cal Am	Cal Water	CTO
<b>Obligation to fix correctable leaks, breaks, or malfunctions</b>	leaks must be fixed within <b>72 hours</b> of notification	leaks must be fixed within <b>72 hours</b> of written notification, unless otherwise arranged	leaks must be fixed within <b>48 hours</b> of notification, unless otherwise arranged
<b>Ornamental Landscape on public medians</b>	not specified	Irrigation prohibited	not specified
<b>Unmetered fire hydrant use</b>	<b>prohibited</b> by residents EXCEPT for fire suppression or utility maintenance	not specified	not specified
<b>Washing hard or paved surfaces</b>	<b>prohibited</b> , except in cases where health and safety are at risk (includes patios, parking lots, tennis courts, buildings, driveways, etc.)	prohibited	<b>prohibited</b> , except in cases where health and safety are at risk
<b>Washing vehicles</b>	must <b>utilize a hose fitted with a shut-off nozzle or device</b> ; washing commercial vehicles is prohibited except at commercial or fleet vehicle washing stations	not specified	use of <b>bucket or self-closing hand-held hose is required</b> for residential use for any motorized vehicle, including all automobiles, vans, trucks, buses, motorcycles, boats, trailers, etc.
<b>Water re-circulation in fountains</b>	<b>required</b> : use of potable, non-re-circulated water is prohibited	<b>required</b> : use of potable, non-re-circulated water is prohibited	<b>required</b> : use of potable, non-re-circulated water is prohibited
<b>Watering after rain</b>	<b>prohibited 48 hr after</b> measurable precipitation w/ potable water	<b>prohibited 48 hr after</b> measurable precipitation w/ potable water	<b>prohibited 48 hr after</b> measurable precipitation w/ potable water
<b>Watering Duration</b>	<b>15 mins a day per station</b> ; does not apply to very low-flow drip w/ emitter producing 2 gph	not specified	<b>15 mins a day per station</b> if not continuously attended; does not apply to very low-flow drip w/ emitter producing 2 gph

Regulation	Cal Am	Cal Water	CTO
<b>Watering Hour</b>	prohibited between <b>9am - 5pm</b> unless repairing irrigation system	prohibited between <b>8am - 6pm</b> ; does not apply to drip irrigation, micro-spray irrigation, hand-watering with shut-off nozzle or bucket, and for the purpose of adjusting or repairing irrigation systems	prohibited between <b>9am - 5pm</b> any day; does not apply to drip irrigation or hand-watering with shut-off nozzle or bucket
<b>Watering or Irrigation Days</b>	limited to <b>2 days per week</b>	limited to no more than <b>2 days per week</b>	limited to <b>2 days a week</b> ; reduced to <b>1 day a week during November through March</b> ; does not apply to areas specifically using low-flow drip irrigation systems when no emitter produces less than 2gph
Actionable	Cal Am	Cal Water	CTO
<b>Enforcement</b>	1.) if (when) a violation is identified, Cal Water will "work closely with local law enforcement and public agencies charged with enforcing the mandatory water use restrictions. 2.) if compliance is not met after initial written warnings, door hangers, and letters, Cal Am may begin to issue fines	1.) if a violation occurs Cal Water provides written notice of violation 2.) if violation (restricted use of potable water) continues and is verified, second violation letter written and is authorized to install a flow-restricting device on service line.	1.) complaint or field observation: document, issue work order, place door hanger, personal visit, or phone call 2&3.) warnings (letters) 4.) repeated or serious violations reported to CAO. *complaint driven or based on field observations; all enforcement must be documented

**TOMC Section 1-6.01 Declaration of what constitutes a public nuisance.**

In addition to any other provisions of this Code, it is declared to be a public nuisance for any person owning, leasing, occupying, or having charge, possession, or control of any premises or property in the City to cause, permit, maintain, tolerate or allow any of the following conditions or acts to exist thereon.

...

(e) Maintenance of property. The existence of any of the following conditions:

...

(4) Dead, overgrown, or neglected lawns, ground cover, trees or shrubs on any improved property, or within one hundred and fifty feet (150) of a public right of way for unimproved property that is not open space as defined by Section 9-4.629 of this code, which is visible to the general public from a public sidewalk, right-of-way, or service easement located in the front yard are of any flag lot:

- (i) Constituting unsightly appearance; or
- (ii) Dangerous to the public safety and welfare

...

(10) Yard areas exposed to the general public, or areas within the front yard of any flag lot, which yard areas do not have landscape treatment fully installed within the following time frames:

- (i) For single-family detached dwellings that have not been previously occupied, within two hundred seventy (270) days of the initial occupancy of the dwelling;
- (ii) For single-family detached dwellings that have been previously occupied, within ninety (90) days of the receipt of a written notice delivered to the property owner by the City Attorney, a health officer, or code enforcement officer.

**TOMC Section 9-4.3005 Violations**

It shall be unlawful for any person to use or maintain any building, structure, or land, or to erect, structurally alter, or enlarge any building or structure, except for the uses permitted by this chapter and in accordance with the provisions of this code. The violation of any term or condition of, or applicable to, any variance or permit shall constitute a violation of the provisions of this chapter.

**Assembly Bill No. 2100**

## CHAPTER 164

An act to amend Section 4735 of the Civil Code, relating to drought relief, and declaring the urgency thereof, to take effect immediately.

[Approved by Governor July 21, 2014. Filed with  
Secretary of State July 21, 2014.]

## LEGISLATIVE COUNSEL'S DIGEST

AB 2100, Campos. Common interest developments: yard maintenance: fines: drought.

The Davis-Stirling Common Interest Development Act provides for the creation and regulation of common interest developments and requires that a development be managed by an association. That act provides that a provision of the governing documents of a development is void and unenforceable if it prohibits, or includes conditions that have the effect of prohibiting, the use of low water-using plants as a group, or if it has the effect of prohibiting or restricting compliance with a local water-efficient landscape ordinance or water conservation measure, as specified.

This bill would prohibit an association from imposing a fine or assessment against a member of a separate interest for reducing or eliminating watering of vegetation or lawns during any period for which the Governor has declared a state of emergency, or a local government has declared a local emergency, due to drought.

This bill would declare that it is to take effect immediately as an urgency statute.

*The people of the State of California do enact as follows:*

SECTION 1. Section 4735 of the Civil Code is amended to read:

4735. (a) Notwithstanding any other law, a provision of the governing documents shall be void and unenforceable if it does any of the following:

(1) Prohibits, or includes conditions that have the effect of prohibiting, the use of low water-using plants as a group.

(2) Has the effect of prohibiting or restricting compliance with either of the following:

(A) A water-efficient landscape ordinance adopted or in effect pursuant to subdivision (c) of Section 65595 of the Government Code.

(B) Any regulation or restriction on the use of water adopted pursuant to Section 353 or 375 of the Water Code.

(b) This section shall not prohibit an association from applying landscaping rules established in the governing documents, to the extent the rules fully conform with the requirements of subdivision (a).

(c) Notwithstanding any other provision of this part, an association shall not impose a fine or assessment against a member of a separate interest for reducing or eliminating the watering of vegetation or lawns during any period for which either of the following have occurred:

(1) The Governor has declared a state of emergency due to drought pursuant to subdivision (b) of Section 8558 of the Government Code.

(2) A local government has declared a local emergency due to drought pursuant to subdivision (c) of Section 8558 of the Government Code.

SEC. 2. This act is an urgency statute necessary for the immediate preservation of the public peace, health, or safety within the meaning of Article IV of the Constitution and shall go into immediate effect. The facts constituting the necessity are:

In order to conserve water during California's historic drought by prohibiting an association from penalizing members who conserve water by watering their lawns less often, it is necessary that this bill take immediate effect.

RESOLUTION NO.

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF THOUSAND OAKS DECLARING A LEVEL 2 WATER SUPPLY SHORTAGE PURSUANT TO MUNICIPAL CODE SECTION 10-2.1106 AND ENACTING ADDITIONAL WATER CONSERVATION MEASURES PURSUANT TO MUNICIPAL CODE SECTION 10-2.1110

WHEREAS, a reliable minimum supply of potable water is essential to the public health, safety, and welfare of the people and economy of the southern California region; and

WHEREAS, careful water management that includes active water conservation measures in times of drought is essential to ensure a reliable minimum supply of water to meet current and future water supply needs; and

WHEREAS, Article X, Section 2 of the California Constitution declares that the general welfare requires that water resources be put to beneficial use, waste or unreasonable use or unreasonable method of use of water be prevented, and conservation of water be fully exercised with a view to the reasonable and beneficial use thereof; and

WHEREAS, California Water Code section 375 authorizes water suppliers to adopt and enforce a comprehensive water conservation program to reduce water consumption and conserve supplies; and

WHEREAS, on April 21, 2009, City Council adopted a water conservation ordinance, codified in Article 11, Chapter 2, Title 10 of the Thousand Oaks Municipal Code, that became effective on June 5, 2009 and which sets forth three levels of water conservation measures; and

WHEREAS, in response to the continuing drought, Governor Brown declared a drought state of emergency on January 17, 2014; and

WHEREAS, on April 25, 2014, the Governor signed an Executive Order calling on the State to redouble state drought actions, including limiting outdoor irrigation and restricting other wasteful water practices; and

WHEREAS, in July 2014, The State Water Resources Control Board issued emergency regulations that prohibit washing down driveways and sidewalks, excess irrigation runoff, and using potable water in a fountain or decorative water feature unless the water is recirculated and requiring water suppliers to activate their Water Shortage Contingency Plan to a level where outdoor irrigation restrictions are mandatory; and

WHEREAS, as California entered a fourth year of drought, the State Water Resources Control Board adopted expanded emergency regulations on March 17, 2015 and ordered water suppliers to limit the number of days per week that customers can irrigate outdoors and prohibited the application of potable water to outdoors landscapes during and within 48 hours of measureable rainfall; and

WHEREAS, on April 1, 2015, Governor Brown issued an Executive Order that directed the State Water Resources Control Board to impose restrictions to achieve an aggregate statewide 25 percent reduction in urban water use by February 28, 2016; and

WHEREAS, on April 27, 2015, the City received notification from the Calleguas Municipal Water District that a Water Supply Allocation Program would become effective on July 1, 2015, and that water supplies to the City would be reduced by 15 percent; and

WHEREAS, On May 5, 2015, the State Water Resources Control Board issued regulation that require the City of Thousand Oaks water system to achieve a reduction in usage of 28 percent by February 28, 2016; and

WHEREAS, Municipal Code Section 10-2.1106 provides for City Council to declare a Level 2 Water Supply Shortage upon a determination that a severe water supply shortage or threatened shortage exists and consumer demand reduction is necessary to appropriately respond to existing water conditions; and

WHEREAS, Municipal Code Section 10-2.1110 provides that the City Council upon adoption of a resolution may implement additional water conservation measures in addition to the prohibited uses of water identified in Sections 10-2.1104, 10-2.1105, 10-2.1106 and 10-2.1107.

NOW, THEREFORE, the City Council of the City of Thousand Oaks resolves as follows:

A severe water supply shortage or threatened shortage exists and a consumer demand reduction is necessary to appropriately respond to existing water conditions; and

BE IT FURTHER RESOLVED by the City Council of the City of Thousand Oaks that a Level 2 Water Supply Shortage is hereby declared, to become effective on June 1, 2015; and

BE IT FURTHER RESOLVED by the City Council of the City of Thousand Oaks the provisions of Section 10-2.1106(b)(4) is applicable to applications for pool or spa permits that are received by the City on or after June 1, 2015; and

BE IT FURTHER RESOLVED by the City Council of the City of Thousand Oaks that in accordance with State regulations, the application of potable water to outdoors landscapes during and within 48 hours of measureable rainfall is prohibited.

PASSED AND ADOPTED

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Al Adam, Mayor  
City of Thousand Oaks, California

ATTEST:

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Linda D. Lawrence, City Clerk

APPROVED AS TO FORM:  
Office of the City Attorney

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Felicia Liberman, Assistant City Attorney

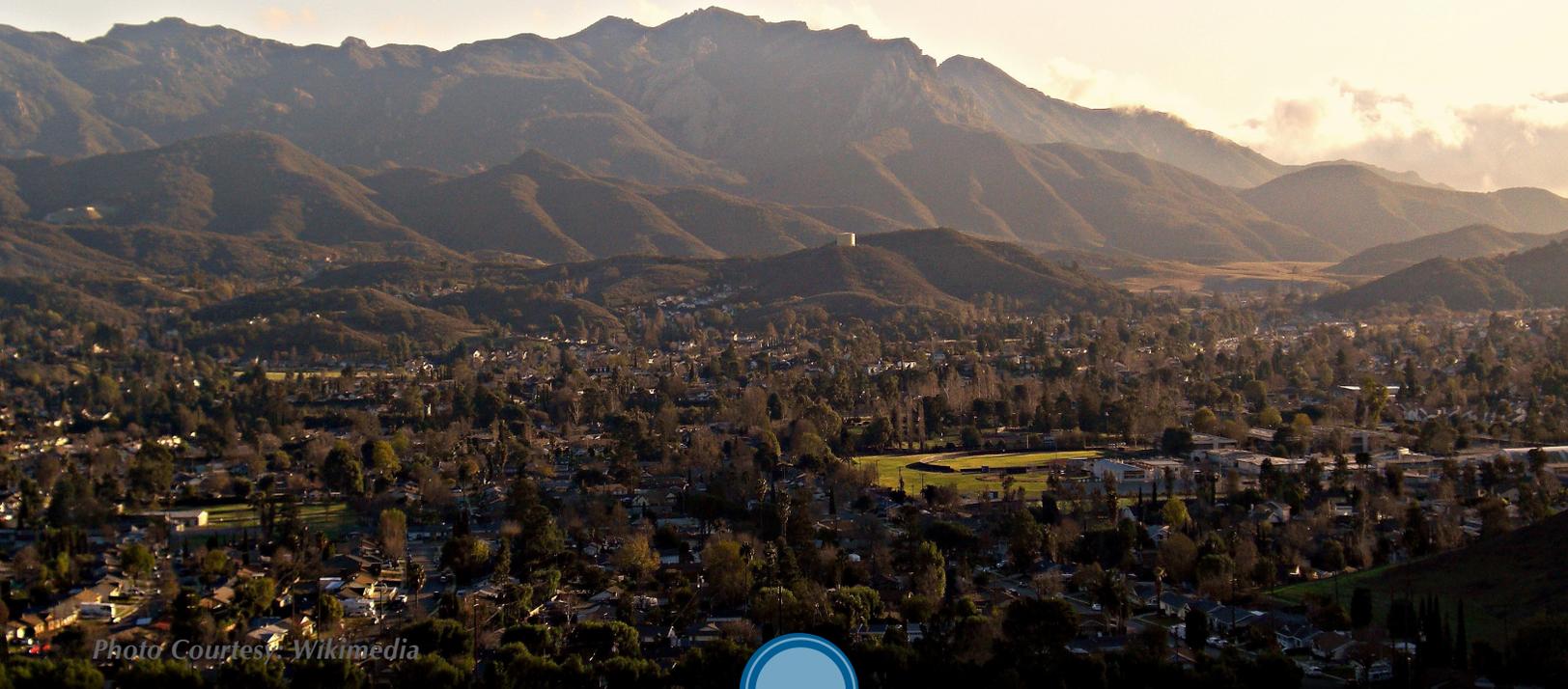
APPROVED AS TO ADMINISTRATION:

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Scott Mitnick, City Manager



City of  
Thousand Oaks



*Photo Courtesy: Wikimedia*

