Amended Final Draft

2015 Urban Water Management Plan

for the

City of Arroyo Grande

Prepared by

WSC
WATER SYSTEMS CONSULTING, INC.

1/9/2017

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LIST OF TERMS AND ACRONYMS

Acronym/Term	Definition
(#)	Reference/source citation # that can be looked up in Section 9
af	acre feet
afy	acre feet per year
ATF	Advanced Treatment Facility
AWWA	American Water Works Association
BMP	Best Management Practice
CCWA	Central Coast Water Authority
CEQA	California Environmental Quality Act
CII	Commercial, Industrial, and Institutional
CIMIS	California Irrigation Management Information System
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DDW	California Division of Drinking Water
DMM	Demand Management Measure
DWR	California Department of Water Resources
EPA	U.S. Environmental Protection Agency
ETo	evapotranspiration rate
FAT	Full Advanced Treatment
GHG	Green House Gas
GIS	Geographical Information System
gpcd	gallons per capita per day
GPM	gallons per minute
HCF	Hundred Cubic Feet
HCP	Habitat Conservation Plan
HECW	High efficiency clothes washer
HET	High efficiency toilet
IRWMP	Integrated Regional Water Management Plan
ITP	Independent Technical Panel
LUE	Land Use Element
LRRP	Low Reservoir Response Plan
mgd	million gallons per day
MOU	Memorandum of Understanding
MSL	mean sea level
NCMA	Northern Cities Management Area
NRW	non-revenue water
OCSD	Oceano Community Services District
RGSP	Regional Groundwater Sustainability Project
RHNA	Regional Housing Needs Assessment
RWFPS	Recycled Water Facilities Planning Study
SB7 Guidebook	Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use

Acronym/Term	Definition
SB7	Senate Bill x 7-7
SGMA	Sustainable Groundwater Management Act
SLOCOG	San Luis Obispo Council of Governments
SMGB	Santa Maria Valley Groundwater Basin
SOI	Sphere of Influence
SSLOCSD	South San Luis Obispo County Sanitation District
SWP	California State Water Project
SWRCB	State Water Resources Control Board
UWMP	Urban Water Management Plan
UWMP Act	Urban Water Management Planning Act
UWMP Guidebook	Guidebook to Assist Water Suppliers in the Preparation of a 2010 Urban Water Management Plan
WDR	Waste Discharge Requirements
WSCP	Water Shortage Contingency Plan
WSPDP	Water Supply, Production and Delivery Plan
WTP	Water treatment plant
WWTF	Wastewater treatment facility
WWTP	wastewater treatment plant
Zone 3	San Luis Obispo County Flood Control and Water Conservation District Zone 3

1 INTRODUCTION AND OVERVIEW

The California Water Code requires urban water suppliers within the state to prepare and adopt Urban Water Management Plans (UWMPs) for submission to the California Department of Water Resources (DWR). The UWMPs, which are required to be filed every five years, must satisfy the requirements of the Urban Water Management Planning Act (UWMP Act) of 1983 including amendments that have been made to the UWMP Act and other applicable regulations. The UWMP Act requires urban water suppliers servicing 3,000 or more connections, or supplying more than 3,000 acre-feet (af) of water annually, to prepare an UWMP.

The purpose of the UWMP is for water suppliers to evaluate their long-term resource planning and establish management measures to ensure adequate water supplies are available to meet existing and future demands. The UWMP provides a framework to help water suppliers maintain efficient use of urban water supplies, continue to promote conservation programs and policies, ensure that sufficient water supplies are available for future beneficial use, and provide a mechanism for response during water drought conditions.

The UWMP is a valuable planning tool used for multiple purposes including:

- Serves as a valuable resource to the community and other interested parties regarding water supply and demand, conservation and other water related information
- Meets a statutory requirement of the California Water Code
- Provides a key source of information for Water Supply Assessments (WSAs) and Written Verifications of Water Supply
- Supports regional long-range planning documents including City and County General Plans
- Provides a standardized methodology for water utilities to assess their water resource needs and availability
- Serves as a critical component of developing Integrated Regional Water Management Plans (IRWMPs)
- Provides a resource for regional involvement in the California Water Plan

This plan, which was prepared in compliance with the California Water Code, and as set forth in the 2015 guidelines and format established by the DWR, constitutes the City of Arroyo Grande's (City) 2015 UWMP.

2 PLAN PREPARATION

This plan was prepared based on guidance from DWR's *Guidebook to Assist Water Suppliers in the Preparation of a 2015 Urban Water Management Plan* (UWMP Guidebook) (1), DWR Urban Water Management Plans Public Workshops and Webinars, *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (SB7 Guidebook) (2), and the 2015 DWR Review Sheet Checklist (Appendix A).

The 2015 UWMPs must be submitted to DWR by the water purveyors by July 1, 2016. Usually, UWMPs are due on December 31 of years ending in '0' and '5', but a six-month extension has been granted for submittal of the 2015 UWMPs. The draft 2015 UWMP Guidebook became available in November 2015 and was finalized in February 2016. DWR's 2015 UWMP schedule is summarized in Table 2-1.

Table 2-1. DWR Schedule

Date	Event/Task
November, 2015	Draft Guidebook released
December , 2015	Workshops
January, 2016	Final Draft Guidebook released
March, 2016	Final Guidebook, materials and tools released
July, 2016	UWMPs due to DWR

A DWR Review Sheet checklist is provided in Appendix A as a reference for the various sections within this UWMP that address the requirements of the UWMP Act. Table 2-2 summarizes changes to the UWMP Act since 2010 that have been addressed in this UWMP.

Table 2-2. Summary of Changes in the UWMP Act Since 2010

Change	CWC Section	Legislative Bill	Summary
Demand Management Measures	10631 (f)(1) and (2)	AB 2067, 2014	Requires water suppliers to provide narratives describing their water demand management measures, as provided. Requires retail water suppliers to address the nature and extent of each water demand management measure implemented over the past 5 years and describe the water demand management measures that the supplier plans to implement to achieve its water use targets.
Submittal Date	10621 (d)	AB 2067, 2014	Requires each urban water supplier to submit its 2015 plan to the Department of Water Resources by July 1, 2016.
Electronic Submittal	10644 (a) (2)	SB 1420, 2014	Requires the plan, or amendments to the plan, to be submitted electronically including any standardized forms, tables, or displays specified by the department.

Change	CWC Section	Legislative Bill	Summary
Standardized Forms	10644 (a) (2)	SB 1420, 2014	Requires the plan, or amendments to the plan, to include any standardized forms, tables, or displays specified by the department.
Water Loss	10631 (e) (1) (J) and (e) (3) (A) and (B)	SB 1420, 2014	Requires a plan to quantify and report on distribution system water loss.
Estimating Future Water Savings	10631 (e) (4)	SB 1420, 2014	Provides for water use projections to display and account for the water savings estimated to result from adopted codes, standards, ordinances, or transportation and land use plans, when that information is available and applicable to an urban water supplier.
Voluntary Reporting of Energy Intensity	10631.2 (a) and (b)	SB 1036, 2014	Provides for an urban water supplier to include certain energy related information, including, but not limited to, an estimate of the amount of energy used to extract or divert water supplies.
Defining Water Features	10632	AB 2409, 2010	Requires urban water suppliers to analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas.

2.1 COORDINATION

To prepare this UWMP, the City coordinated with multiple neighboring and stakeholder agencies. The coordination efforts were conducted to: 1) inform the agencies of the City's efforts and activities; 2) gather high quality data for use in developing this UWMP; and 3) coordinate planning activities with other related regional plans and initiatives. The coordination activities conducted by the City are summarized in Table 2-3.

Table 2-3. Agency Coordination

Agency/ Organization	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt
Avila Beach Community Services District						X
Avila Valley Mutual Water Company						X
California Department of Water Resources				X		

Agency/ Organization	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt
City of Grover Beach						X
City Pismo Beach						X
County of San Luis Obispo				X		X
County Service Area 12						X
Nipomo Mesa Management Area Technical Group						X
Northern Cities Management Area Technical Group						X
Oceano Community Services District						X
Port San Luis Harbor District						X
San Luis Obispo Council of Governments						X
San Luis Obispo County Flood Control and Water Conservation District Zone 3				X		X
San Miguelito Mutual Water Company						X
South San Luis Obispo County Sanitation District						X

2.2 PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION

To fulfill the requirements of Water Code Section 10621(c), the City sent letters of notification of preparation of the 2015 UWMP to all neighboring cities and San Luis Obispo County 60 days prior to the public hearing. Copies of the 60-day notification letters are attached as Appendix B.

To fulfill the requirements of Water Code Section 10642 of the UWMP Act, the City made the Final Draft 2015 UWMP available for public review and held a public hearing on June 28, 2016. The public review hearing was noticed on June 14, 2016 and the public hearing notice is attached in Appendix B. In addition, the City maintained a copy of the draft UWMP in its office and online prior to the public hearing.

The Final 2015 UWMP was formally adopted by the City Council on June 28, 2016 and submitted to DWR for review on June 30, 2016. On October 24,2016, DWR provided an UWMP Advisory Letter to the City advising that the City amend and re-adopt the UWMP based on various recommendations, including an amendment of the Water Shortage Contingency Plan (WSCP). The City was coincidentally already in the process of revising its WSCP stages and actions. Accordingly, the City revised its WSCP to meet DWR's recommendations and developed an Amended 2015 UWMP.

To fulfill the requirements of Water Code Section 10642 of the UWMP Act, the City made the Amended Final Draft 2015 UWMP available for public review in its offices and online prior to the public hearing held on January 24, 2017. The public hearing was noticed on January 10, 2017 and the public hearing notice is attached in Appendix B. According to DWR Staff, the Amended 2015 UWMP did not require an additional 60-day notification. The City adopted the Amended Final UWMP on January 24, 2017. A copy of the Adoption Resolution is included in Appendix C. A copy of the Amended Final 2015 UWMP was sent to the California State Library, DWR (electronically using the WUEdata reporting tool), and other appropriate agencies within 30 days of adoption. The City will make the 2015 UWMP available for public review in its offices during normal hours no later than 30 days after the adoption of the plan by the City Council and filing with DWR.

The implementation of this plan shall be carried out as described unless significant changes occur between the adoption of this plan and the 2020 plan. If such significant changes do occur, the City will amend and readopt the plan as required by the California Water Code.

2.3 RELATIONSHIP OF THE UWMP TO OTHER PLANNING EFFORTS

The City has identified the need to obtain additional water to maintain a reliable supply portfolio. The *Water Supply Alternatives Study* was prepared in August 2004 to identify one or more short, intermediate, and long term supply alternatives that meet the City's objectives for water quantity, quality, and reliability (3). The *Water Supply Alternatives Study* report was followed by other related water supply reports including the following:

- *Water Recycling Update Report, January 2009* (4)
- *South San Luis Obispo County Desalination Funding Study, October 2008* (5)
- *Supplemental Water Supply Study Nacimiento Pipeline Extension* (6)

- *Capacity Evaluation of the Lopez Pipeline for Delivery of Additional State Water Project Supplies to the Northern Cities Technical Memorandum* (7)
- *Memorandum: Lopez Reservoir Expansion- Spillway Raise Project Advisory Group Recommendations, January 2009*
- *Lopez Lake Spillway Raise Project Report, February 2013* (8)
- *San Luis Obispo County Regional Recycled Water Strategic Plan* (9)
- *Recycled Water Facilities Planning Study for the City of Pismo Beach* (10)
- *Diablo Canyon Power Plant Desalination Hydraulic Feasibility Analysis FINAL DRAFT – DCPP DESALINATION PIPELINE FEASIBILITY STUDY Technical Memorandum* (11)
- *Water Balance Study for the Northern Cities Area, April 2007* (12)

The City Council reviewed the San Luis Obispo County Integrated Regional Water Management Plan (IRWMP), of which the City is a participant, on August 6, 2014 at its public meeting. The City is coordinating the preparation of the UWMP with this regional water planning effort. The UWMP serves as a critical component for developing the IRWMP and maintains consistency with the goals and policies of the IRWMP. The IRWMP provides an opportunity for the City to apply for state funding for planning or implementation of projects and enhances integration with regional, countywide, and statewide water resources planning strategies and policies.

Through its involvement in the Northern Cities Management Area (NCMA), the City has reviewed and provided input on the County's Master Water Report (13), including demand and supply projections developed prior to this UWMP.

The City is beginning an update of the Agriculture, Conservation and Open Space Element of the General Plan, which will include goals and policies for the City's water resources. The UWMP will provide information and background for this planning process.

The City updated the Housing Element of its General Plan in early 2016. This UWMP is consistent with the information provided in the Housing Element.

The City's Wastewater System and Water System Master Plans were updated in 2013. This UWMP is prepared in concurrence with the master planning efforts and reflects consistent demand and supply data and methodologies.

2.4 DATA SOURCES

This UWMP was prepared by compiling data from a variety of sources, including federal, state, and local government agencies, which are cited in Section 9. Documents concerning water management in the City and surrounding areas were used and are shown below:

Information used to complete this report was compiled from a variety of sources, including:

- *Arroyo Grande Groundwater Basin Groundwater Management Agreement (*see Appendix G)
- *Arroyo Grande Urban Water Management Plan 2005 Update, September 2010*
- *Arroyo Grande Urban Water Management Plan 2010 Update, June 2012*

- *Arroyo Grande Water Supply Alternatives, August 24, 2004* (3)
- *Capacity Evaluation of the Lopez Pipeline* (7)
- *City of Arroyo Grande General Plan Housing Element* (14)
- *City of Arroyo Grande General Plan Land Use Element* (15)
- City of Arroyo Grande Staff
- *City of Arroyo Grande Water Conservation and Emergency Water Shortage Restrictions, February 2015* (see Appendix H)
- *City of Arroyo Grande Water System Master Plan, December 2012* (16)
- *2015 Urban Water Management Plans Guidebook for Urban Water Suppliers, March 2016* (17)
- *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use, February 2016* (18)
- *Recycled Water Distribution System Conceptual Plan* (19)
- *Recycled Water Distribution System Conceptual Plan Technical Memorandum* (20)
- *Regional Housing Needs Plan* (21)
- *San Luis Obispo County 2040 Population, Housing & Employment Forecast* (22)
- *San Luis Obispo County Flood Control and Water Conservation District Zone 3 Urban Water Management Plan 2010 Update* (23)
- *San Luis Obispo County Master Water Report* (13)
- *San Luis Obispo County 2014 Integrated Regional Water Management Plan* (24)
- *Supplemental Water Supply Study Nacimiento Pipeline Extension* (6)
- *Water and Wastewater Financial Plan and Rate Study* (25)
- *Water Balance Study for the Northern Cities Area* (26)
- *Water Recycling Update Report* (4)
- *South San Luis Obispo County Desalination Funding Study, October 2008* (5)

3 SYSTEM DESCRIPTION

3.1 SERVICE AREA DESCRIPTION AND BOUNDARIES

The City is located in the southern portion of San Luis Obispo County along the banks of the Arroyo Grande Creek. The Pacific Ocean lies approximately 1.5 miles to the west. The City is bordered by the City of Grover Beach to the west, the communities of Oceano and Halcyon to the southwest, Pismo Beach to the northwest and unincorporated portions of the County of San Luis Obispo to the north, northeast, and southeast (see Figure 3-1). The City, a general law entity, currently incorporates 5.87 square miles of land with primarily residential and agricultural land uses. The City's distinctive character derives from its traditional ties to agriculture, physical diversity, unique village, small town atmosphere, and rural settings. The current (2015) population of the City is 17,731 based on California Department of Finance data; however, the City currently serves water to a population of 17,636 residents. The City's water service area population includes residents of 9 water service connections outside of City limits and excludes residents of 138 connections served by Oceano Community Service District (OCSD) in an area located in the southwest portion of the City limits (see Figure 3-2). All 6,605 connections to the City's water system are metered, and there are no agricultural or industrial connections.

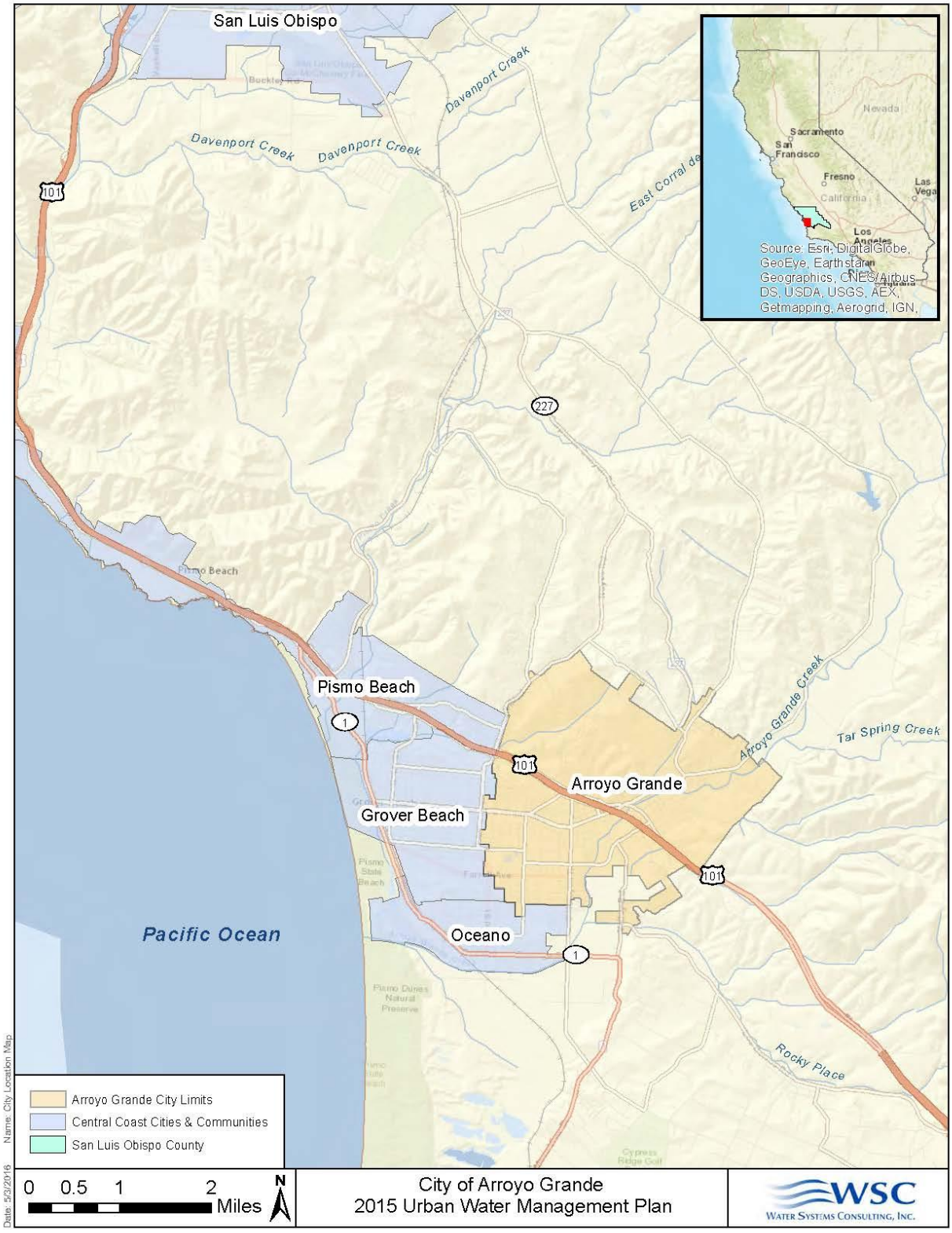

Figure 3-1. Vicinity Map

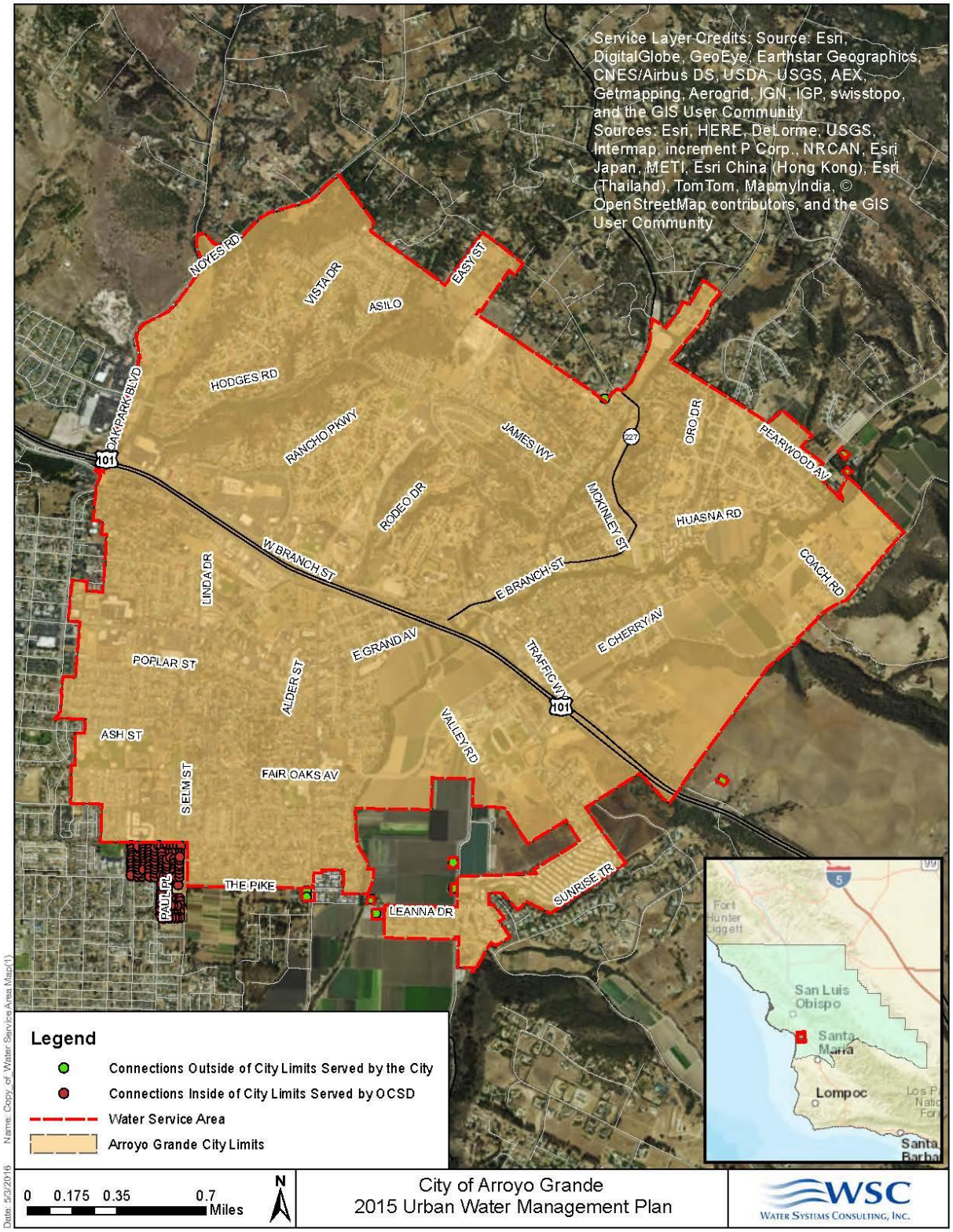

Figure 3-2. Service Area Map

3.2 SERVICE AREA CLIMATE

The climate of the City has a Mediterranean coastal climate with mild, dry summers and cool, wet winters. The annual precipitation is 16.14 inches, with the majority of the rain occurring during the months of January through March. Table 3-1 and Table 3-2 outline the climate characteristics for the City area based on average historical climate data. The normal year evapotranspiration rate (Eto) for the City is approximately 52 inches. The average annual temperature is 58 degrees Fahrenheit (°F). The City has mild weather year-round, with typically warm daytime temperatures and cool nighttime temperatures. The City does not have extreme seasonal variations, though the area is subject to normal weather fluctuations often experienced in marine environments.

Table 3-1. Precipitation and Evapotranspiration in the City of Arroyo Grande, Jan.-June

	January	February	March	April	May	June
Standard Average Evapotranspiration (ETo), in[1]	2.21	2.5	3.8	5.08	5.7	6.19
Average Rainfall, in[2]	3.43	3.52	2.57	1.01	0.30	0.05
Average Temperature, °F[3]	52.94	54.4	55.21	56.86	58.17	60.32
[1]Data from California Irrigation Management Information System (CIMIS), Station 202 in Nipomo, (period of record is from January 2007 through June 2015) http://wwwcimis.water.ca.gov/UserControls/Reports/MonthlyReportViewer.aspx						
[2]Average rainfall data from SLO County Public Works Volunteer Precipitation Gauge Station (AG Corp Yard #177.1) www.slocountywater.org/weather (years 1976 -2015)						
[3]Data from Western Regional Climate Center, Station: Station: 046943 Pismo Beach (period of record 1949 to 2015). http://www.wrcc.dri.edu/CLIMATEDATA.html						

Table 3-2. Precipitation and Evapotranspiration in the City of Arroyo Grande, July-Dec & Annual

	July	August	Sept.	Oct.	Nov.	Dec.	Annual
Standard Average ETo, in[1]	6.43	6.09	4.87	4.09	2.89	2.28	52.13
Average Rainfall, in[2]	0.05	0.00	0.09	0.74	1.61	2.71	16.08
Average Temperature, °F[3]	61.28	62.09	62.48	61.15	57.55	53.7	57.8
[1]Data from California Irrigation Management Information System (CIMIS), Station 202 in Nipomo, (period of record is from January 2007 through June 2015) http://wwwcimis.water.ca.gov/cimis/data.jsp							
[2]Average rainfall data from SLO County Public Works Volunteer Precipitation Gauge Station (AG Corp Yard #177.1) www.slocountywater.org/weather (years 1976 -2015)							
[3]Data from Western Regional Climate Center, Station: Station: 046943 Pismo Beach (period of record 1949 to 2015). http://www.wrcc.dri.edu/CLIMATEDATA.html							

3.3 SERVICE AREA POPULATION AND DEMOGRAPHICS

The City is largely built-out and is expected to experience only modest growth over the next 20 years. The build-out population, defined as the maximum population that can occur considering the zoning and land use designations in the current General Plan, is established at 20,000 persons. The build-out population may increase if an annexation of approximately 185 acres of land and subsequent development were to occur on a portion of land that lies southeast of the City within the City's Sphere of Influence. The land use development policies within the City are established in the City's General Plan, principally by the Land Use Element (LUE) (15). The last comprehensive update to the General Plan occurred in October 2001, with the Housing Element updated in 2016.

The City's population within City Limits was 17,252 in 2010 according to the 2010 U.S. Census and 17,731 by the end of 2015 according to the California Department of Finance. The City does not serve water to the entire population within its City Limits. The OCSD serves a portion of the population in the southwestern part of the City. The City also serves some customers outside of the City Limits. To meet the requirements of Senate Bill x 7-7 (SB7), an estimate of the service area population was calculated in the *Base Daily Per Capita Water Use and Target Water Use Technical Memorandum* attached as Appendix D. Based on the methodology described in Appendix D, the service area population in 2010 was 16,908.

The San Luis Obispo Council of Governments (SLOCOG) projects population for the City through 2040 in its *San Luis Obispo County 2040 Population, Housing & Employment Forecast* (22). The service area population projections are based on annual growth rates calculated from the mid growth scenario population projections from SLOCOG's report (see Table 3-3). The annual growth rates are applied to the 2015 service area population to yield the projected service area populations shown in Table 3-4.

Table 3-3. Projected Annual Compounding Growth Rates in the City of Arroyo Grande

	2016-2020	2021-2025	2026-2030	2031-2035
Growth Rates[1]	0.99%	0.57%	0.69%	0.67%
[1] Growth rates were calculated from SLOCOG population projection data, mid-range **(22)**.				

Table 3-4. Projected Annual Population Growth in the City of Arroyo Grande

	2010	2015	2020	2025	2030	2035
Service Area Population	16,908	17,636	18,524	19,054	19,716	20,000
City Population	17,252	17,731	18,624	19,157	19,822	20,000

Existing land uses are shown on Figure 3-3 and existing zoning districts within the City are shown in Figure 3-4 below. Historically, most of the City's residential growth has occurred on large lots and at low densities. However, it is anticipated that future growth will be redistributed to the City's mixed-use and higher density residential areas. Based on project submittals over the past two years, as well as projected development, the recent and foreseeable trend for new residential development is in the form of higher density, mixed use infill and redevelopment, clustered subdivision, small-lot planned unit development and condominiums.

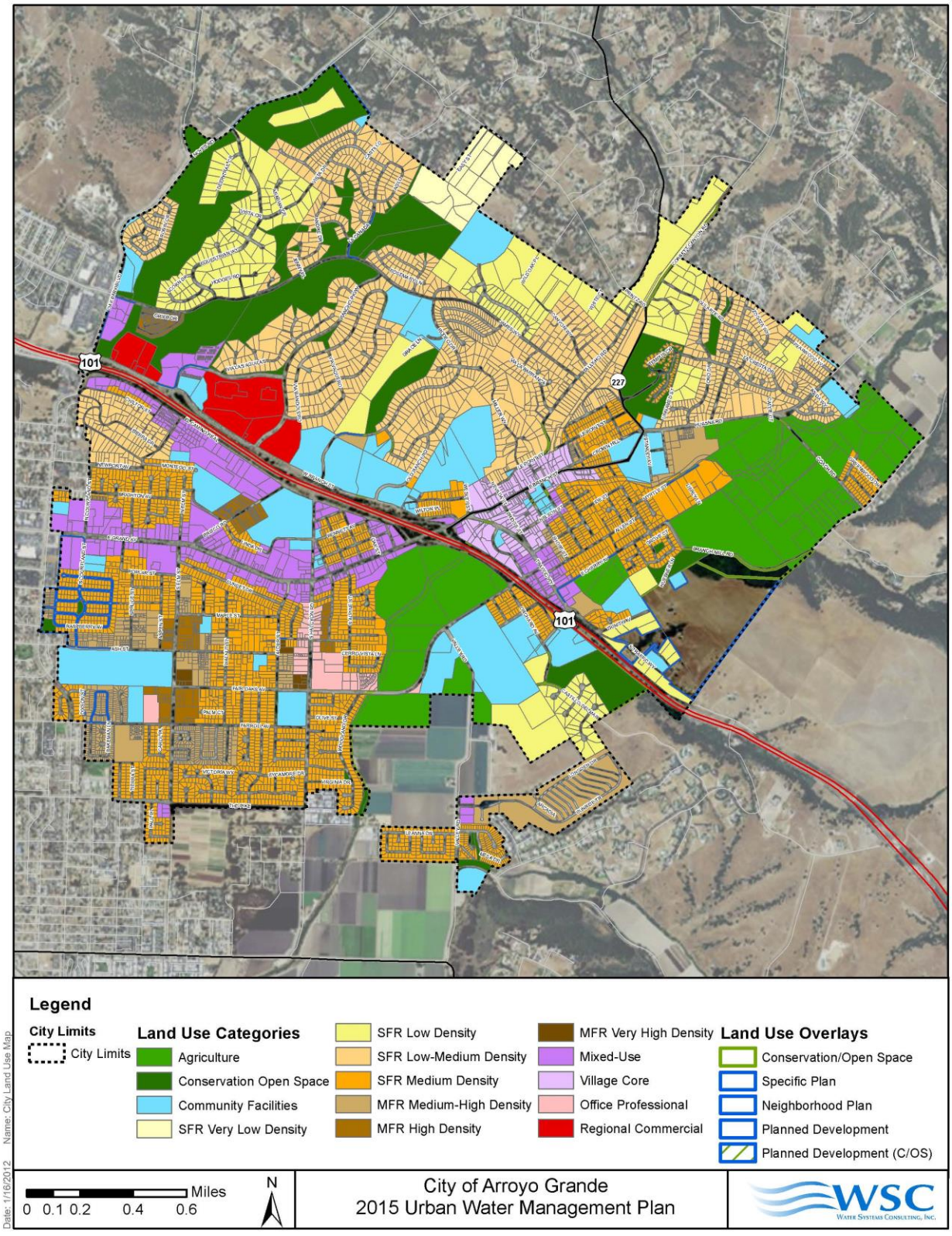

Figure 3-3. City General Plan Land Use

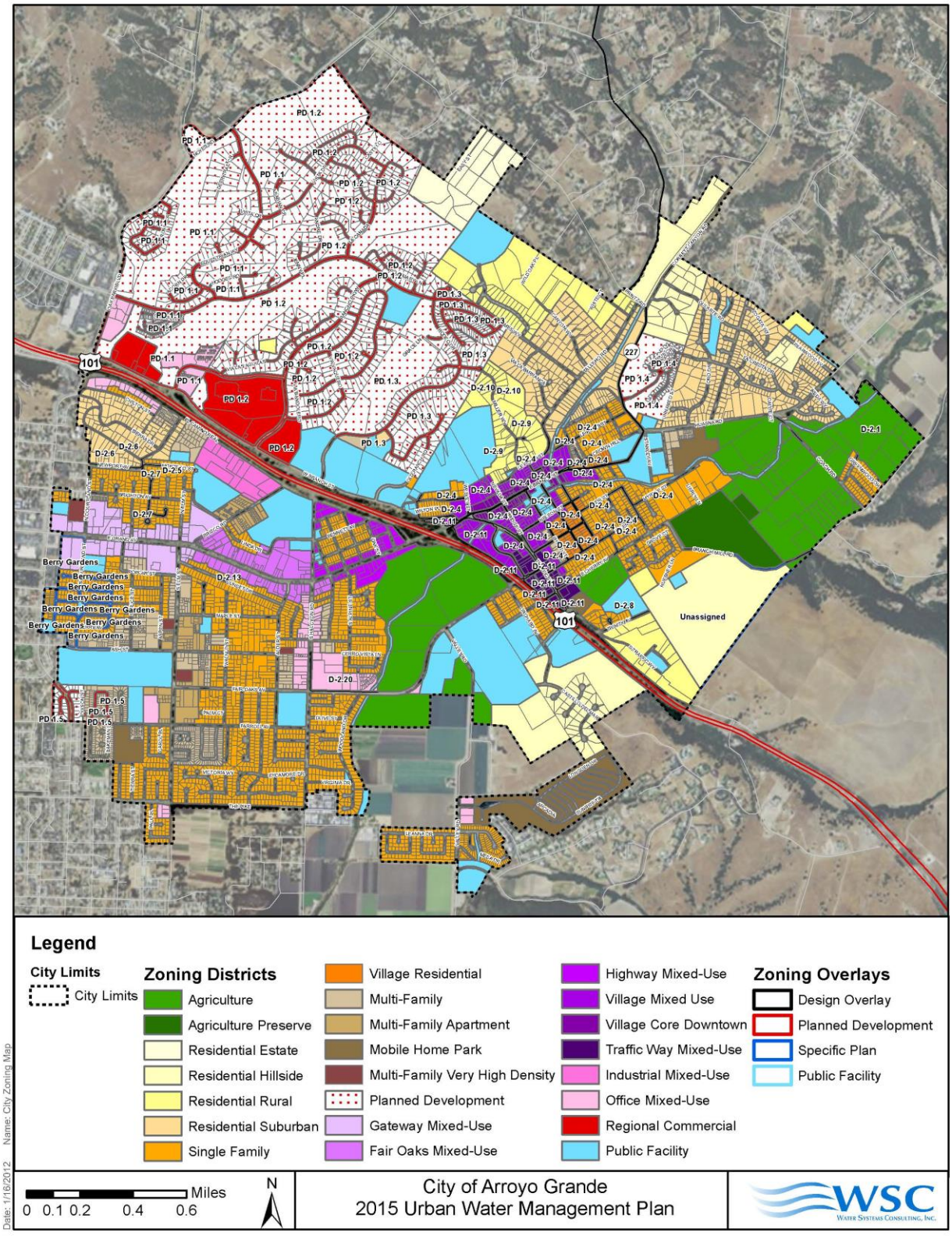

Figure 3-4. City Zoning Map

4 SYSTEM DEMANDS

4.1 BASELINES AND TARGETS

Senate Bill x 7-7 (SB7), also known as the Water Conservation Bill of 2009 (SB7), which was incorporated into the UWMP Act in 2009, requires that all water suppliers to increase water use efficiency with the overall goal to decrease per-capita water consumption within the state by 20 percent by the year 2020. SB7 required DWR to develop certain criteria, methods, and standard reporting forms through a public process that could be used by water suppliers to establish their baseline water use and determine their water conservation targets. SB7 and the SB7 Guidebook specify methodologies for determining the baseline water demand, 2015 interim urban water use target and the 2020 urban water use target for the City as described in the following sections.

4.1.1 Baseline Water Use

The first step in developing the baseline water use for the City is determining the applicable range of years to calculate the baseline average. The UWMP Act stipulates an agency may use either a 10 or 15-year average to determine their baseline. If 10 percent of total urban retail water deliveries in 2008 were from recycled water, then the agency can use a 15-year average baseline if it chooses. The City does not currently have the infrastructure or treatment ability in place to recycle water, and therefore has not utilized recycled water in the past. For this reason, a 10-year average was used for baseline determination. The UWMP Act requires the use of a continuous 10-year range with the end of the range ending between December 31, 2004 and December 31, 2010 to determine the baseline. As shown in Table 4-1, the City's selected 10-year base period begins in year 1999 and ends in year 2008. In addition to the 10-year baseline, a 5-year baseline is also calculated, which is used to establish the minimum criteria for the City's use reduction targets. The UWMP Act requires the use of a continuous 5-year range with the end of the range ending between December 31, 2007 and December 31, 2010 to determine the baseline. As shown in Table 4-2, the City's selected 5-year base period begins in year 2003 and ends in year 2007. The City's historical gross water use and per capita water use for the period of 1995 through 2015 are shown in Figure 4-1.

Table 4-1. Base Daily Per Capita Water Use – 10-year range

Calendar Year	Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)	10 year running average
1995	14,951	2.3	157	
1996	15,062	2.5	166	
1997	15,173	2.8	182	
1998	15,284	2.5	162	
1999	15,396	2.8	184	
2000	15,507	3.0	195	
2001	15,647	2.9	188	
2002	15,787	3.1	198	
2003	15,927	3.1	197	
2004	16,067	3.2	200	183
2005	16,208	3.0	188	186
2006	16,348	3.0	182	187
2007	16,488	3.2	194	189
2008	16,628	3.1	189	191
2009	16,768	2.9	173	190
2010	16,908	2.6	156	187
Base Daily Per Capita Water Use				**191**

Table 4-2. Base Daily Per Capita Water Use - 5 year range

Calendar Year	Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)	5 year running average
2003	15,927	3.1	197	
2004	16,067	3.2	200	
2005	16,208	3.0	188	
2006	16,348	3.0	182	
2007	16,488	3.2	194	192
2008	16,628	3.1	189	190
2009	16,768	2.9	173	185
2010	16,908	2.6	156	179
Base Daily Per Capita Water Use				**192**

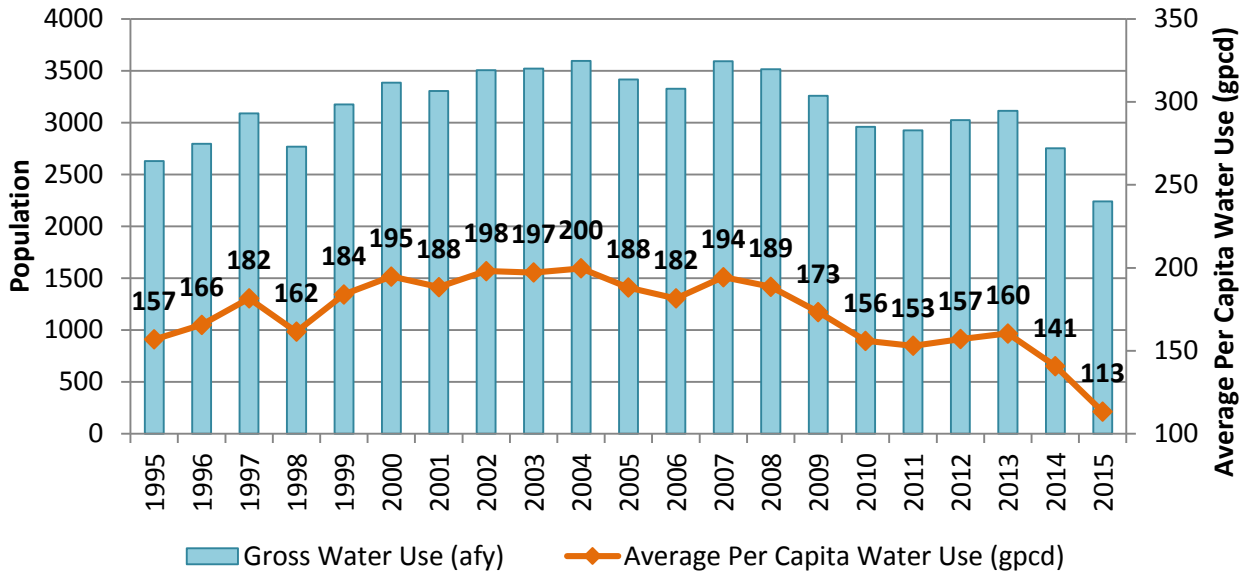

Figure 4-1. Historic Gross Water Use and Per Capita Water Use

4.1.2 Target Water Use

DWR provided four different methods to establish water conservation targets. These four methods are summarized in the following sections.

4.1.2.1 Method 1 - Baseline Reduction Method

The Method 1 2020 water conservation target is defined as a 20 percent reduction of average per-capita from the 10-year continuous baseline period. Based on the baseline daily per capita use of 191 gallons per capita per day (gpcd) determined previously, the target use for Method 1 is 153 gpcd. The 2015 interim water use target is simply the midpoint of the baseline and the 2020 water conservation target, or 172 gpcd for Method 1 in the City's case.

4.1.2.2 Method 2 - Efficiency Standard Method

The 2020 water conservation target of this method is determined by calculating efficiency standards for indoor use separately from outdoor use for residential sectors, and an overall reduction of 10 percent for commercial, industrial, and institutional (CII) sectors. The aggregated total of the efficiency standards in each area is then used to create a conservation target.

Very few agencies within the State have the data necessary to determine a target water use using Method 2. It is not feasible for the City to use this methodology since the City lacks the detailed landscaped area estimates to calculate the landscaped area water use.

4.1.2.3 Method 3 - Hydrologic Region Method

This method uses the ten regional urban water use targets for the state. Based on the water supplier's location within these regions, a static water use conservation target for 2020 is assigned.

Urban water use targets (2020 conservation goals) for the hydrologic regions in California is included in the UWMP Guidebook. To determine the target using Method 3, 95 percent of the region-specific conservation goal is calculated. Based on a 2020 target of 123 gpcd for the Central Coast region, the City's Method 3 target is 117 gpcd for 2020. The City's 2015 interim water use target for Method 3 is then calculated to be 120 gpcd.

4.1.2.4 Method 4 - BMP Based Method

Method 4 identifies water savings obtained through identified practices and subtracts them from the baseline daily per capita water use value identified for the water supplier. The water savings identified that can be used to reduce the baseline daily per capita water use value include:

- Indoor residential use savings;
- Commercial, industrial, and institutional savings;
- Landscape and water loss savings; and
- Metered savings.

The Method 4 per capita water use target was calculated using the City's 10-year baseline period (1999 to 2008). A discussion of each of the savings components and the subsequent calculated savings specifically for the City is included below.

- **Indoor Residential Savings.** Since indoor and outdoor water use is delivered through a single meter, an assumption of 70 gpcd has been provided by DWR for standard residential indoor water use. To determine indoor residential savings potential, the draft provisional method outlines two methodologies. First, a best management practices (BMP) calculator has been developed to sum the savings for four conservation elements including single and multi-family residential housing toilets, residential washers, and showerheads. The City will use what has been termed the "default option" to determine these savings. Based on the provisional method, this default value is 15 gpcd.
- **Commercial, Industrial, and Institutional Savings.** Baseline CII water use can be established for the City based on data provided in the City's DWR Public Water Systems Statistics Sheet for years 1999 to 2008. Based on this data, the baseline per capita CII water use is 21.8 gpcd. The draft provisional method estimates a default value for CII savings of 10 percent. The CII water savings are therefore 2.1 gpcd.
- **Landscape and Water Loss Savings.** The landscape and water loss water use is determined by subtracting the default indoor water use of 70 gpcd and CII water use of 21.8 gpcd from the calculated years' 1999 to 2008 baseline per capita use. Based on a 1999 to 2008 baseline per capita water use of 191.5 gpcd, the landscape and water loss use is 100.1 gpcd. The draft provisional method estimates a default value for landscape and water loss savings of 21.6 percent. The landscape and water loss savings are therefore 21.6 gpcd.

- **Metered Savings.** Metered savings are considered in addition to the savings attributed to the three sectors previously discussed. Because the City was fully metered in the midpoint year of 2003 (based on the methodology established by DWR) and no unmetered deliveries occurred, the unmetered per capita use was zero gpcd. Therefore, no savings from metering was calculated.

The City's 2020 target water use is calculated as the baseline water use minus the total savings (residential indoor, CII, landscape, and water loss, and meter savings). In the City's case, the total water savings accounts for 38.8 gpcd, which equates to a 2020 target water use of 152.7 gpcd in 2020, and a corresponding interim water use target for Method 4 of 172.1 gpcd in 2015.

4.1.3 Minimum Water Use Reduction Requirement

The final step in determining the applicability of the water use target for the City is to confirm the water use targets meet the minimum reduction requirements as defined by DWR. To confirm the chosen 2020 per capita target, the 5-year average baseline previously determined Table 4-2 is used. The chosen target (calculated using one of the four methods described above) must be less than 95 percent of the 5-year baseline. In order to meet this minimum criteria, the City's 2020 target per capita water use must be less than or equal to 183 gpcd.

4.1.4 Summary of Baseline and Target Water Use

Based on the 2020 water use targets calculated using the four methodologies described previously, the urban water use target for the City is 153.2 gpcd. Using the 10-year baseline of 192 gpcd, the 2015 interim water use target is 172 gpcd. This target was determined using Method 1. According to the DWR guidelines, this target is valid since it is less than the minimum 5-year baseline target confirmation criteria of 183 gpcd.

The baseline water use, target per capita use determined based on the four methods, and the compliance, selected target and interim target are summarized in Table 4-3 and Table 4-4.

Table 4-3. Daily Per Capita Water Use Target

Calculation Method	Water Use Target (gpcd)
Method 1: 80% of Baseline Per Capita Water Use	153.2
Method 2: Performance Standards	Not calculated
Method 3: 95% of Regional Target	117.0
Method 4: DWR Approach	152.7
Selected Urban Water Use Target	**153.2**

Table 4-4. Baseline, Compliance, Interim Target, and Target Per Capita Water Use

Parameter	Water Use (gpcd)
Base Daily Per Capita Water Use	191
2015 Daily Per Capita Water Use	113
2015 Interim Urban Water Use Target	172
2020 Urban Water Use Target	153

Since 1996, the City's per capita water use has varied. As shown in Figure 4-1, the City's per capita water use in 2011, 2014 and 2015 was below the 2020 target. The declining trend in per capita water use from 2007 through 2015 is attributed to a combination of factors such as economic conditions, prolonged drought conditions, and State mandated conservation regulations. It is assumed that these factors have resulted in subsequent physical (e.g., turf replacement, water fixture replacement, etc.) and behavioral changes (e.g., irrigating less or quicker showers due to various media conservation campaigns and materials) in customer demand patterns associated with effective conservation programs. While physical conservation related changes result in essentially permanent demand reductions, behavioral changes may not yield permanent demand reductions. State mandated emergency water conservation regulations may have a short-term impact on demand reductions during drought conditions, but it is assumed that there will be a rebound to average demands due to customers' behavioral changes over the long-term. By nature, the State mandated emergency regulations are temporary, but SB7 requirements are long-term. Therefore, for the purposes of projecting long-term water use, it is assumed that the 2020 gpcd will be approximately equal to the three-year historical average gpcd from 2013-2015, or 138 gpcd. The interim years between 2016 and 2019 were calculated through linear interpolation between the 2020 and 2015 water use. Lastly, the years following 2020 were assumed to stay the same through buildout. The assumed future 138 gpcd was applied to population projections shown in Table 3-4 to project demands from 2020 through 2035. Figure 4-2 displays the baseline and targets as well as historical and projected per capita water use.

Based on Governor Brown's Executive Order B-37-16, revised baselines, targets and/or water use reduction methodologies could be required in 2017. The State Water Resource Control Board (SWRCB), DWR, California Public Utilities Commission and the California Energy Commission will be developing an action plan to implement the Executive Order during 2016. It is anticipated that the implementation of the action plan will require legislative action to enact any new requirements. Depending on the outcome of the process, the City will respond accordingly to make any adjustments necessary to meet new requirements.

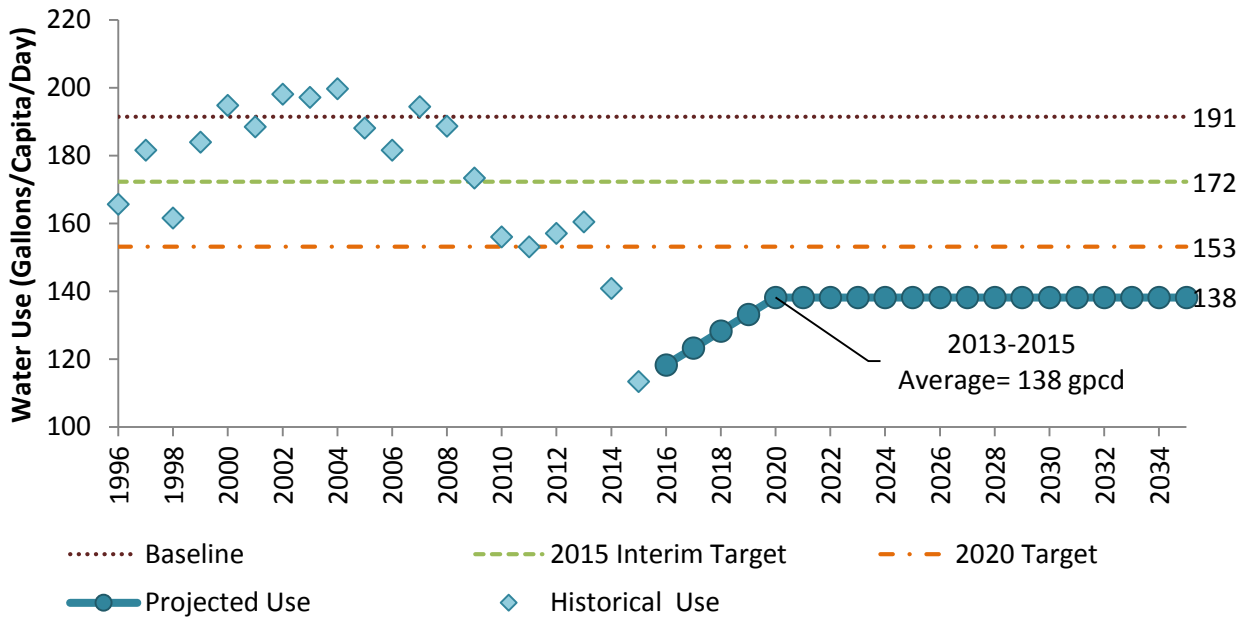

Figure 4-2. Historical, Baseline, Targets, and Projected GPCDs

4.2 WATER DEMANDS

The following tables (Table 4-5, Table 4-6, Table 4-7, Table 4-8, Table 4-9) show the past, current, and projected water deliveries for the City based on historical and projected population (Table 3-4) and per capita water use (Figure 4-1).

Table 4-5. 2010 Water Deliveries, afy

	2010				
	Metered		Not Metered		Total
Water use sectors	# of Connections	Volume	# of Connections	Volume	Volume
Single family	5,801	2,031	0	0	2,031
Multi-family	107	278	0	0	278
Commercial	398	278	0	0	278
Industrial	0	0	0	0	0
Institutional/ governmental	49	84	0	0	84
Landscape	118	111	0	0	111
Agriculture	0	0	0	0	0
Other	0	0	0	0	0
Total	**6,473**	**2,782**	**0**	**0**	**2,782**

Table 4-6. 2015 Water Deliveries, afy

	2015				
	Metered		Not Metered		Total
Water use sectors	# of Connections	Volume	# of Connections	Volume	Volume
Single family	5,907	1,517	0	0	1,517
Multi-family	109	190	0	0	190
Commercial	413	178	0	0	178
Industrial	0	0	0	0	0
Institutional/ governmental	51	53	0	0	53
Landscape	125	169	0	0	169
Agriculture	0	0	0	0	0
Other	0	0	0	0	0
Total	**6,605**	**2,106**	**0**	**0**	**2,106**

Table 4-7. 2020 Water Deliveries, afy

	2020				
	Metered		Not Metered		Total
Water use sectors	# of Connections	Volume	# of Connections	Volume	Volume
Single family	6,205	1,957	0	0	1,957
Multi-family	114	245	0	0	245
Commercial	434	230	0	0	230
Industrial	0	0	0	0	0
Institutional/ governmental	53	69	0	0	69
Landscape	131	217	0	0	217
Agriculture	0	0	0	0	0
Other	0	0	0	0	0
Total	**6,938**	**2,718**	**0**	**0**	**2,718**

Table 4-8. 2025 & 2030 Water Deliveries, afy

	2025		2030	
	Metered		Metered	
Water use sectors	# of Connections	Volume	# of Connections	Volume
Single family	6,382	2,013	6,604	2,083
Multi-family	118	252	122	261
Commercial	446	236	462	245
Industrial	0	0	0	0
Institutional/ governmental	55	71	57	73
Landscape	135	224	140	231
Agriculture	0	0	0	0
Other	0	0	0	0
Total	**7,136**	**2,796**	**7,384**	**2,893**

Table 4-9. 2035 Deliveries, afy

	2035	
	Metered	
Water use sectors	# of Connections	Volume
Single family	6,828	2,113
Multi-family	126	264
Commercial	478	248
Industrial	0	0
Institutional/ governmental	59	74
Landscape	144	235
Agriculture	0	0
Other	0	0
Total	**7,635**	**2,934**

4.2.1 Low-Income Demands

Changes to the California Water Code section 10631.1 since 2005 require demand projections to include projected water use for single-family and multi-family residential housing needed for lower income households. Low-income households are defined as households making less than 80% of statewide median household income. The Regional Housing Needs Assessment (RHNA) determines the housing needs in each jurisdiction over the planning period. SLCOG's current RHNA planning period is from January 1, 2014, through June 30, 2019. For this planning period, ninety-eight (98) new low-income units are projected to be needed in the City by 2019 (21). Assuming the average water usage factor per connection in each respective year, the projected demand for the low-income residential units is shown in Table 4-10. The low-income deliveries projections are included in the City's total projected water deliveries shown in Table 4-5 through Table 4-9.

Table 4-10. Low-Income Water Deliveries, afy

Low-income Water Demands	2014	2015	2016	2017	2018	2019
Residential	7.2	7.1	7.1	7.1	7.1	7.0
Cumulative Total	**7.2**	**14.3**	**21.4**	**28.5**	**35.6**	**42.6**

4.2.2 Sales to Other Water Agencies

Although the City has emergency connections with Pismo Beach and Grover Beach to deliver water in emergencies, the City does not have any contracts to sell water to other agencies as a wholesaler. Additionally, the City does not plan to sell water to other agencies in the future. Table 4-11 shows the historical, current, and projected amounts of water provided to other agencies.

Table 4-11. Sales to Other Water Agencies, afy

Water distributed	2010	2015	2020	2025	2030	2035
N/A	0	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**	**0**

4.2.3 Additional Water Uses and Losses

Table 4-12 shows the past, current and projected amount of non-revenue water (NRW) for the City. NRW is defined as the water losses plus authorized unbilled (metered and unmetered) water consumption.

The City used the American Water Works Association (AWWA) Free Water Audit Software in 2015 to perform a water audit of the City for the one calendar year period of 2015 (Appendix E). NRW is projected to be approximately 5.2% of production going forward (2016-2035) based on the average NRW percentage for 2011-2015. Table 4-12 shows the historical and projected NRW for the City.

Table 4-12. Non-Revenue Water, afy

Water use	2010	2015	2020	2025	2030	2035
Non-revenue water (NRW)	173	133	150	154	159	161
Total	**173**	**133**	**150**	**154**	**159**	**161**

4.2.4 Total Water Use

Table 4-13 shows the past, current, and projected total water use for the City. Total water use includes water delivered to customers, water sold to other agencies, and non-revenue water.

Table 4-13. Total Water Use, afy

Water Use	2010	2015	2020	2025	2030	2035
Total water deliveries	2,782	2,106	2,718	2,796	2,893	2,934
Sales to other water agencies	0	0	0	0	0	0
Non-revenue water (NRW)	173	133	150	154	159	161
Total	**2,956**	**2,239**	**2,867**	**2,949**	**3,052**	**3,096**

4.3 WHOLESALE WATER DEMAND

The City receives wholesale water from the Lopez Project, managed by the San Luis Obispo County Flood Control and Water Conservation District Zone 3 (Zone 3) and temporarily received wholesale water from OCSD until 2012. The available supply from the Lopez Project and OCSD is discussed in Section 5 of this UWMP. The projected wholesale water demands for Zone 3 are shown Table 4-14.

Table 4-14. Retail Agency Demand Projections Provided to Wholesale Suppliers

Wholesaler	Contracted Volume (afy)	Water Use (afy)			
		2020	2025	2030	2035
Lopez Project	2,290	2,290	2,290	2,290	2,290
Total	**2,290**	**2,290**	**2,290**	**2,290**	**2,290**

4.4 WATER USE REDUCTION PLAN

This City is committed to taking appropriate steps to reduce its water consumption to meet its 2020 target of 153 gpcd. In fact, conservation measures enacted by the City have already caused per capita consumption to drop below the 2020 target. As the City continues to implement water conservation measures and encourage water conservation practices within its customer base, the City will likely be able to continue to surpass its 2020 per capita water use target.

5 SYSTEM SUPPLIES

5.1 WATER SUPPLY SOURCES

This section describes the existing and projected water supply sources for the City. The City has a variety of water sources including groundwater, local surface water, and storm water captured for groundwater recharge, irrigation and construction water. The City has completed multiple studies of potential supplemental water supply sources including an extension of the Nacimiento Pipeline, desalination, recycled water, and State Water Project water. These studies and other potential supply sources are discussed further in Sections 5.3 through 5.6.

5.1.1 Water Supply Facilities

The City delivers both surface water and groundwater through its pressurized distribution system. The distribution system is composed of 88 miles of distribution mains, six storage reservoirs, six pumping stations, and 6,605 service connections. The City's well system consists of eight wells, chlorination facilities, and an in-line static mixer for blending of well and surface water. Well No. 9 and No. 10 extract water from the Pismo Formation located outside of the NCMA boundary. Raw water from Well No. 9 and 10 receive treatment prior to entering into the system for iron/manganese and hydrogen sulfide. The City receives water from the Lopez Project, which includes the Lopez Reservoir, the Lopez Terminal Reservoir, the Lopez Water Treatment Plant and the Lopez Pipeline. All City potable water is treated to meet drinking water standards, regardless of the source of supply. Wastewater treatment is conducted by the South San Luis Obispo County Sanitation District (SSLOCSD) at their Regional Treatment Facility located in Oceano as discussed in Section 5.5.1.

5.1.2 Actual and Projected Water Sources

The City's actual and projected water supply sources are summarized in Table 5-1. The City's projected water supply sources include local groundwater (Section 5.2) and the Lopez Project (Section 5.1.2.2).

Table 5-1. Current and Projected Water Supplies

Water Supply Sources		Projected Water Supply (afy)				
Water Source	**Wholesale Supplied Volume**	**2015**	**2020**	**2025**	**2030**	**2035**
Lopez Project	Yes	2,152	2,290	2,290	2,290	2,290
Groundwater-Santa Maria Valley Groundwater Basin	No	43	1,323	1,323	1,323	1,323
Groundwater-Pismo Formation [1]	No	44	200	200	200	200
Transfers In	No	0	0	0	0	0
Exchanges In	No	0	0	0	0	0
Recycled Water	No	0	0	0	0	0
Desalinated Water	No	0	0	0	0	0
Total		**2,239**	**3,813**	**3,813**	**3,813**	**3,813**

[1] Assumes 80 afy of groundwater from Well No. 9, 80 afy from Well No. 10, and 40 afy from Well No. 11 will be available as a reliable source of supply from 2016 through 2030.

Table 5-2. Actual and Projected Wholesale Water Supplies

Wholesale Sources	Contracted Volume (afy)	Projected Water Supply (afy)				
		2015	**2020**	**2025**	**2030**	**2035**
Lopez Project [1]	2,290	2,152	2,290	2,290	2,290	2,290
Total	**2,290**	**2,152**	**2,290**	**2,290**	**2,290**	**2,290**

[1] Normal contract amount was reduced by 10% in 2015 due to low reservoir levels, but the City utilized surplus water as described in Section 5.1.2.2.

In the event of an emergency or need for stand-by water, the City has an emergency connection with the Cities of Pismo Beach and Grover Beach.

5.1.2.1 Groundwater

The City currently extracts groundwater from the Arroyo Grande Plain of the Tri-Cities Mesa Subbasin (Subbasin) of the Santa Maria Valley Groundwater Basin (SMGB) and the Pismo Formation, which is separate from the SMGB. The SMGB is an adjudicated basin as described in further detail in Section 5.2. The City has an allocation of 1,323 afy of groundwater from the SMGB Sub-basin based on the *Santa Maria Valley Water Conservation District vs. City of Santa Maria, et al.* Case No. 770214 Judgment After Trial (Judgment) for the SMGB. Table 5-3 shows the parties and uses that are entitled to a portion of the safe yield of the SMGB.

Table 5-3. SMGB Division of Safe Yield

Allocated Use	Allocation
Applied Irrigation	4,970
Subsurface Flow to Ocean	200
City of Arroyo Grande[1]	1,323
City of Grover Beach[1]	1,407
City of Pismo Beach	700
Oceano CSD	900
TOTAL	**9,500**

[1] Per the Groundwater Management Agreement, the Cities of Arroyo Grande and Grover Beach have increased their entitlements by to 121 AFY and 209 AFY respectively based on the conversion of irrigated agricultural lands to urban use.

5.1.2.2 Lopez Project

The Lopez Project, which is operated by San Luis Obispo County Flood Control and Water Conservation District (District) Zone 3 (Zone 3), is considered a very reliable source of water supply. The reservoir's total capacity is 51,990 af with a storage capacity of 49,200 af. The annual safe yield of the reservoir is 8,730 afy with 4,530 afy apportioned to contract agencies and the remaining 4,200 afy reserved for downstream releases to maintain environmental and agricultural flows downstream. In years when less water is required to be released downstream in the Arroyo Grande Creek, additional water (known as surplus water) may be available to the Zone 3 member agencies, which include the Cities of Arroyo Grande, Grover Beach, Pismo Beach, the OCSD and County Service Area 12 (CSA 12).

Storage at the end of 2015 was 13,847 af, or 28%, of total storage capacity. From the 4,530 afy of entitlements, the Lopez Project provides a contractual supply of 2,290 afy to the City, except for years when reservoir storage is below 15,000 af, such as 2015. More details about the reliability of the Lopez Project are described in Section 6.1.1 Table 5-4 shows the contracted entitlements for municipal users of the Lopez Project.

Table 5-4. Lopez Treatment and Distribution System Contract Entitlements

Water Contractor	Lopez WTP Water Supply Annual Entitlement (AFY)
Arroyo Grande	2,290
Oceano CSD	303
Grover Beach	800
Pismo Beach	896
CSA 12 Total	61
Avila Valley MWC Subtotal	*12*
San Miguelito MWC Subtotal	*0*
Avila Beach CSD Subtotal	*68*
Port San Luis Subtotal	*100*
Other CSA 12 Customers Subtotal	*61*
TOTAL	**4,530**

5.2 GROUNDWATER

This section describes the Pismo Formation and SMGB, two sources of groundwater, that underlie the City.

5.2.1 Pismo Formation

The Pismo Formation is a distinct deep aquifer at the northeastern section of the City, identified in water wells along Oak Park Boulevard on the south, at Paseo Ladera Lane to the west, and along James Way to the east. Currently, the City pumps groundwater from Well No. 9 and Well No. 10, which are capable of extracting approximately 90 afy each if operated 100% of the time, but are assumed to extract 80 afy each assuming required operational downtime. Both wells receive treatment for iron, manganese and hydrogen sulfide prior to discharge into the system. Well No. 11 is assumed to be operational by the end of 2016. Well No. 11 is capable of extracting approximately 45 afy if operated 100% of the time, but is assumed to extract 40 afy assuming required operational downtime. Water supply from the Pismo Formation is not subject to the Judgment of the SMGB. The Pismo Formation is not adjudicated and has not been identified as over drafted or projected to be over drafted by DWR. In 2003, Cleath & Associates completed a groundwater source assessment for the Oak Park area, which covers the same aquifer as the Pismo Formation. The groundwater yield for the Oak Park area was estimated to be approximately 540 afy (27). The City exercises an appropriative right to put the water supply from the Pismo Formation to reasonable and beneficial use. The City's appropriative right allows it to pump available groundwater surplus to the needs of all existing overlying rights in the basin.

5.2.2 Santa Maria Groundwater Basin

The SMGB (DWR Bulletin 118 basin Number 3-12) underlies the Santa Maria Valley in the coastal portion of northern Santa Barbara and southern San Luis Obispo Counties. The SMGB also underlies Nipomo and Tri-Cities Mesa, Arroyo Grande Plain, and Arroyo Grande and Pismo Creek Valleys, of which the City draws from the Tri-Cities Mesa portion of the SMGB. The SMGB is bounded by the San Luis and Santa Lucia Ranges on the north, the San Rafael Mountains on the east, and Solomon Hills and San Antonio Creek Valley Groundwater Basin on the south, and the Pacific Ocean on the west. The SMGB is approximately 288 square miles (184,000 acres). The SMGB was adjudicated in 2008 and a map of the SMGB is included in Figure 5-1 and Appendix F.

Groundwater is found in alluvium, sand dunes, and the Orcutt, Paso Robles, Pismo, and Careaga formations. Groundwater is unconfined throughout most of the SMGB except in the coastal portion where it is confined. Specific yield of sediments in the SMGB ranges from 3 to 21 percent, with a mean specific yield of approximately 12 percent for parts of the SMGB in San Luis Obispo County.

Natural recharge in the basin comes from seepage losses from major streams, percolation of rainfall, and subsurface flow. Percolation of flow in Pismo Creek provides recharge for the northern portion of the SMGB. Percolation of flow in Arroyo Grande Creek and other tributary flows to the creek provide recharge for the Tri-Cities Mesa, Arroyo Grande Plain, and Arroyo Grande Valley portions of the SMGB. Incidental recharge results from deep percolation of urban and agricultural return water and septic tank effluent. Some subsurface flow comes from consolidated rocks surrounding the SMGB and from the neighboring San Antonia Creek Valley Groundwater Basin. A 2007 Water Balance Study of the Northern Cities Management Area (described below) estimated a total average annual recharge of 8,535 afy, and an average annual groundwater production of 5,569 afy between 1986 and 2004.

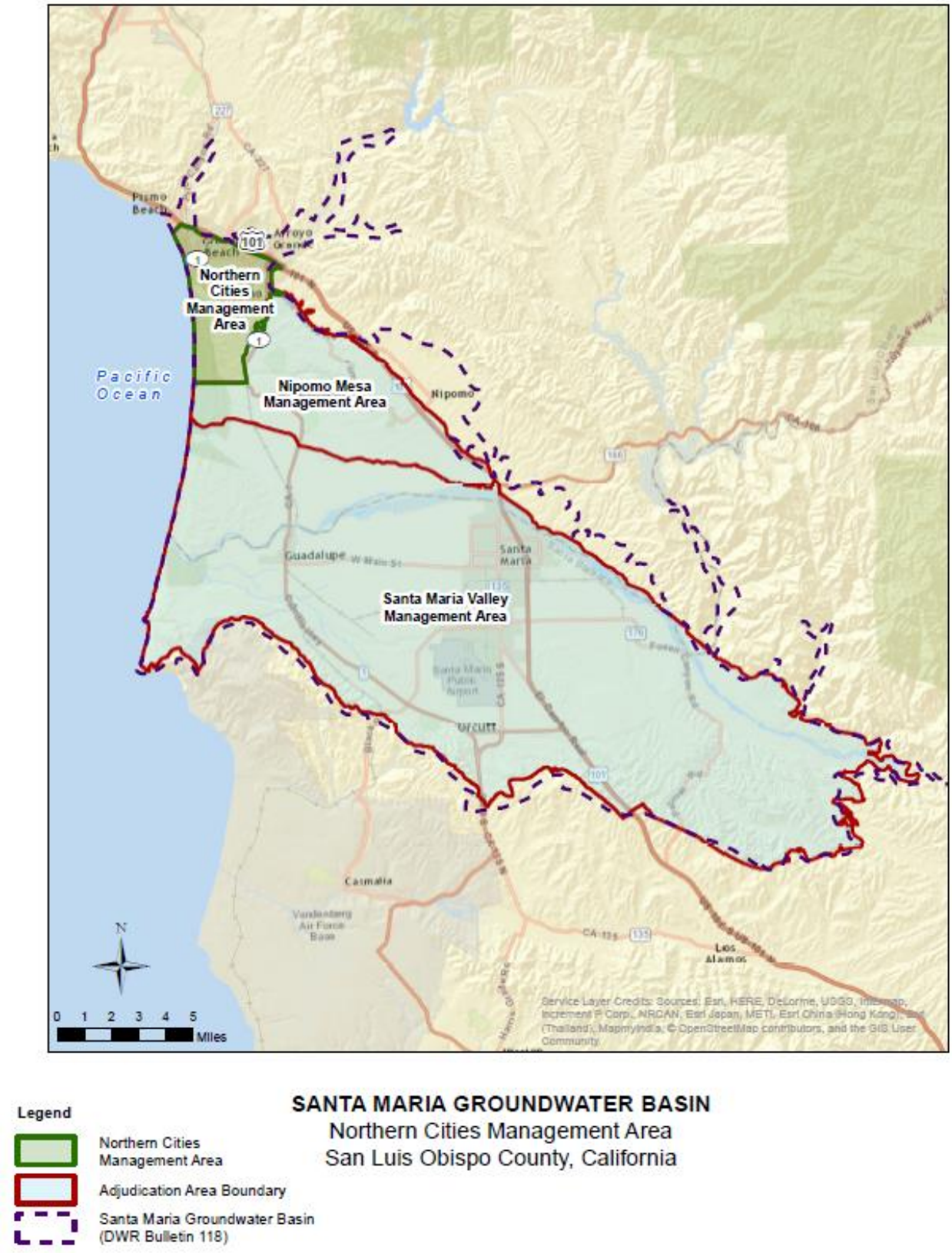

Figure 5-1. SMGB Boundaries and Management Areas (28)

5.2.3 Groundwater Management Plan

A formal groundwater management plan has not been prepared for the City or the SMGB. However, the SMGB, the basin in which the City has most of its groundwater production capacity, is adjudicated and pumping within the NCMA portions of the SMGB is managed based on the 2002 Management Agreement (Management Agreement), which was incorporated into the SMGB Judgment. A copy of the Judgment and Management Agreement are provided in Appendix G.

As a requirement of the Judgment, the City participates in a Northern Cities Technical Group (NCMA TG), which is comprised of staff from each of the NCMA agencies, responsible for managing groundwater resources of the NCMA portions of the SMGB. The NCMA TG and its member agencies have established six objectives for ongoing NCMA groundwater management, including:

- Share groundwater resources and manage pumping,
- Monitor supply and demand, and share information,
- Manage groundwater levels and prevent seawater intrusion,
- Protect groundwater quality,
- Manage cooperatively,
- Encourage water conservation.

The NCMA agencies are required by the Judgment to prepare and submit annual reports for the monitoring program, which include collection and analysis of data pertaining to the water supply and demand of the region, including land and water uses in the SMGB, supply sources, and groundwater conditions.

5.2.3.1 Zone 3 Extended Drought Emergency Supply Options Evaluation

In late 2015 and early 2016, the Zone 3 member agencies and the District collaborated to identify, evaluate and develop recommendations for emergency water supply options that could be implemented in the event that current drought continued for an extended period. These agencies are continuing to monitor drought conditions and plan for the implementation of these emergency measures, should they become necessary. The emergency supply options evaluated by Zone 3 member agencies and the District are outlined in Table 5-5.

Table 5-5. Zone 3 Extended Drought Emergency Supply Options

Cloud Seeding	Investigate opportunities to utilize cloud seeding to enhance rainfall within the Lopez Watershed. This could involve cooperative agreement with Santa Barbara County.
SWP Maximization	Maximize importation of District State Water Project (SWP) supplies, including subcontractor and "Excess Entitlement" supplies.
Unsubscribed Nacimiento	Investigate transfer/exchange opportunities to obtain unsubscribed Nacimiento water for the Zone 3 agencies (i.e. exchange agreements with the City of San Luis Obispo and the Chorro Valley pipeline SWP subcontractors).
Water Market Purchases	Investigate opportunities to obtain additional imported water and deliver it to the Zone 3 agencies through the SWP infrastructure (e.g. Exchange agreements with San Joaquin/Sacramento Valley farmers, Water broker consultation, Groundwater Banking Exchange Agreements, etc.).
Morro Bay Desal	Investigate opportunities to obtain SWP water from Morro Bay by providing incentives for Morro Bay to fully utilize its desalination plant capacity.
Land Fallowing	Evaluate potential agreements with local agriculture representatives to offer financial incentives to fallow land within the Arroyo Grande and Cienega Valleys and make that water available for municipal use.
Lopez Reservoir Minimum Pool	Investigate feasibility of extracting water from Lopez Reservoir below the 4,000 AF minimum pool level. This may require utilization of emergency pumps to deliver the water to the Lopez Water Treatment Plant.
Enchanced Conservation	Evaluate opportunities for enhanced water conservation by the Zone 3 agencies beyond the Governor's Mandatory Water Conservation Order (e.g. water rationing, no outdoor watering, agriculture water restrictions, etc.) to preserve additional water.
Diablo Desal	Utilize excess capacity from the Diablo Power Plant's Desalination Facility to supply water to the Zone 3 agencies through a connection to the Lopez Pipeline.
Nacimiento/CMC Intertie	Complete design of pipeline that would connect the Nacimiento Pipeline to the California Men's Colony (CMC) Water Treatment Plant. Investigate opportunities for Zone 3 agencies to purchase Nacimiento Water and utilize exchange agreements and existing infrastructure to deliver additional water to Zone 3 through the Coastal Branch pipeline.
Emergency IPR	Investigate opportunities to develop an Indirect Potable Reuse (IPR) Groundwater Recharge System, under emergency permits, to provide a supplemental supply for the Zone 3 Agencies.
Emergency Desal	Investigate opportunities to develop a desalination facility, under emergency permits, to provide a supplemental supply for the Zone 3 Agencies.
Price Canyon Produced Water	Investigation into opportunities to recover and utilize produced water from ongoing oil operations in Price Canyon.
Upper Lopez Wells	Investigate potential water storage in aquifers upstream of Lopez Reservoir and evaluate opportunities to obtain this water supply.

5.2.4 Groundwater Levels and Historical Trends

The Northern Cities conduct groundwater monitoring in the NCMA, which represents the northernmost portion of the SMGB. The NCMA groundwater monitoring program utilizes collected data from three primary sources: (1) groundwater elevation data collected by San Luis Obispo County, and (2) water quality and elevation data collected by the NCMA from a network of sentry wells. Selected figures from the NCMA 2015 Annual Monitoring Report are included in Appendix F for reference, including a boundary map of the NCMA, historic annual precipitation, groundwater elevation contours, and selected hydrographs of NCMA monitoring wells.

The NCMA monitoring program includes quarterly measurement of water elevations and continuous monitoring, via water level transducers, of the clustered sentry wells located along the coastal portion of the NCMA. Currently, there are 16 wells that are monitored quarterly for water level and water quality. Six of the monitored wells have transducers that collect water level, total dissolved solids (TDS) and temperature data at four-minute intervals. The data collected by the NCMA monitoring program and the County's groundwater level monitoring program provide essential information for tracking critical groundwater elevation changes. As shown by the hydrographs in Appendix F-Figure 11, the sentry wells provide a long history of groundwater elevations. Measured water elevations in these wells reflect the net effect of changing groundwater recharge and discharge conditions in the primary production aquifer.

Averaging the groundwater elevations from the three deep sentry wells provides a single, representative index, called the deep well index, for tracking the status and apparent health of the basin. Previous groundwater studies and NCMA Monitoring Annual Reports have suggested a deep well index value of 7.5 feet above mean sea level (MSL) as a threshold, below which the basin is at risk for sea water intrusion. When water levels drop below 7.5 ft, the NCMA agencies attempt to limit groundwater pumping to reduce the risk of seawater intrusion. Historical variation of this index is represented by the average deep sentry well elevations shown in Appendix F-Figure 12. Appendix F-Figure 12 shows the impact of three years of drought (2007-2009) followed by recovery of the index values in subsequent years as rainfall increased and groundwater production declined.

Between April 2015 and October 2015, the deep well index remained significantly below the index trigger value. In October 2015, the deep well index began to rise and since mid-December has been above the trigger value (Appendix F-Figure 12). In 2008, the lowest measured groundwater elevation in an individual well was approximately ten feet below MSL. As described in the Northern Cities 2008 Annual Report, groundwater below MSL indicates a potential for seawater intrusion into fresh groundwater supplies. The area with lowest groundwater elevations encompasses municipal well fields, and represents a relatively broad and shallow pumping trough exacerbated by drought conditions.

Hydrographs produced through the sentry well monitoring program indicate that groundwater elevations have historically varied above and below about 20 feet above MSL. Historical hydrographs show that groundwater elevations recover to levels similar to 2006 (a wet water year) and significantly decline during dry years like 2013. These groundwater level decreases and recovery cycles illustrate the relationship between times of the drought and increased pumping, and times of recovery with increased rainfall and decreased pumping. The last three years of very low rainfall (2013-2015) has resulted in water levels throughout the area declining 10 to 20 feet.

5.2.5 Groundwater Overdraft

Overdraft is the condition of a groundwater basin in which the amount of water withdrawn by pumping exceeds the amount of water that recharges the basin. By definition, overdraft is not a measure of annual fluctuations in groundwater storage volume. Rather, overdraft is a measure of the long-term trend associated with annual fluctuations. Overdraft is characterized by groundwater levels that decline over a period of years and never fully recover, even in wet years (29).

DWR's Bulletin 160-98 has identified the Central Coast Hydrologic Region to be in a state of overdraft. However, DWR also states that overdraft in this region is expected to decline as supply sources shift from groundwater to imported SWP surface water (30). As described in Section 5.2.3, a primary concern for the City and for the SMGB in general is saltwater intrusion from the coastal zone into fresh groundwater supply.

Total groundwater pumping in the NCMA (urban, agriculture, and rural domestic) was 3,656.47 af in 2015, which is 38.5% of the calculated 9,500 afy safe yield of the NCMA portion of the basin. However, even with the reduced pumping, water elevations throughout the area declined by several feet, with some areas finishing the year with water elevations below sea level. Typically, when pumping is less than the safe yield, the remaining volume of groundwater results in increased groundwater in storage, which is then manifested by rising water levels. The current condition, with groundwater pumping at 38.5% of the safe yield and declining water elevations, illustrates the impacts of the ongoing severe drought that has significantly reduced recharge.

5.2.6 Existing and Projected Groundwater Pumping

This section quantifies the historical and projected groundwater pumping by the City in Table 5-6 and Table 5-7. The 2008 Annual Monitoring Report for the NCMA indicated that drought conditions and subsequent increased groundwater pumping were causing groundwater elevations to drop below MSL, increasing the risk for and potentially causing seawater intrusion into groundwater aquifers. Since 2008, the City and surrounding municipalities that also rely on groundwater began an aggressive water monitoring program to identify the extent of seawater intrusion and track its progress. In addition, the City and other NCMA agencies have implemented aggressive water conservation programs and initiated efforts to maximize utilization of their surface water supplies to alleviate stress on groundwater supply.

Projected groundwater pumping includes groundwater pumped to serve City customers. The projected volumes in Table 5-7 assume that groundwater use within the NCMA will be equal to the remainder of demand not met by all other available sources of supply. The City expects to utilize groundwater to supplement Lopez Project water during peak demand periods, but intends to minimize usage when possible to protect the resource.

Table 5-6. Historic Groundwater Pumping

Basin Name	Metered or Unmetered	Historic Pumping Rates (afy)				
		2011	2012	2013	2014	2015
SMGB (Tri-Cities Mesa Subbasin)	Metered	211	180	268	51	43
Pismo Formation	Metered	138	150	120	69	44
Total Groundwater Pumped		**349**	**330**	**388**	**121**	**87**
Groundwater as Percent of Total Water Supply		**12%**	**11%**	**12%**	**4%**	**4%**

Table 5-7. Projected Groundwater Pumping

Basin Name	Projected Pumping Rates (afy)			
	2020	2025	2030	2035
SMGB (Tri-Cities Mesa Subbasin)	377	459	562	606
Pismo Formation	200	200	200	200
Total Groundwater Pumped	577	659	762	806
Groundwater as Percent of Total Water Supply[1]	**20%**	**22%**	**25%**	**26%**

[1] Groundwater use will vary depending upon availability of the other supply sources, the status of the SMGB Deep Well Index and the condition of the Pismo Formation.

5.3 TRANSFER OPPORTUNITIES

The City currently does not transfer or exchange water with its neighboring water suppliers. However, the City historically purchased water from OCSD, and has studied multiple alternatives for transfers and exchanges, which are described in Section 5.6.

In August 2005, the City entered into a two-year agreement with the OCSD to provide 100 afy. The City never purchased water under this agreement. In January 2009, the City renewed the contract with OCSD for a 5-year period. The City purchased 100 afy for a period of 5 years. The agreement has expired and is not expected to be renewed.

The City is currently evaluating opportunities to obtain additional water to meet demands during extended drought periods. These supplies could include State Water Project (SWP) water or desalinated water. At this point, the City does not have specific volumes identified for these potential transfer opportunities.

5.4 DESALINATED WATER OPPORTUNITIES

In January 2006 and 2008, studies of desalination opportunities (5) were prepared to evaluate the feasibility of obtaining an additional 750 afy of potable water for the City from seawater desalination. The 2008 report was prepared with the assumption that two neighboring water agencies, the City of Grover Beach and the OCSD, would collaborate to determine if a seawater desalination plant would suit the supplemental water needs of each community. The City decided not to pursue desalination at that time.

In 2015, San Luis Obispo County in coordination with PG&E performed an assessment of the feasibility to deliver desalinated water from the Diablo Canyon Power Plant near Avila Beach, California, to the current agencies connected to the Lopez Pipeline. Preliminary estimates indicate that between 500 afy to 1,300 afy could be delivered from the project. Next steps include refining the cost estimates, additional coordination with PG&E, obtaining the required permits, developing an Environmental Impact Report, and further optimizing the conveyance infrastructure through additional evaluation of pipeline diameter, pumping requirements, pressure class upgrade requirements and pipeline layout in order to reduce pipeline and conveyance infrastructure costs as the project progresses. In March 2016, the County authorized a budget of approximately $900,000 to allow staff to continue with the environmental permitting and stakeholder outreach components of the project.

5.5 RECYCLED WATER OPPORTUNITIES

The UWMP Act requires that the UWMP address the opportunities for development of recycled water, including the description of existing recycled water applications, quantities of wastewater currently being treated to recycled water standards, limitations on the use of available recycled water, an estimate of projected recycled water use, the feasibility of projected uses, and practices to encourage the use of recycled water.

5.5.1 Wastewater Treatment Facilities

The South San Luis Obispo County Sanitation District (SSLOCSD) collects, treats, and disposes of wastewater for the communities of Arroyo Grande, Oceano, and Grover Beach. The total population served by the SSLOCSD is approximately 38,424 persons, producing an average daily flow of 2.6 million gallons of wastewater per day (mgd) that is discharged through a shared outfall in addition to 1.1 mgd of flow from the City of Pismo Beach Wastewater Treatment Facility (WWTF) (9). Wastewater influent is first passed through an in-channel screen to remove large debris. After debris removal, wastewater flows through two clarifiers and then into a single fixed film reactor for secondary treatment. Wastewater effluent from the fixed film reactor then flows to secondary clarification to remove any sloughed off bacterial film. Finally, the treated wastewater is disinfected with sodium hypochlorite before being discharged to the Ocean.

5.5.2 Wastewater Flow Projections

A little less than half of the total flows received at the plant, excluding flows from the Pismo Beach WWTP, were from the City. The future average annual wastewater flow was determined by multiplying the projected population by the average observed unit per capita wastewater generation rate, which is 57 gallons per capita per day (gpcd) (31). The resulting average annual historical flow and flow projections are summarized in Table 5-8.

Table 5-8. Wastewater Flow Projections

Type of Wastewater	2010	2015	2020	2025	2030	2035
Wastewater collected & treated in service area[1]	1,080	1,127	1,184	1,217	1,260	1,278
Volume that meets recycled water standard [2]	1,080	1,127	1,184	1,217	1,260	1,278

[1] Assumes 57 gallons per capita per day based on the City's 2011 Wastewater System Master Plan estimations and population estimates based on Census and SLOCOG data.
[2] SSLOCSD currently produces secondary treated water that could be treated to "Disinfected Secondary-23 Recycled Water" standards as defined by Title 22. However, all secondary treated effluent was discharged through the ocean outfall.

5.5.3 Water Recycling Facilities

SSLOCSD currently treats its effluent to a secondary level, but could treat to a Disinfected Secondary-23 treatment level, as defined by California Code of Regulations Title 22 requirements. Figure 5-2 shows the locations of the Pismo Beach WWTF and the SSLOCSD WWTF.

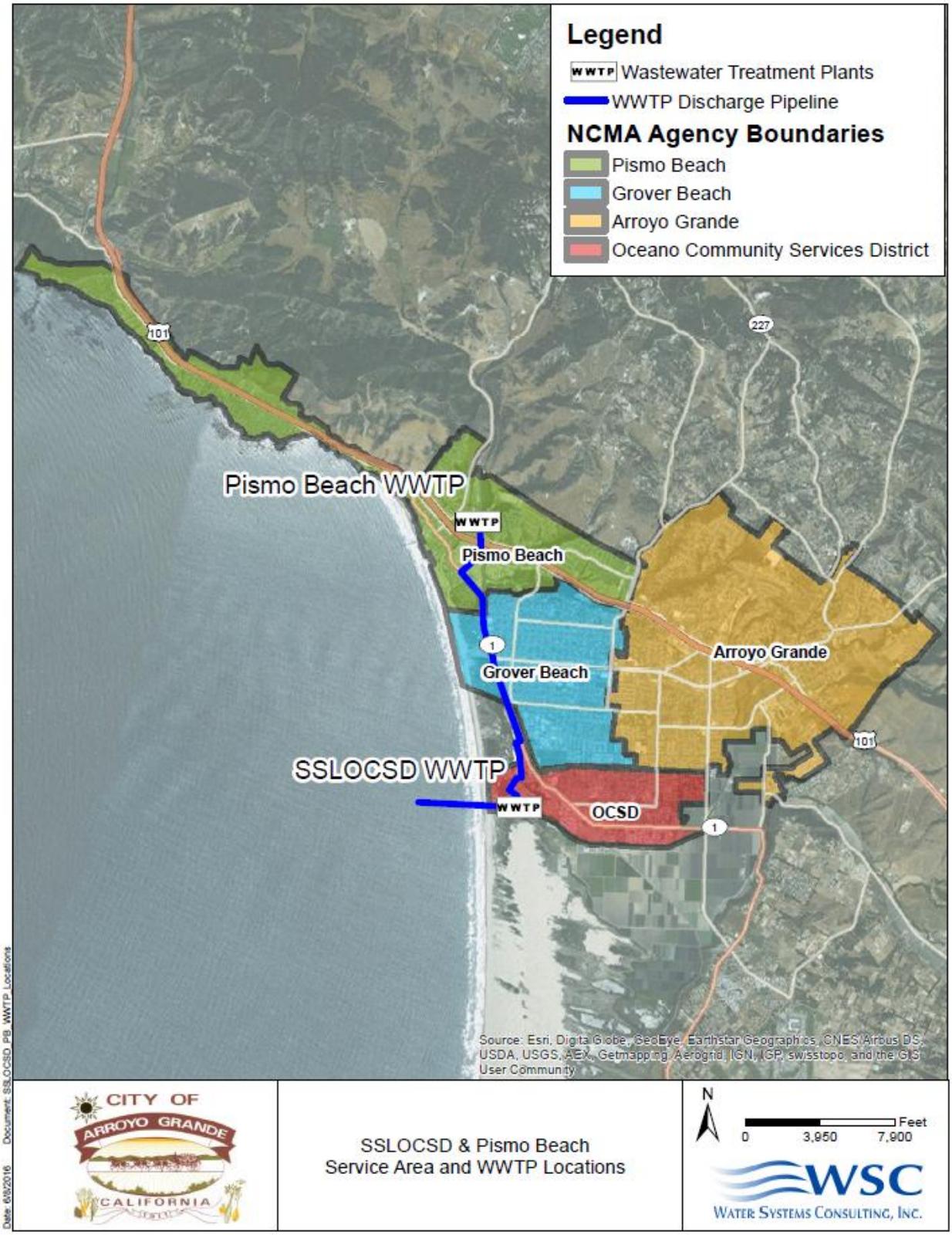

Figure 5-2. SSLOCSD and Pismo Beach WWTFs and Outfall

5.5.4 Regional Recycled Water Opportunities

As described previously, the City of Pismo Beach currently discharges treated effluent through a pipeline that conveys the wastewater to the SSLOCSD WWTP, where effluent from both plants is discharged to the ocean through a shared outfall (Figure 5-2). The City of Pismo Beach is evaluating a Full Advanced Treatment (FAT) facility, known as the Regional Groundwater Sustainability Project (RGSP), that could be located at its existing WWTP or at an offsite location located somewhere along its effluent pipeline. Development of an offsite FAT facility would provide significant opportunity for a regional recycled water facility that could treat wastewater from both the City and the SSLOCSD WWTP. Analysis completed by the District, estimated that a regional facility could potentially provide up to 2,390 AFY of additional water supply for groundwater recharge through development of a regional FAT facility (9). SSLOCSD is also evaluating potential opportunities to develop an additional advanced treatment infrastructure that would allow it to produce water for agriculture irrigation or groundwater recharge. Development of an offsite FAT facility would provide significant opportunity for a regional recycled water facility that could treat wastewater from both the City of Pismo Beach and the SSLOCSD WWTP. On June 23, 2015, the Arroyo Grande City Council voted to direct City staff to collaborate and participate with the City of Pismo Beach on the Pismo Beach RGSP.

The City is currently considering a recycled water program and plans to pursue recycled water in the future. The following recycled water studies have been completed with the goal of identifying potential recycled water projects, which would benefit the City:

- *Water Recycling Progress Report*, Prepared for South San Luis Obispo County Sanitation District, Prepared by John L. Wallace & Associates, February 2001
- *Recycled Water Distribution System Conceptual Plan- South San Luis Obispo County Sanitation District WWTP Technical Memorandum*, Prepared by the Wallace Group, June 2010 (32)
- *Recycled Water Distribution System Conceptual Plan- City of Pismo Beach WWTP Technical Memorandum*, Prepared by the Wallace Group, June 2010 (33)
- *Water Recycling Update report*, Prepared for South San Luis Obispo Sanitation District, Prepared by the Wallace Group, January 2009 (4)
- *San Luis Obispo County Regional Recycled Water Strategic Plan*, Prepared by Cannon, November 2014 (9)
- Recycled Water Facilities Planning Study for the City of Pismo Beach , Prepared by Water Systems Consulting, Inc., April 2016 (10)

5.5.4.1 South San Luis Obispo County Sanitation District (SSLOCSD) Opportunities

The SSLOCSD and the City are currently partnering on a Recycled Water Facilities Planning Study (RWFPS) to evaluate potential opportunities to upgrade SSLOCSD's wastewater treatment process to provide water for agriculture irrigation or groundwater recharge. To assist in funding the RWFPS, the SSLOCSD and the City pursued and received a Water Recycled Facilities Planning Grant from the SWRCB. The RWFPS will evaluate construction of upgrades at its existing WWTP or an offsite advanced treatment facility, co-located with Pismo Beach. According to the Regional Recycled Water Study, a combined advanced treatment facility could possibly provide 2,400 AFY of advanced purified water to recharge the groundwater basin (9).

5.5.4.2 City of Pismo Beach Wastewater Treatment Plant Opportunities

The City of Pismo Beach UWMP states that the City of Pismo Beach is "currently completing a preliminary design for a Full Advanced Treatment (FAT) facility that will allow it and potential regional partners to inject advanced purified water into the groundwater basin. This project will provide additional recharge for the basin and provide a drought-proof source of supply for the region" (34). The City of Pismo Beach plans to upgrade its WWTP to provide an anticipated recycled water supply of 645 afy (34). This supply is an estimate and has not been finalized, but provides an idea of the amount of recycled water that could be available. The City of Pismo Beach UWMP describes that the recycled water not used for groundwater recharge could be used for other purposes located along the conveyance system. If the City of Pismo Beach were to produce excess recycled water, the City could utilize the recycled water for irrigation demand, and/or work with interested NCMA agencies to apply the recycled water for groundwater recharge within the NCMA.

5.5.4.3 Summary of Potential and Projected Recycled Water Uses and Quantities

Table 5-9 provides a summary of potential recycled water including estimated demand discussed in the June 2010 SSLOCSD WWTP Technical Memorandum (19) as well as an estimated groundwater recharge potential identified in the City of Pismo Beach Recycled Water Facilities Planning Study (10). Potential tertiary treated recycled water from SSLOCSD is assumed to equal the amount of tertiary recycled water demand from customer use types that can accept recycled water. It is assumed that a portion of the recoverable groundwater recharge volume identified in the City of Pismo Beach 2015 UWMP could be potentially utilized by the City and other SMGB purveyors.

Table 5-9. Potential Recycled Water Use, afy

User type	Description	2015	2020	2025	2030	2035
Agricultural irrigation	N/A	0	0	0	0	0
Landscape irrigation	Tertiary	247	247	247	247	247
Commercial irrigation	N/A	0	0	0	0	0
Golf course irrigation	N/A	0	0	0	0	0
Wildlife habitat	N/A	0	0	0	0	0
Wetlands	N/A	0	0	0	0	0
Industrial reuse	N/A	0	0	0	0	0
Groundwater recharge	FAT	645	645	645	645	645
Seawater barrier	N/A	0	0	0	0	0
Geothermal/Energy	N/A	0	0	0	0	0
Indirect potable reuse	N/A	0	0	0	0	0
Total		**892**	**892**	**892**	**892**	**892**

[1] Assumes a maximum amount of recycled water from SSLOCSD based on average annual demands from 2007-2009 for potable water from customer use types that can accept recycled water.
[2] Assumes a portion of the groundwater recharge volume identified in the City of Pismo Beach 2015 UWMP could be potentially utilized by the City and other SMGB purveyors. These values are 100% of the anticipated yield from a recycled water upgrade to the Pismo Beach Wastewater Treatment Plant. The City of Pismo Beach's goal is to develop a regional recycled water project that could share the recycled water with regional partners and potentially utilize additional flows from the South San Luis Obispo County Sanitation District's (SSLOCSD) wastewater treatment plant. If a regional project is implemented, the volume of recycled water available could increase or decrease depending upon interagency agreements and water availability from the SSLOCSD facility among other factors.

Although there are opportunities for recycled water use in the future, a specific recycled water project has not been selected or analyzed in enough detail to provide a quantifiable projected supply estimate for the City at the time of the preparation of this UWMP. The 2010 UWMP didn't project any potential recycled water use for 2015 as shown in Table 5-10 and Table 5-11 shows the City's projected recycled water use through 2035.

Table 5-10. 2010 UWMP Recycled Water Use Projected for 2015 and Actual 2015 Recycled Water Use, afy

Use Type	2010 Projection for 2015	2015 Actual Use
Agricultural irrigation	0	0
Landscape irrigation	0	0
Commercial irrigation	0	0
Golf course irrigation	0	0
Wildlife habitat	0	0
Wetlands	0	0
Industrial reuse	0	0
Groundwater recharge	0	0
Seawater barrier	0	0
Geothermal/Energy	0	0
Indirect potable reuse	0	0
Total	**0**	**0**

Table 5-11. Projected Recycled Water Use, afy

User type	Description	2015	2020	2025	2030	2035
Agricultural irrigation	N/A	0	0	0	0	0
Landscape irrigation	N/A	0	0	0	0	0
Commercial irrigation	N/A	0	0	0	0	0
Golf course irrigation	N/A	0	0	0	0	0
Wildlife habitat	N/A	0	0	0	0	0
Wetlands	N/A	0	0	0	0	0
Industrial reuse	N/A	0	0	0	0	0
Groundwater recharge	N/A	0	0	0	0	0
Seawater barrier	N/A	0	0	0	0	0
Geothermal/Energy	N/A	0	0	0	0	0
Indirect potable reuse	N/A	0	0	0	0	0
Total		**0**	**0**	**0**	**0**	**0**

5.6 FUTURE WATER PROJECTS

5.6.1 Lopez Reservoir Spillway Raising

In 2008/2009, the contract agencies of the Lopez Project conducted a study and evaluation to consider raising the spillway elevation of Lopez Reservoir, as a means of increasing safe yield in the reservoir and thus increasing water supply entitlements to the contract agencies. By raising the spillway a few feet, the overall capacity of the reservoir increases significantly. The increased capacity will correlate to a greater entitlement of the water supply that can be distributed to the City and the surrounding contract agencies. The project study examines raising the spillway of Lopez Dam by 3 to 5 feet. This would increase gross reservoir storage capacity by a maximum of 2,850-4,750 acre-feet. Annual average yield is estimated to be increased from 671 to 1,371 acre-feet. However, based on evaluation of historic drought years (1986-1996), the average yield disbursed over 11 years would provide an estimated safe yield from 259-432 afy (23). The 2009 study was updated in 2013. The updated study evaluated multiple new ranges of dam height increases and constraints scenarios. The resulting estimated additional yields are shown in Table 5-12.

Table 5-12. Lopez Reservoir Spillway Raise Capacities and Yields

Spillway Gate Height (ft)	No Constraint Additional Yield (AFY)	All Constraints Additional Yield (AFY)
0	0	0
2	854	64
4	1,486	66
6	1,966	66
8	2,386	66
10	2,677	66
12	2,904	66

[1] Ranges are based on different scenarios analyzed for multiple spillway gate heights. *Source:* (8)

The results of the study indicated that additional water yielded from this project would cost approximately $1,250 per acre-foot. Due to significant regulatory and environmental challenges (i.e. development of a Habitat Conservation Plan for Arroyo Grande Creek and obtaining an amended water rights permit for Lopez Reservoir) the Zone 3 agencies are not currently pursuing this project.

5.6.2 Supplemental State Project Water via the Coastal Branch and Lopez Pipelines

The District completed a hydraulic study to determine if additional capacity exists in the Central Coast Water Authority (CCWA) State Water Pipeline for supplemental water deliveries to CCWA subscribers, including Contract Agencies (served via the Lopez Pipeline). The hydraulic study modeled the entire CCWA pipeline delivery system, plus the Lopez pipeline. The results of this study identified significant excess capacity in portions of the pipeline and the results are being used as a starting point for the District and CCWA to enter into discussions to consider utilization of the District's excess SWP entitlement. Expanding delivery options for the District's excess entitlement could provide an opportunity for the City to obtain a supplemental supply source.

5.6.3 Additional Stormwater Reclamation

The City operates and maintains a network of stormwater infiltration, detention and retention basins throughout its service area as shown in Figure 5-3. This stormwater collection system captures or retards runoff mainly for flood control and pollution prevention purposes, but it also recharges the groundwater basin with water that would otherwise ultimately runoff to the Pacific Ocean.

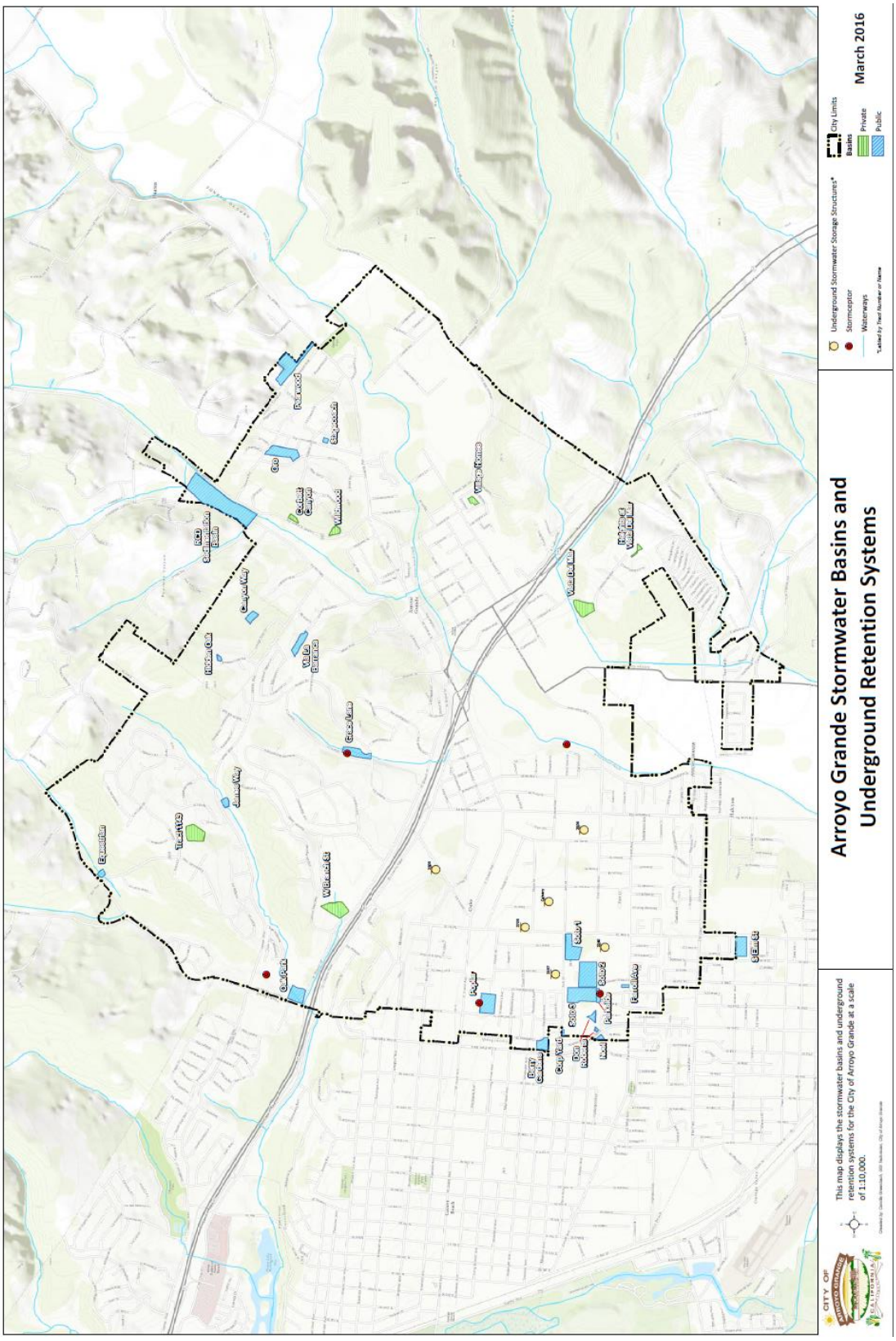

Figure 5-3. Stormwater Basins and Retention Systems

5.6.4 PG&E Desalinated Water

As discussed in Section 5.4, San Luis Obispo County, in coordination with PG&E, is performing an assessment of the feasibility to deliver desalinated water from the Diablo Canyon Power Plant near Avila Beach, California, to various agencies connected to the Lopez Pipeline. Preliminary estimates indicate that between 500 afy to 1,300 afy could be delivered from the project. Next steps include refining the cost estimates, additional coordination with PG&E, obtaining the required permits, developing an Environmental Impact Report, and further optimizing the conveyance infrastructure through additional evaluation of pipeline diameter, pumping requirements, pressure class upgrade requirements and pipeline layout in order to reduce pipeline and conveyance infrastructure costs as the project progresses.

6 WATER SUPPLY RELIABILITY

6.1 SUPPLY RELIABILITY BY SOURCE

The relative reduction in available supplies during dry water years is variable, and depends on the projected reductions from each specific water source.

6.1.1 Lopez Reservoir

The supply reliability of the City's surface water allocation from the Lopez Project is determined by local hydrologic conditions and is governed by the contracts between the District and the Zone 3 member agencies. According to the 2015 UWMP for Zone 3, the Lopez Reservoir is a very reliable source of water with an annual safe yield of 8,730 afy. The Low Reservoir Response Plan (LRRP) was adopted in December 2014 and enacted in April 2015 when storage reached below 20,000 af. The enactment of Stage 2 of the LRRP resulted in approximately a 10% decrease in municipal diversions and downstream releases as shown in Table 6-1 and Table 6-2. The Zone 3 2015 UWMP projects that municipal entitlements will remain constant at 4,530 afy through 2035 under normal conditions, and that it will be able to supply all contracted agencies with their requested allocations in full during single dry years and multiple dry years until the fourth dry year (23). For planning purposes, it is assumed that water supply from the Lopez Reservoir during dry water years will meet the City's full allocation of 2,290 afy except in the third year of multiple dry years.

Table 6-1. Initial Prescribed Municipal Diversion Reduction Strategy Under the LRRP

Amount of Water in Storage (AF)	Municipal Diversion Reduction	Municipal Diversion (AFY)[1]
20,000	0%	4,530
15,000	10%	4,077
10,000	20%	3,624
5,000	35%[2]	2,941
4,000	100%	0

[1] The actual amount of water diverted may vary as agencies extend the delivery of their Lopez Entitlement.
[2] The 35% reduction provides sufficient water to supply 55 gallons per capita per day (GPCD) for the estimated population of the Zone 3 agencies (47,696 in 2010 per the 2010 Zone 3 UWMP). 55 GPCD is the target residential indoor water usage standard used in California Department of Water Resource's 2010 UWMP Method 4 Guidelines.

Table 6-2. Initial Prescribed Downstream Release Reduction Strategy Under the LRRP

Amount of Water in Storage (af)	Downstream Release Reduction	Downstream Releases (afy)[1]
20,000	9.5%	3,800
15,000	9.5%	3,800
10,000	75.6%	1,026
5,000	92.9%	300
4,000	100.0%	0

[1] These downstream releases represent the maximum amount of water that can be released. Actual releases may be less if releases can be reduced while still meeting the needs of the agricultural stakeholders and addressing the environmental requirements. (35)

6.1.1.1 Surplus Water from the Lopez Project

Historically, the City and other contracted agencies have received surplus water from Lopez depending upon yearly requirements for downstream release. The District monitors the potential for surplus water availability consistent with the water supply agreement. For planning purposes, surplus water is not included as a reliable supply. The LRRP includes provisions for the Zone 3 agencies to extend the delivery of their Lopez water supplies while the LRRP is in effect. This in essence allows the Zone 3 agencies to carry over their unused Lopez supplies, minus evaporation, when under the LRRP.

6.1.2 Groundwater

The City's right to pump groundwater from the SMGB is defined within the Judgment After Trial (Judgment) (Appendix G), which states that the Northern Cities (Arroyo Grande included) have a paramount right to withdraw 4,000 afy (excluding agriculture conversion credits) from the Northern Cities Area of the SMGB. The City is entitled to 1,323 afy of this total, as indicated in the Management Agreement with other water purveyors in the Northern Cities Area (see Appendix G & Section 5.2). The Judgment also states that the court may exercise its equity powers in the condition that the SMGB becomes over drafted. However, there is no current language in the Judgment that stipulates the amount that supply allocations may be reduced. Therefore, for planning purposes, it will be assumed that the City may have its full allocation of groundwater available even in dry water years.

With recent detections of groundwater elevations below sea level and subsequent threat of seawater intrusion, the City realizes the importance of maintaining its groundwater supplies and following a sustainable pumping plan. Therefore, the City considers and will continue to consider minimizing its impact to groundwater resources, especially during dry years or drought conditions.

Table 6-3 describes historical supply conditions basis of year data and Table 6-4 shows supplies during normal and dry water years.

6.2 SUPPLY RELIABILITY - HISTORIC AND FUTURE CONDITIONS

This section considers the City's water supply reliability during three climate-related water scenarios: normal water year, single dry water year, and multiple dry water years. These scenarios are defined as follows:

Normal Year: The normal year is a year or an averaged range of years in the historical sequence that most closely represents average rainfall and associated reservoir recharge and groundwater recharge levels and patterns. It is defined as the year closest to the mean rainfall from 1984 through 2015.

Single Dry Year: This single dry year represents the single year with the lowest rainfall and the associated historical annual yield.

Multiple Dry Years: This is defined as the three (or more) consecutive years with the minimum available supply. Water systems are more vulnerable to these droughts of long duration because they deplete water storage reserves in local and state reservoirs and in groundwater basins. The supply quantities for this condition are derived from the minimum of historical three-year running average rainfall and associated reservoir recharge and groundwater recharge levels and patterns.

6.2.1 Basis of Water Year Data

Historical rainfall data available from City were examined to establish a basis of water year for normal, single dry, and multiple dry years. As shown in Table 6-3, for the purposes of this report, the year 1992 is classified as a "normal" year, the year 2013 is classified as a "single dry" year, and the years 2013 to 2015 are classified as "multiple dry" years based on the data provided in the Zone 3 2015 UWMP and adjustments for the City's calendar years with the lowest historical allocations.

Table 6-3. Basis of Water Year Data

Supply Source [1]	Average/ Normal Year	Single Dry Year	Multiple Dry Years			
Groundwater	1992	2013	2013	2014	2015	N/A
Lopez Project	1991/92	2013/14	2012/13	2013/14	2014/15	2015/16

[1] Based on Lopez Dam Rainfall data (36) adjusted for the City's calendar years with the lowest historical allocations.

Table 6-4. Historical and Projected Water Supply Conditions

Supply Source	Average/ Normal Year (1992)	Single Dry Year (2013)	Multiple Dry Years		
			2013	2014	2015
Groundwater [1]	1,523	1,523	1,523	1,523	1,523
Lopez Project [2]	2,290	2,290	2,290	2,290	2,061
Total	**3,813**	**3,813**	**3,813**	**3,813**	**3,584**
Percent of Normal		**100%**	**100%**	**100%**	**94%**

[1] Groundwater supplies are based on the City's allocation from the Management Agreement plus 200 afy from the Pismo Formation. In 2015, the supply available from the Pismo Formation was 160 afy, but it is assumed that the supply available from 2020-2035 will be 200 afy.
[2] Lopez Project supplies are based on the data provided in the Zone 3 2015 UWMP adjusted for the City's calendar years with the lowest historical allocations.

6.2.2 Projected Normal Year Supply/Demand

The normal year water demands through 2035 are estimated based on the per capita water use targets summarized in Section 4.1 and populations presented in Section 3.3. The projected normal water year water supply and demand projections are provided in Table 6-5. The available supplies during a normal year represent 100 percent of the available supplies discussed in Section 5.

Table 6-5. Supply and Demand – Normal Year

Supply/Demand Condition	Projected Supply/Demand (afy)				
	2015 [1]	2020	2025	2030	2035
Supply Totals	2,239	3,813	3,813	3,813	3,813
Demand Totals	2,239	2,867	2,949	3,052	3,096
Supply and Demand Difference	0	946	864	761	717
Difference as Percent of Supply	0%	25%	23%	20%	19%
Difference as Percent of Demand	0%	33%	29%	25%	23%

[1] Based on actual production.

6.2.3 Projected Single Dry Year Supply/Demand

The projected single dry year water demands through 2035 are equivalent to normal year supply and demand projections, assuming that supply and demand do not change as a result of dry conditions. The anticipated supply decrease during a single dry year, compared to a normal year, is based on the actual water supply from 2014. As shown in Table 6-6, the City's supplies are consistently above projected demands even during single-dry year conditions.

Table 6-6. Supply and Demand Comparisons – Single Dry Year

Supply/Demand Condition	Projected Supply/Demand (afy)				
	2015 [1]	2020	2025	2030	2035
Supply Totals	2,239	3,813	3,813	3,813	3,813
Demand Totals	2,239	2,867	2,949	3,052	3,096
Supply and Demand Difference	0	946	864	761	717
Difference as Percent of Supply	0%	25%	23%	20%	19%
Difference as Percent of Demand	0%	33%	29%	25%	23%

[1] Based on actual production.

6.2.4 Projected Multiple Dry Year Supply/Demand

The projected multiple dry year water demands through 2035 are equivalent to normal year supply and demand projections with the exception of Year 3, assuming that supply and demand do not change as a result of dry conditions. The anticipated supply decrease during multiple dry years, compared to a normal year, is based on the actual water supply from 2013 through 2015. As shown in Table 6-7, the City's supplies are consistently above projected demands even during multiple-dry year conditions.

Table 6-7. Supply and Demand Comparison - Multiple Dry Year Events

Supply/Demand Condition	Projected Supply/Demand (afy)				
	2015 [1]	2020	2025	2030	2035
Year 1					
Supply Totals	2,239	3,813	3,813	3,813	3,813
Demand Totals	2,239	2,867	2,949	3,052	3,096
Supply and Demand Difference	0	946	864	761	717
Year 2					
Supply Totals	2,239	3,813	3,813	3,813	3,813
Demand Totals	2,239	2,867	2,949	3,052	3,096
Supply and Demand Difference	0	946	864	761	717
Year 3					
Supply Totals(1)	2,239	3,584	3,584	3,584	3,584
Demand Totals	2,239	2,867	2,949	3,052	3,096
Supply and Demand Difference	0	717	635	532	488

[1] Based on actual production.

6.2.5 Projected Minimum Three Year Supply

The projected three-year minimum supply for 2016-2018 is based on the historically lowest allocations for the Lopez Project and the lowest production year for SMGB from 2001-2015, as shown in Table 6-8.

Table 6-8. Three-Year Minimum Supply

Supply Source	Multiple Dry Years[1]		
	2016	2017	2018
Groundwater	43	43	43
Lopez Reservoir	2,061	2,061	2,061[2]
Total	**2,104**	**2,104**	**2,104**

[1] Based on lowest historical production from 2001-2015, which occurred in 2015, and the lowest Lopez Project allocation with a 10% allocation reduction in 2015.
[2]At the time of preparation of this UWMP, the City was taking a voluntary 20% reduction in their Lopez Reservoir supply, but it that reduction is not used for planning purposes in this UWMP.

6.2.6 Resource Maximization and Import Minimization

The City is currently not utilizing any imported supplies. The City is also working with regional partners to evaluate potential supplemental supplies to bolster reliability of local supplies. These projects include recycled water, desalination, enhanced surface water capture and are described in Sections 5.5 and 5.6. Additionally, the City is evaluating the possibility to obtain SWP water to assist in bolstering its water supply portfolio in drought periods. The City is in the process of placing a measure on the Fall 2016 ballot that will let the City's customers vote to authorize the emergency purchase of State water. A previous ballot measure passed in 1990 requires a public vote before the City can consider the purchase State water.

The City will also continue to emphasize water conservation to help reduce reliability on its existing water supplies. Additional information regarding the City's water conservation efforts is available in Section 8.

6.2.7 Factors Affecting Supply Reliability

There are a variety of factors that can impact water supply reliability. The City has relied on surface water and groundwater sources for the past 45-year period. Some factors that affect supply reliability are legal and climatic as shown in Table 6-9. The legal factors include the adjudication of the Santa Maria Groundwater Basin and the contractual obligations of the Lopez Reservoir Project. Some environmental factors include the Endangered Species Act incidental take authorization requirements for steelhead and red-legged frogs downstream from the Lopez Reservoir. For more information, see Section 6.2.7.2. Some climatic factors include extended drought conditions that could affect availability of Lopez Reservoir water, and Santa Maria Groundwater Basin water.

The conjunctive use of the groundwater basins and surface water supplies provides an effective management strategy, which increases the overall reliability of all the resources to meet current and future water demands. Based on the information available at this time, it is calculated that the City currently has a safe yield estimate of 3,584 afy. A breakdown of this value, along with a 20-year projected safe yield estimate can be found in Table 6-4.

Factors impacting the City's supply sources are indicated as appropriate in Table 6-9. A brief discussion on each of these factors is provided below.

Table 6-9 Factors Affecting Water Supply Reliability

Water Supply Sources	Legal	Environmental	Water Quality	Climatic
Lopez Project	X	X		X
Groundwater	X		X	X

A fundamental factor that affects water supply reliability is the hydraulic capacity of the City's production and distribution system facilities (e.g., groundwater wells, treatment facilities, transmission mains). However, as the City continues to grow it will construct the additional supply and distribution system facilities necessary to accommodate the increased water demands associated with this growth. For this reason, the physical capacity of the City's supply facilities is assumed to not be a limiting factor affecting the reliability of the City's supply in the future, and is not listed in Table 6-9.

6.2.7.1 Legal Factors

The legal factors affecting supply reliability apply to the City's entitlement to groundwater from the Tri-Cities Mesa Subbasin (Subbasin), within the SMGB. Since the SMGB is adjudicated, the City is entitled only to 1,323 afy of groundwater from the Subbasin, as dictated by the Management Agreement (Appendix G) and Judgment (Appendix G). The Judgment suggests that the allocated groundwater rights may be decreased in the future if drought and/or overdraft conditions persist. Therefore, if groundwater supplies are limited or reduced in this area, the City's entitlement may be reduced.

Additionally, the District is in discussions with the SWRCB regarding obtaining an amended water rights permit for its operation of Lopez Reservoir. The current permit only allows for "diversion to storage" and not "direct diversion". Currently, the Lopez Reservoir utilizes "direct diversion" as part of its normal operations. The District is requesting a time extension on its original permit to allow it to submit its application for an amended permit that would allow for "direct diversion". However, an amended permit cannot be obtained without a Habitat Conservation Plan (HCP), which is described in the Environmental Factors section below.

6.2.7.2 Environmental Factors

Environmental factors affecting water supply reliability typically include concerns over protection of ecosystems, particularly for fish and wildlife resources. To date, the City's groundwater supply has not been impacted by any environmental factors, and the City does not anticipate future disruption of groundwater supply as a result of environmental factors.

Surface water from the Lopez Reservoir is a generally reliable water supply source for the City. However, deliveries have the potential to be affected by the presence of steelhead trout and the California red-legged frog that utilize the Arroyo Grande Creek watershed downstream of Lopez Dam, which are considered threatened or endangered species under the Federal Endangered Species Act. The Endangered Species Act permits non-federal entities to obtain incidental take authorization for protected species by developing an HCP. As such, the District is developing an HCP that describes commitments and assurances associated with the implementation of measures to avoid, minimize, and mitigate impacts of management activities on threatened species. It is anticipated that a new downstream release program will be proposed to the environmental regulatory agencies in the near future. The development of an HCP and the associated approval of the updated downstream release program is required to allow the District to obtain an amended water rights permit from the SWRCB.

6.2.7.3 Water Quality Factors

The primary water quality factor affecting supply reliability for the City is the threat of seawater intrusion into fresh groundwater aquifers. Under natural and historical conditions, a net outflow of freshwater from the groundwater basin towards the ocean has kept the seawater/freshwater interface from moving onshore. However, the NCMA monitoring event of 2009 indicated coastal groundwater elevations that were below mean sea level (MSL) and detect water quality constituents consistent with seawater intrusion. Affected cities (including Arroyo Grande) implemented water conservation methods and reduced groundwater pumping, ultimately resulting in significant recovery of groundwater elevations to above MSL in 2010 and 2011. However, in the current extended drought, the groundwater levels in the NCMA sentry wells have dropped to levels similar to those seen in 2009 and thus created the potential for seawater to again intrude onshore. If these conditions continue, seawater intrusion will continue to pose a threat to the water quality of the City's groundwater supply.

6.2.7.4 Climatic Factors

Climatic factors affecting the reliability of a given water supply system generally are a function of seasonal precipitation and runoff characteristics. As such, limited recharge and/or drought conditions pose threats to availability of both surface water and groundwater supplies.

When yearly precipitation is low, groundwater recharge may not be sufficient to meet safe yield estimates. Therefore, the City's groundwater supplies will likely be negatively affected in future drought conditions with below-average rainfall and recharge. The Judgment (Appendix G) and Management Agreement (Appendix G) regarding the City's groundwater entitlement do not specify reductions in allocations during drought conditions or decreased groundwater supply. The lack of guidance on supply reductions indicates that the City may maintain its full groundwater allocation even during drought conditions.

7 WATER SHORTAGE CONTINGENCY PLANNING

Water shortage contingency planning is a strategic planning process to prepare for and respond to water shortages. Good planning and preparation provides the City with the tools to maintain reliable supplies and reduce the impacts of supply interruptions due to extended drought or catastrophic supply interruptions.

The primary goals of the City's Water Shortage Contingency Plan (WSCP) are to restrict water use and eliminate water waste during a declared water shortage emergency. The specific objective of the WSCP is to educate and inform the community on short- and long-term water supply conditions and the importance of efficient water use in order to protect public health and safety.

7.1 STAGES OF ACTION AND REDUCTION OBJECTIVES

The City's water conservation Ordinance 669, adopted on February 24, 2015, describes two stages of mandatory conservation, which have been incorporated into the City's Municipal Code Chapter 13.07. The City adopted Resolution 4659 on May 26, 2015 declaring that a Stage 1 Water Shortage Emergency exists throughout the area served by the City and the City implemented Stage 1 reduction measures. Given continuing concerns regarding the ongoing severe drought's impact on the City's limited water supply, the City Council adopted Resolution 4766 on November 22, 2016, which provides that if certain specified water supply conditions are determined to exist ("Triggering Conditions"), that additional restrictions for the declared Stage 1 Water Shortage Emergency will be implemented in order to protect the health, safety and welfare of the citizens of the City. These additional restrictions were designated to be known, for purposes of convenience, as "Stage 1B". Therefore, Ordinance 669, Resolution 4659 and Resolution 4766 effectively describe three stages of action for mandatory conservation that may be invoked during water supply shortages.

The City is now in the process of amending Chapter 13.07 to codify the three stages of action developed through Ordinance 669, Resolution 4659 and Resolution 4766. The revised Chapter 13.07 will provide for the implementation of the three stages of action, Stages 1, 1B and 2, through the adoption of resolutions by the City Council. Upon adoption, resolutions providing for a stage of action shall remain in effect for the duration of the water shortage emergency conditions, but may be modified by the City Council to impose additional measures as necessary to address the need to preserve the City's water supply to the maximum extent possible in order to protect the health, safety and welfare of the community. Each stage includes an associated percentage of supply reduction range and targeted demand reduction, which may vary based on the nature of Triggering Conditions. The Triggering Conditions are dependent on the cause, severity, and anticipated duration of the water supply shortage. A combination of mandatory water conservation measures would be used to reduce water usage in the event of water shortages as described in Section 7.4. Table 7-1 shows three stages of action for mandatory conservation and their representative Triggering Conditions and percentage of supply reduction ranges.

Declarations of water supply conditions could occur periodically after evaluation by the City Council at which time they would set the level (percent reduction) of mandatory conservation required based on the condition of the City's water supply. The level of mandatory reductions may include up to a 50% reduction. The respective water supply conditions dictate the mandatory water conservation measures in effect at any particular time in the City.

Table 7-1. Water Shortage Contingency – Supply Reduction Stages

Stage of Action	Potential Supply Triggering Conditions	% Supply Reduction Range
1	- Lopez Reservoir <15,000 AF in storage; and/or	0-10%
	- 6 quarterly continuous events of sentry well level readings below the deep well index trigger level of 7.5 feet; and/or	
	- Mandatory SWRCB water use reduction	
1B	- Lopez Reservoir <10,000 AF in storage; and/or	11-35%
	- 6 quarterly continuous events of sentry well level readings below the deep well index trigger level of 7.5 feet; and/or	
	- Mandatory SWRCB water use reduction	
2	- Lopez Reservoir <5,000 AF in storage; and/or	>36%, 50% & >50%
	- SMGB seawater intrusion; and/or	
	- Catastrophic or emergency supply interruption	

The City is responsible for supplying water for the health and safety needs of the community. If it appears that the City may be unable to supply the normal demands and requirements of the water customers, the City Council may, by resolution, declare a water supply shortage stage of action. Based on the severity of the predicted shortage considering Triggering Conditions, the City may take the following actions, or additional actions if necessary:

A. Stage 1 Water Shortage Emergency and Historical Use Water Restrictions

1. After holding a noticed public hearing in accordance with the requirements of Water Code Section 350 et seq., the City Council may, by resolution, declare a Stage 1 Water Shortage Emergency based upon a determination that Triggering Conditions exist or there have been impacts to the City's water supply, and/or it has been determined that it is imminent that the City's water supply has or will become so limited that an emergency water shortage condition exists as far as the available water supply being less than projected demand necessitating the institution of reductions in water usage based upon Historical Use, as further set forth in subsection 2, below.

Triggering Conditions may include, but not be limited to; a determination that the water level at the Lopez Reservoir is at or below 15,000 acre feet; there have been six (6) quarterly continuous events of sentry well level readings below the deep well index trigger level of 7.5 feet; and/or the imposition of mandatory reductions in water use by the City by the State Water Resources Control Board.

2. Upon adoption of a Stage 1 Water Shortage Emergency resolution, all residential customers will be assigned a baseline amount of water, based upon the amount of water used during the same billing period of the previous year prior to the adoption of the resolution. All residential customers shall reduce water usage by a percentage amount set forth in the resolution, which percentages may be modified or amended by the City Council as deemed necessary and appropriate. The percentage of required conservation shall increase depending on the billing Tier of the residential customer's water use as provided in the City's tiered water rate structure. The resolution shall include provisions for the imposition of mandatory financial penalties if the amount of water in each Tier is exceeded, which penalties may also be modified or amended by the City Council as deemed necessary and appropriate based upon a determination of the severity of the Water Shortage Emergency.

The following shall be used as a general framework for the resolution establishing the baseline units for billing Tiers and penalties, subject to such revisions deemed necessary in order to achieve the desired water savings:

Residential customers in Tier 1 shall be required to reduce consumption by the lowest percentage. Residential customers in Tier 2 shall be required to reduce consumption by a larger percentage than those in Tier 1. Residential Customers in Tier 3 shall be required to reduce consumption by an even larger percentage than those in Tier 1 and Tier 2. For example, Tier 1 customers may initially be required to conserve 10%, Tier 2 customers 20% and Tier 3 30%. As the emergency worsens, the City Council, may by resolution, increase the percentage reduction deemed necessary in order to achieve the projected amount of water savings established as necessary.

B. Stage 1B Water Shortage Emergency—Implementation of Additional Restrictions based upon the existence of Triggering Conditions

1. After holding a noticed public hearing in accordance with the requirements of Water Code Section 350 et seq., the City Council may, by resolution, find and determine that failure to adopt and impose additional restrictions on water use and deny new or additional water service connections for projects that do not participate in a water demand offset program, would place the community in a condition that is dangerous to the health, safety and welfare of its citizens due to the severe impact on the City's water supply, if it is determined that any specified Triggering Conditions exist.

Based upon such a determination, the City Council may declare a Stage 1B Water Shortage Emergency that will provide that when Triggering Conditions exist additional restrictions on water use, including but not limited to denial of new or additional water service connections for projects that do not participate in a water demand offset program, will be imposed in order to protect the public health, safety and welfare of the community.

The resolution may provide that the certification by the City Manager and Public Works Director that the Triggering Conditions set forth in subsection 2 below exist, which shall result in the immediate imposition of additional regulations and restrictions on the use of water in order to provide for the protection of the public's health, safety and welfare, as set forth in the resolution.

2. If any one of the following water supply Triggering Conditions are determined to exist, the additional water use restrictions contained in subsection 4 below shall immediately be imposed.

a. The interruption of local water deliveries, the water delivery system or additional mandated reductions in water use by the State Water Resources Control Board.

b. The water level at the Lopez Reservoir is at or below 10,000 acre feet.

c. There have been six quarterly continuous events of sentry well level readings in the Santa Maria Ground Water Basin below the deep well index trigger level of 7.5 feet, or indications of sea water intrusion are detected.

3. In the event that any of the foregoing Triggering Conditions are determined to exist, the Public Works Director and City Manager shall Certify to its existence, immediately notify the City Council of such determination, post the Certification of the existence of the condition on the City website, and make additional notifications to alert the public that the additional Stage 1B restrictions are being implemented.

4. The following additional regulations and restrictions shall apply in addition to the restriction imposed in the Stage 1 Water Shortage Emergency:

a. Irrigation of City-owned non-sports field turf areas shall be reduced to 25% of the water used for such irrigation in a year as specified in the adopting resolution.

b. The required residential customer water reductions established in Stage 1 pursuant to Section A 2, above, shall be increased by five (5) percent for each of the three water rate tiers.

c. There shall be no new or additional water connections for any project that does not have all required planning project approvals and entitlements at the time of the Certification that a Triggering Condition exists. Smaller projects of less than four residential units or less than 5,000 sq. feet of commercial space shall be exempt from this restriction. Notwithstanding this restriction, development projects may continue to be processed.

d. The City Council may provide that the restriction contained in subsection c. above, will not apply to any project that participates in the City's approved water demand offset program by providing water savings that offset their project's water demand by a ratio of 1:1.5.

5. The foregoing Stage 1B additional regulations and restrictions contained in this Section shall no longer apply upon Certification by the Public Works Director and the City Manager that the water level at the Lopez Reservoir is at or above 15,000 acre feet and increasing, and none of the other Triggering Conditions exist, or upon a determination by the City Council that these additional water use regulations and restrictions are no longer necessary to protect the City's water supply.

C. Stage 2 Water Shortage Emergency and Household Allocation Water Restrictions.

1. After holding a noticed public hearing in accordance with the requirements of Water Code Section 350 et seq., the City Council may declare, by resolution, a Stage 2 Water Shortage Emergency based upon a determination that Triggering Conditions exist or that the projected City's water supply condition is or will become equal to or less than amounts that have been determined necessary to meet basic minimum household health and safety requirements, and restrictions and limits through the implementation of water allocations are necessary for continued water use that is reliable and sustainable by providing a minimum supply for the most essential purposes for human consumption, sanitation, and fire protection during the emergency situation, in order to protect the public health, safety and welfare.

Triggering Conditions may include, but not be limited to: a determination that the water level at the Lopez Reservoir is at or below 5,000 acre feet; and/or seawater intrusion is occurring in the Santa Maria Groundwater Basin; and/or there has been a catastrophic or emergency interruption in the City's water supply.

2. Upon adoption of a Stage 2 Water Shortage Emergency, restrictions and limits shall be imposed through the implementation of Household Allocations of water units for residential customers. All residential customers will be allocated units of water deemed necessary for an average household size (1 unit of water is equal to 100 cubic feet or 748 gallons). Any residential customer using over the assigned baseline unit amount may be subject to citation and shall be subject to the imposition of mandatory financial penalties, which shall be set forth in the resolution adopted by the City Council and be based upon the severity of the Water Shortage Emergency. Each household shall be allowed 12 units of water per two month billing period (which is equivalent to 150 gallons per household per day). Households with over 5 people will be allowed 20 units of water per two-month billing period (250 gallons per day). Households with over 7 people will be allowed 28 units of water per two-month billing period (350 gallons per day). The allocations contained herein may be adjusted by the City Council by resolution.

Commercial Properties and Customers with Irrigation Meters

During a Stage 1 Water Shortage Emergency commercial water customers shall not be subject to mandatory penalties for use except for those with irrigation meters as provided below.

Any customer with an irrigation meter account shall reduce water use by such percentages specified in the resolution declaring the Water Shortage Emergency, which percentage reductions may be increased by the City Council by resolution upon a determination that additional reductions are necessary. The resolution shall also establish mandatory financial penalties for failing to meet required water use reductions.

During a Stage 2 Water Shortage Emergency commercial water customers shall not use potable water for irrigation of outdoor landscaping. All irrigation meters shall be shut off and billing will be suspended.

Additional Requirements and Restrictions during Stage 1, Stage 1B or Stage 2 Water Shortage Emergency

Upon adoption of a resolution declaring a Stage 1, Stage 1B or Stage 2 Water Shortage Emergency the following shall apply:

1. Commercial, industrial or irrigation meter customers shall immediately follow any directive issued or declared by the City's Water Department to conduct water use audits, prepare water conservation plans and immediately repair any identified water system leaks, including leaks

attributable to faulty pipes or fixtures. Commercial customers shall not violate any other water use restrictions intended to preclude excessive water usage, as adopted by the City.

2. Residential customers shall not violate any water use/allocation or other water rationing regulation implemented by resolution of the City Council, including such regulations intended to preclude excessive water usage and specifying maximum water usage limitations, as otherwise provided by this Chapter.

Adjustments in Water Consumption Reduction Amounts, and Other Exceptions

A. During a declared Water Shortage Emergency the Director, upon application made in writing by a customer on a form promulgated by the water department and accompanied by supporting documentation, shall be authorized to modify the percentage of water consumption reduction that is required by the customer, upon the customer's production of substantial evidence demonstrating the existence of unusual circumstances, including but not limited to the household having been vacant during a portion of the comparison year billing period, resulting in the baseline water amount assigned to the household being lower than what would normally have been experienced.

B. The percentage of reduction in water consumption may also be adjusted if the existence of one or more of the following circumstances are shown and that are particular to that customer and which are not generally shared by other water department customers:

1. Failure to approve the requested exception would cause a condition having an adverse effect on the health, sanitation, fire protection, or safety of the customer.

2. Alternative restrictions to which the customer is willing to adhere are available that would achieve the same level of demand reduction as the restriction for which an exception is being sought and such alternative restrictions are enforceable by the water department.

3. Circumstances concerning the customer's property have changed since the implementation of the subject restriction warranting a change in the customer's water usage allocation or required percentage of reduction in consumption.

C. In order to qualify for an exception, a customer may be required at the Director's determination, to first complete a self-water audit pursuant to standards and procedures promulgated by the water department. This audit shall be made part of the customer's exception application and water conservation measures indicated by the audit may be incorporated as conditions of approval to an exception in addition to any other conditions of approval imposed by the Director in connection with the Director's approval of the customer's exception application.

Water Shortage Appeals Board (WSAB)

A. Upon adoption of a resolution declaring a Water Shortage Emergency, the Utility Billing Adjustment Committee shall be empowered to act as the Water Shortage Appeal Board (WSAB). Thereafter, the Water Shortage Appeal Board will remain available to convene for as long as the Water Shortage Emergency remains in effect.

B. Any customer who considers an action taken by the Director or an enforcement official under the provisions of this Chapter, including action on adjustments to water consumption reduction amounts, and on exception application, or the assessment of administrative penalties which have been erroneously taken or issued, may appeal that action or penalty to the Water Shortage Appeals Board in the following manner:

1. The appeal shall be made in writing, shall state the nature of the appeal specifying the action or penalty that is being appealed and the basis upon which the action or penalty is alleged to be in error. Penalty appeals shall include a copy of the bill or any applicable notice of violation;

2. An appeal, to be effective, must be received by the Director not later than ten business days following the date of the notice of violation or the date that the Director took the action which is the subject of the appeal;

3. The Director shall schedule the appeal for consideration by the WSAB. The WSAB shall hear the appeal within ninety days of the date of the appeal and issue its decision within thirty days of the date of the hearing;

4. In ruling on appeals, the WSAB shall strictly apply the provisions of this Chapter, and shall not impose or grant terms and conditions not authorized by this Chapter.

5. Decisions of the WSAB shall be subject to appeal to the City Council in accordance with the procedures in Chapter 1.12 of this Code, including the requirement that decisions be first taken up with the City Manager.

7.2 ACTIONS DURING A CATASTROPHIC INTERRUPTION

In the event of a sudden and catastrophic loss of water supply, the City has written an Emergency Response Plan (ERP) to guide the City's employees during disasters such as earthquakes, floods, wild land fires, dam failures, and terrorism. In addition to the emergency response guidelines established for City personnel, the Plan includes a Memorandum of Understanding between cities within San Luis Obispo County to offer assistance as available to neighboring cities during time of disaster.

The ERP contains detailed action items to the following list of events that might result in a drastic loss in supply.

1. Structural Damage from an Explosive Device
2. Power Outage
3. Natural Event (Flood)
4. Natural Event (Winter Storm)
5. Natural Event (Hurricane/Tropical Storm)
6. Natural Event (Earthquake)

In the event of a power outage, the City's response strategy is to first determine if the reason for the outage is local to the plant or regional, then estimate the time to return power. This will provide the

City with the significance of the situation and will help assess the need to secure additional fuel for generators. The treatment process would be operated to minimize the effects of the power loss. The problem should be remedied as quickly as possible, however, if the supply cannot be returned and an eventual loss of supply occurs, customers shall be notified of how to proceed.

The first response in the event of an earthquake is to perform a system audit to determine the extent of damage to utilities, piping, and processes. This audit will allow the City to concentrate staff and resources on issues that need to be addressed immediately. Additional staff will be required for sampling, analysis, equipment repair, manual equipment and process operation, and communication. A report of the damage will be issued to the Incident Commander followed by a list of supplies that are necessary for repairs.

In the event of an emergency that interrupts use of a surface water source, the City will be able to provide an average flow of 300 gallons per capita per day from the City well water.

7.3 MANDATORY PROHIBITIONS ON WATER WASTING

The following water waste prohibitions are in effect at all times and will remain in effect during any declared water shortage emergency.

Table 7-2. Water Shortage Contingency - Mandatory Prohibitions

Prohibitions	Mandatory Prohibition Stage
All use of water which results in excessive gutter runoff.	None, Stage 1, 1B & 2
Use of water for cleaning driveways, patios, parking lots, sidewalks, streets, or other such uses except as necessary to protect public health or safety.	None, Stage 1, 1B & 2
Outdoor water use for washing vehicles shall be attended and have hand-controlled watering devices.	None, Stage 1, 1B & 2
Outdoor irrigation between the hours of 10 AM and 4 PM.	None, Stage 1, 1B & 2
Limited days for outdoor irrigation	None, Stage 1, 1B & 2
Use of potable water for compaction or dust control purposes in construction activities.	None, Stage 1, 1B & 2
Outdoor water use for washing vehicles shall be attended and have hand-controlled watering devices.	None, Stage 1, 1B & 2
Hotel, motel or other commercial lodging establishment shall offer their patrons the option to forego the daily laundering of towels, sheets and linens.	None, Stage 1, 1B & 2
Emptying and refilling of swimming pools and commercial spas is prohibited except to prevent structural damage and/or to protect public health or safety.	None, Stage 1, 1B & 2
Restaurants or other commercial food service establishments shall not serve water except upon the request of a patron.	None, Stage 1, 1B & 2

7.4 CONSUMPTION REDUCTION METHODS

In order to achieve the necessary water use reductions corresponding to percentages of water supply shortage due to various supply conditions described in Table 7-1, including up to a 50 percent reduction in water use during a water supply emergency, the City will consider the implementation of the measures identified in Table 7-3 in addition to measures described in Table 7-2 and Section 8.

Table 7-3. Consumption Reduction Measure Options

Stage of Action	Water Use Reduction Measure Options	Water Use Restriction Option Category	Category Criteria	Water Use Restriction Category Reduction Target as % of Category	Estimated Water Use Reduction Target as % of City Demand
1	Dedicated Irrigation Water Use Restrictions (Chapter 13.07.050-13.07.060 AGMC)	Dedicated Irrigation	Any units	25%	0-10%
	Household Water Use Allocation Restrictions (Chapter 13.07.030.A AGMC)	Residential	0-10 units	0%	
		Residential Tier 1	11-18 units	10%	
		Residential Tier 2	19-36 units	20%	
		Residential Tier 3	37 + units	30%	
1B	Dedicated Irrigation Water Use Restrictions (Chapter 13.07.050-13.07.060 AGMC)	Dedicated Irrigation	Any units	50%	11-35%
	Household Water Use Allocation Restrictions (Chapter 13.07.030.B AGMC)	Residential	0-10 units	0%	
		Residential Tier 1	11-18 units	15%	
		Residential Tier 2	19-36 units	25%	
		Residential Tier 3	37 + units	35%	
	Additional Water Use Allocation Restrictions (Chapter 13.07.030.B AGMC)	No private vehicle washing	All	N/A	
		One day per week outdoor watering for residential properties	All	N/A	
		Building restrictions	All	N/A	

Stage of Action	Water Use Reduction Measure Options	Water Use Restriction Option Category	Category Criteria	Water Use Restriction Category Reduction Target as % of Category	Estimated Water Use Reduction Target as % of City Demand
2	Dedicated Irrigation Water Use Restrictions (Chapter 13.07.050-13.07.060 AGMC)	Dedicated Irrigation	Any Units	100%	>36%, 50% & >50%
	Chapter 13.07.030.C AGMC	Residential	0-10 units	50%	
			11-22 units	50%	
			23-33 units	50%	

7.5 EXCESSIVE USE PENALTIES

Any violation of the conservation regulations and restrictions on water use may result in termination of water service until the violation is corrected, and until all appropriate fees and penalties are paid in full. Table 7-4 lists the specifics of the penalties and in what stages they may occur in addition to the water conservation requirements contained in City Municipal Code Section 13.05 as described below.

Violation of any provision of City Municipal Code Section 13.05 may result in termination of water service until such violation is corrected, and until penalties are paid in full and will be subject to the following administrative procedure:

1. Written notice to the alleged offender, including the furnishing of informational material and advice where appropriate;
2. Recovery of all city staff costs, including overhead, or any second or greater offense within any one-year period;
3. Additional civil administrative penalties for any third or greater offense within any one-year period;
4. The right to appeal first to the utility billing adjustment committee and then to the city council.

In addition to, and completely separate from, the civil enforcement provisions of the ordinance codified in the City's Municipal Code, any person who knowingly and willfully violates the provisions of this chapter shall be guilty of a criminal misdemeanor as provided in the general penalty provisions of this code. All previous attempts by the City to obtain compliance by the defendant may be introduced as evidence of the offender's knowledge and willfulness.

Table 7-4. Water Shortage Contingency - Penalties and Charges

Penalty/Charge[1]	Stage When Penalty Takes Effect
Imposition of increasingly significant penalties so as to create a meaningful incentive to reduce water use.	None, 1, 1B & 2
Criminal misdemeanor for any person who knowingly and willfully violates the provisions in the City's Municipal code, and may result in the installation of a flow restriction device or disconnection of the customer's property from the City's water service system at the customer's cost.	None, 1, 1B & 2
In addition to any penalties, misdemeanor criminal prosecution and the installation of a water flow restrictor, during a Water Shortage Emergency the Director may disconnect a customer's water service for willful violations of mandatory restrictions and regulations in the City's Municipal Code.	None, 1, 1B & 2
A person or entity that as a result of violations of Municipal Code Chapter 13.07 has a flow restrictor installed or water service disconnected is responsible for payment of charges for installing and/or removing the flow-restricting device and for disconnecting and/or reconnecting service in accordance with the City's fee schedule then in effect. The charge for installing and/or removing any flow restricting device must be paid before the device is removed. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.	1, 1B & 2
[1]The foregoing penalties may also be modified or amended by the City Council as deemed necessary and appropriate based upon a determination of the severity of the Water Shortage Emergency.	

7.6 REVENUE AND EXPENDITURE IMPACTS/MEASURES TO OVERCOME IMPACTS

The majority of operating costs for most water agencies are fixed rather than a function of the amount of water sold. As a result, when significant conservation programs are undertaken, it is frequently necessary to raise water rates because the revenue generated is based on lower total consumption while the revenue required is basically fixed. The City's Water Shortage Contingency Plan describes that to counteract the financial impact of conservation, the City may institute an increase in the rate structure so that lower projected water consumption would generate a new rate based on the revenue needed by the City's Water Enterprise fund.

7.7 WATER CONSERVATION AND EMERGENCY WATER SHORTAGE RESTRICTIONS AND REGULATIONS

As described in Section 7.1, the City's Ordinance 669 was adopted on February 24, 2015. The City adopted Resolution 4659 on May 26, 2015 and Resolution 4766 on November 22, 2016 in order to further implement Ordinance 669. Therefore, Ordinance 669, Resolution 4659 and Resolution 4766 effectively comprise the City's Water Conservation and Emergency Water Shortage Restrictions and Regulations. A copy of the City's existing Municipal Code Chapter 13.07, representing the codified Ordinance 669, and Resolutions 4659 and 4766 are included in Appendix H. While this UWMP was prepared the City was in the process of codifying a revised Municipal Code Chapter 13.07, which accounts for the Ordinance 669 and Resolutions 4659 and 4766 in one place.

7.8 REDUCTION MEASURING MECHANISM

The City's primary mechanism of measuring water use and, subsequently, water use reduction, is through the use of water meters. Therefore, to measure actual reductions in water use in the course of carrying out a water supply shortage contingency plan, the City may perform water meter readings for individual connections.

Potable water production figures are recorded daily at the City Corporation Yard. The daily data is compiled into monthly reports and annual reports sent to the SWRCB and San Luis Obispo County. The City also maintains copies of all reports prepared. These reports can be used to compare monthly and annual water consumption to determine the efficiency of implemented water conservation measures. If the City determines that the desired level of water conservation is not being reached, additional conservation measures can be implemented with the direction of City Council.

8 DEMAND MANAGEMENT MEASURES

The Demand Management Measures (DMM) section provides a comprehensive description of the water conservation programs that the City has implemented for the past five years, is currently implementing, and plans to implement in order to meet the 2020 urban water use reduction targets. The section of the California Water Code (CWC) addressing DMMs was significantly modified in 2014 based on recommendations from the Independent Technical Panel (ITP) to the legislature. The ITP was formed by DWR to provide information and recommendations to DWR and the Legislature on new DMMs, technologies and approaches to water use efficiency. The ITP recommended, and the legislature enacted, streamlining the requirements from the 14 specific measures reported on in the 2010 UWMP to six more general requirements plus an "other" category for measures agencies implemented in addition to the required elements. The required measures are summarized in Table 8-1.

Table 8-1. Demand Management Measures

	Measure
1	Water waste prevention ordinances
2	Metering
3	Conservation pricing
4	Public education and outreach
5	Programs to assess and manage distribution system real loss
6	Water conservation program coordination and staffing
7	Other demand management measures

8.1 DEMAND MANAGEMENT MEASURES (DMMS) IMPLEMENTED OR PLANNED TO BE IMPLEMENTED

Consistent with the requirements of the CWC, this section describes the demand measurement measures from Table 8-1 that have been implemented in the past five years and will continued to be implemented into the future in order to meet the City's 2020 water use targets pursuant to Section 10608.20 of the CWC.

8.1.1 DMM – Water Waste Prevention

According to the DWR 2015 UWMP Guidebook, a water waste ordinance explicitly states the waste of water is to be prohibited. The ordinance may prohibit specific actions that waste water, such as excessive runoff from landscape irrigation, or use of a hose outdoors with a without a shut off nozzle.

In Chapter 13.05 of the City's Municipal Code, water waste prohibitions listed below are in effect at all times:

- All use of water which results in excessive gutter runoff.
- Use of water for cleaning driveways, patios, parking lots, sidewalks, streets, or other such uses except as necessary to protect public health or safety.
- Outdoor water use for washing vehicles shall be attended and have hand-controlled watering devices.
- Outdoor irrigation between the hours of 10 AM and 4 PM.
- Limited days for outdoor irrigation
- Use of potable water for compaction or dust control purposes in construction activities.
- Outdoor water use for washing vehicles shall be attended and have hand-controlled watering devices.
- Hotel, motel or other commercial lodging establishment shall offer their patrons the option to forego the daily laundering of towels, sheets and linens.
- Emptying and refilling of swimming pools and commercial spas is prohibited except to prevent structural damage and/or to protect public health or safety.
- Restaurants or other commercial food service establishments shall not serve water except upon the request of a patron.

8.1.2 DMM – Metering

According to the DWR 2015 UWMP Guidebook, an agency that is fully metered will state that fact in the UWMP. If an agency is not yet full metered, it will discuss its plans for becoming fully metered in accordance with CWC 527.

All of the City's service connections are metered and billed based on volume of use. Meter replacements are performed on an as-needed basis. The City will continue to require that water meters be installed on new service connections and will perform replacements to help optimize its metering program.

8.1.3 DMM – Conservation Pricing

According to the DWR 2015 UWMP Guidebook, retail water agencies need to describe the pricing structure that is used by the water agency. Conservation pricing sends a signal to customers regarding their water use.

Conservation pricing is designed to discourage wasteful water habits and encourage conservation. The City applies variable water service rate structures by customer class. Rates based on volume of use encourage water conservation by customers.

Table 8-2 shows the water bi-monthly base rate and tiered consumption rates for a single family customer with a unit defined as 100 cubic feet (748 gallons).

Table 8-2. Single Family Rate Structure

Units	Rate
Base Fee	⅝ - $27.52 ¾ - $29.53
1-18 HCF	$3.42
19-36 HCF	$3.76
37+ HCF	$5.02

Multi-family customers pay a base rate dependent on meter size (Table 8-5) and tiered consumption rates. Table 8-3 shows the tiered rate structure.

Table 8-3. Multi-family Rate Structure

Units	Rate
1-18 HCF	$3.42
19-27 HCF	$3.76
28+ HCF	$5.02

Non-residential customers pay a base rate dependent on meter size (Table 8-5) and a uniform rate based on their customer classification and metered consumption. Table 8-4shows the uniform rate structure based on the customer classification.

Table 8-4. Non-residential Water Rates

Customer Class	Rate (uniform)
Business	$3.57
Irrigation	$3.81
Hydrant	$5.72
Wheeling	$1.91

Table 8-5. Base Fees for Meter Size

Meter Size	Base Fee
⅝”	$27.52
¾”	$29.53
1”	$35.55
1.5”	$43.58
2”	$65.55
3”	$228.21
4”	$288.42
6”	$428.91
8”	$589.46

8.1.4 DMM – Public Information Programs

In 2014, the City initiated a water conservation public education program in partnership with the City of Pismo Beach. This effort included:

- Conducted a survey of residents to help determine a marketing strategy
- Creation and maintenance of a branded website (www.thinkh20now.com)
- Creation and maintenance of Facebook and Twitter pages for the campaign
- Water conservation pledge
- Broadcast advertising (e.g. Pandora, Regal Cinemas, Cable Channel 20)
- Business outreach
- Community outreach
- Press releases
- Event flyers

Although the campaign was scaled back in September 2015, the public education program has been well received and proved successful, as demonstrated in the reduction in per capita water use over the past two years. Arroyo Grande and Pismo Beach staff currently maintain the social media accounts.

The City also sponsors free water conservation education programs for public and private schools (grades K-6). The City has contracted with Science Discovery since 2012 for this purpose. It is expected that the City will continue to sponsor this school program.

In addition, the City presented a South County Water Symposium in August 2015, which included presentations from local experts on water-related topics and a variety of information booths. The Symposium was well attended with an estimated 150 participants.

Finally, the City participates in a San Luis Obispo County regional collaborative to maintain a water wise gardening website ("GardenSoft"). This is a valuable resource to inspire and guide residents to save water outside the home. The customized website includes local garden tours, garden galleries, various plant lists, garden resources, water conservation tips, and watering guides. The website has been in place since 2011.

8.1.5 DMM – Water Loss Control

The City accounts for water production and consumption and reports results to DWR each year. The City maintains an on-going program of meter testing and replacement that tracks the age and testing frequency of each city meter. Water for flushing operations and other maintenance procedures is also estimated and recorded.

Between the years 2011 and 2015, NRW has averaged 5.5%. Additionally, the City repairs all water main and service leaks upon notification or detection. The City also uses ultrasonic leak detectors to survey water mains and services. In conjunction with this DMM, the City has an ongoing funded Capital Improvement Program that replaces older water mains and services. The City completed the AWWA System Water Loss spreadsheet for the calendar year 2015 and will continue to update the spreadsheet on an annual basis (see Appendix E).

8.1.6 DMM – Conservation Coordinator and Staffing Support

The Water Conservation Coordinator role was added to an existing planning position in 2008. The amount of time dedicated to this role has varied over the years depending on workload and priorities. On average, approximately 25% of this full time position is allocated to managing various water conservation programs.

Given the overlapping City department concerns and responsibilities related to the recent drought, the City created a staff interdepartmental Drought Team to coordinate water use reduction strategies. Efforts include adopting a Water Emergency Ordinance and declaring a Stage 1 Water Shortage Emergency with mandatory water reductions. The Drought Team also provides monthly status reports to the City Council on water supply and demand.

8.2 OTHER DEMAND MANAGEMENT MEASURES

The City is committed to implementing cost effective programs that will increase water efficiency City-wide. Though not required, the City has implemented the following demand management measures during the past five years in order to increase the overall water efficiency of the City's customers.

8.2.1 Water Conservation Incentive Programs

Given anticipated recurring drought cycles, the City's goal has consistently been to maintain a sustaining conservation ethic resulting in the same low level of water consumption during and after drought conditions. To do this, the City implemented several water conservation programs that provide relatively permanent water use reductions. The tables below summarize the success of these programs.

Table 8-6. Cash for Grass Program Summary

Year	# Applications Submitted	# Grass Conversions Completed	Square Footage of Grass Removed	*Estimated Gallons of Water Saved per Year
2009	94	65	81,238	1,462,284
2010	24	22	21,131	380,358
2011	23	21	30,333	545,994
2012	17	13	14,348	258,264
2013	14	10	15,472	278,496
2014	137	92	119,099	2,143,782
2015	306	219	302,083	5,437,494
2016	Applications not accepted in 2016			
Total:	**615**	**442**	**583,704** ***(13.4 acres)***	***10,506,672*** ***(32.2 AFY)***
*Based on an average savings of 18 gallons per square foot of grass removed per year.				

Table 8-7. Water Efficient Washer Rebate Program Summary

Year	# Rebates Issued	*Estimated Gallons of Water Saved per Year
2009	36	108,000
2010	20	60,000
2011	22	66,000
2012	15	45,000
2013	2	6,000
2014	17	51,000
2015	70	210,000
2016	Applications not accepted in 2016	
Total:	**182**	**546,000** ***(1.68 AFY)***
*Based on an average savings of 10 gallons/load from older washers, and an estimated 300 loads per household per year (average of 3,000 gallons per year per machine).		

Table 8-8. Smart Irrigation Controller and Sensor Program Summary

Year	# Smart Irrigation Controllers Installed	Estimated Water Savings
2009	32	The standard water savings is 15%. The number of gallons saved depends on individual irrigation design and area.
2010	13	
2011	5	
2012	7	
2013	2	
2014	20	
2015	33	
Total:	**112**	

Table 8-9. 2004-2016 Plumbing Retrofit Summary

Structure Type	Number of Retrofits
Single Family Homes	2,035
Apartment Units	547
Mobile Homes	237
Motel Rooms	243
Churches	9
Public Facilities	7
Commercial Establishments	153
Total	**3,231**

Table 8-10. 2004-2016 Plumbing Replacements Summary by Plumbing Hardware Type

Plumbing Hardware Type	Number of Replacements
Toilets	5,069
Faucet Aerators	4,134
Showerheads	1,858
Pressure Regulators	417
Estimated Water Consumption Reduction	***177 afy***

As can be seen in the above tables, participation in the City's water conservation rebate programs have been well received since 2009 when they were first implemented. Advertisement for these programs was strong during this time, but then tapered off for the next several years. Participation increased dramatically when the City increased the rebate amounts for the Cash for Grass and Washing Machine Rebate Programs in 2014 (from $0.50 to $1.00 per square foot for turf removal, and from $150 to $200 per washing machine replacement). Success can also be attributed to the increased awareness about the drought, an initial robust marketing effort, water use restrictions, and penalties for non-compliance.

The City has additionally contributed to large area irrigation retrofits for commercial, institutional and homeowner association (HOA) water users since 2009. With the assistance of Sprinkler King, Inc., the City has retrofitted the following properties:

- Oak Park Blvd Landscaping
- Woodland Pocket Park
- Strother Park
- St. Patrick's School
- Sunrise Terrace Mobilehome Park
- Paulding School
- Ocean View School
- Vista Del Mar HOA
- Wildwood Ranch HOA
- Five Cities Center
- Kmart Center
- Cemetery District
- Rancho Grande Park

It is estimated that 17.39 AFY is saved from the Strother Park, Paulding School, Ocean View School, Cemetery District and Rancho Grande Park irrigation retrofits (audits for determining post-project water savings have not been completed for the other properties).

The City-owned Property Landscape Irrigation Retrofit Program has provided a comprehensive effort to reduce water use at City parks and other landscaped areas. This program commenced in 2014 and involves removing turf combined with retrofitting irrigation systems and installing drought tolerant plants. It is estimated that this program generates a water savings of approximately 14 AFY.

The City's plumbing retrofit program, established in 2004, replaces old, high water-use fixtures for residential units built prior to 1992. All parts and labor required for the retrofit are provided free of charge. The retrofit includes replacing the following fixtures:

- Toilets – replace with ultra low-flow 1.6 gallons per flush (as of January 1, 2014 the requirement is 1.28 gallons per flush).
- Indoor Faucets – install aerators designed for 2.0 gallons per minute.
- Showerheads – replace with 2.5 gallons per minute.
- Pressure Regulator – inspect and adjust or install new regulator not to exceed 80 pounds per square inch (psi).

This program is voluntary; however, in February 2005 the City Council adopted an ordinance implementing a mandatory plumbing retrofit program upon the change of ownership of any real property. The seller must retrofit the property's plumbing fixtures to meet the criteria of low-water use.

As of April 1, 2016, the Plumbing Retrofit Program has completed 2,035 single-family homes, 547 apartment units, 237 mobile homes, 243 motel rooms, 9 churches, 7 public facilities, and 153 commercial establishments. A total of 5,069 toilets, 4,134 faucet aerators, 1,858 showerheads and 417 pressure regulators have been installed or replaced. The estimated water consumption reduction is 177 afy.

The City has eliminated many of the water conservation rebate programs for numerous reasons, including reduced City funding, existing State turf removal and toilet replacement rebates, and new regulations in the Plumbing Code and landscape irrigation requirements to provide permanent reductions in water usage. The Plumbing Retrofit, City Landscape Irrigation, Public Education, School Education, Water Conservation Workshops and GardenSoft Website licensing remain active programs.

9 REFERENCES

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APPENDIX A. DWR CHECKLIST

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location
10620(b)	Every person that becomes an urban water supplier shall adopt an urban water management plan within one year after it has become an urban water supplier.	Plan Preparation	Section 2.1	2.2
10620(d)(2)	Coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.	Plan Preparation	Section 2.5.2	2.1
10642	Provide supporting documentation that the water supplier has encouraged active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan.	Plan Preparation	Section 2.5.2	2.1
10631(a)	Describe the water supplier service area.	System Description	Section 3.1	3.1
10631(a)	Describe the climate of the service area of the supplier.	System Description	Section 3.3	3.2
10631(a)	Provide population projections for 2020, 2025, 2030, and 2035.	System Description	Section 3.4	3.3
10631(a)	Describe other demographic factors affecting the supplier's water management	System Description	Section 3.4	3.3
10631(a)	Indicate the current population of the service area.	System Description and Baselines and Targets	Sections and 5.4	3.3
10631(e)(1)	Quantify past, current, and projected water use, identifying the uses among water use sectors.	System Water Use	Section 4.2	4.2
10631(e)(3)(A)	Report the distribution system water loss for the most recent 12-month period available.	System Water Use	Section 4.3	4.2.3; Appendix E
10631.1(a)	Include projected water use needed for lower income housing projected in the service area of the supplier.	System Water Use	Section 4.5	4.2.1
10608.20(b)	Retail suppliers shall adopt a 2020 water use target using one of four methods.	Baselines and Targets	Section 5.7 and App E	4.1

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location
10608.20(e)	Retail suppliers shall provide baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.	Baselines and Targets	Chapter 5 and App E	4.1
10608.22	Retail suppliers' per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use of the 5 year baseline. This does not apply is the suppliers base GPCD is at or below 100.	Baselines and Targets	Section 5.7.2	4.1
10608.24(a)	Retail suppliers shall meet their interim target by December 31, 2015.	Baselines and Targets	Section 5.8 and App E	4.1
1608.24(d)(2)	If the retail supplier adjusts its compliance GPCD using weather normalization, economic adjustment, or extraordinary events, it shall provide the basis for, and data supporting the adjustment.	Baselines and Targets	Section 5.8.2	N/A
10608.36	Wholesale suppliers shall include an assessment of present and proposed future measures, programs, and policies to help their retail water suppliers achieve targeted	Baselines and Targets	Section 5.1	N/A
10608.4	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	4.1
10631(b)	Identify and quantify the existing and planned sources of water available for 2015, 2020, 2025, 2030, and 2035.	System Supplies	Chapter 6	0
10631(b)	Indicate whether groundwater is an existing or planned source of water available to the supplier.	System Supplies	Section 6.2	5.2
10631(b)(1)	Indicate whether a groundwater management plan has been adopted by the water supplier or if there is any other specific authorization for groundwater management. Include a copy of the plan or authorization.	System Supplies	Section 6.2.2	5.2.3
10631(b)(2)	Describe the groundwater basin.	System Supplies	Section	5.2

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location
10631(b)(2)	Indicate if the basin has been adjudicated and include a copy of the court order or decree and a description of the amount of water the supplier has the legal right to	System Supplies	Section 6.2.2	5.2.3; Appendix G
10631(b)(2)	For unadjudicated basins, indicate whether or not the department has identified the basin as overdrafted, or projected to become overdrafted. Describe efforts by the supplier to eliminate the long-term overdraft condition.	System Supplies	Section 6.2.3	5.2.5
10631(b)(3)	Provide a detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years	System Supplies	Section 6.2.4	5.2.6
10631(b)(4)	Provide a detailed description and analysis of the amount and location of groundwater that is projected to be pumped.	System Supplies	Sections and 6.9	5.2.6
10631(d)	Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.	System Supplies	Section 6.7	5.3
10631(g)	Describe the expected future water supply projects and programs that may be undertaken by the water supplier to address water supply reliability in average, single-dry, and multiple-dry years.	System Supplies	Section 6.8	5.6
10631(i)	Describe desalinated water project opportunities for long-term supply.	System Supplies	Section 6.6	5.4
10631(j)	Retail suppliers will include documentation that they have provided their wholesale supplier(s) – if any - with water use projections from that source.	System Supplies	Section 2.5.1	4.3
10631(j)	Wholesale suppliers will include documentation that they have provided their urban water suppliers with identification and quantification of the existing and planned sources of water available from the wholesale to the urban supplier during various water year types.	System Supplies	Section 2.5.1	N/A
10633	For wastewater and recycled water, coordinate with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.1	5.5

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location
10633(a)	Describe the wastewater collection and treatment systems in the supplier's service area. Include quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.	System Supplies (Recycled Water)	Section 6.5.2	5.5.1
10633(b)	Describe the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.	System Supplies (Recycled Water)	Section 6.5.2.2	5.5.1
10633(c)	Describe the recycled water currently being used in the supplier's service area.	System Supplies (Recycled Water)	Section and 6.5.4	5.5.3
10633(d)	Describe and quantify the potential uses of recycled water and provide a determination of the technical and economic feasibility of those uses.	System Supplies (Recycled Water)	Section 6.5.4	5.5.3
10633(e)	Describe the projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years, and a description of the actual use of recycled water in comparison to uses previously projected.	System Supplies (Recycled Water)	Section 6.5.4	5.5.3
10633(f)	Describe the actions which may be taken to encourage the use of recycled water and the projected results of these actions in terms of acre-feet of recycled water used per year.	System Supplies (Recycled Water)	Section 6.5.5	5.5.3
10633(g)	Provide a plan for optimizing the use of recycled water in the supplier's service area.	System Supplies (Recycled Water)	Section 6.5.5	5.5.3
10620(f)	Describe water management tools and options to maximize resources and minimize the need to import water from other regions.	Water Supply Reliability Assessment	Section 7.4	6.2.6
10631(c)(1)	Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage.	Water Supply Reliability Assessment	Section 7.1	6.2.7
10631(c)(1)	Provide data for an average water year, a single dry water year, and multiple dry water years	Water Supply Reliability Assessment	Section 7.2	6.2.1

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location
10631(c)(2)	For any water source that may not be available at a consistent level of use, describe plans to supplement or replace that source.	Water Supply Reliability Assessment	Section 7.1	6.2.6
10634	Provide information on the quality of existing sources of water available to the supplier and the manner in which water quality affects water management strategies and supply reliability	Water Supply Reliability Assessment	Section 7.1	6.2.7
10635(a)	Assess the water supply reliability during normal, dry, and multiple dry water years by comparing the total water supply sources available to the water supplier with the total projected water use over the next 20 years.	Water Supply Reliability Assessment	Section 7.3	6.2.2; 6.2.3; 6.2.4
10632(a) and 10632(a)(1)	Provide an urban water shortage contingency analysis that specifies stages of action and an outline of specific water supply conditions at each stage.	Water Shortage Contingency Planning	Section 8.1	7
10632(a)(2)	Provide an estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency.	Water Shortage Contingency Planning	Section 8.9	6.2.5
10632(a)(3)	Identify actions to be undertaken by the urban water supplier in case of a catastrophic interruption of water supplies.	Water Shortage Contingency Planning	Section 8.8	7.2
10632(a)(4)	Identify mandatory prohibitions against specific water use practices during water shortages.	Water Shortage Contingency Planning	Section 8.2	0
10632(a)(5)	Specify consumption reduction methods in the most restrictive stages.	Water Shortage Contingency Planning	Section 8.4	7.4
10632(a)(6)	Indicated penalties or charges for excessive use, where applicable.	Water Shortage Contingency Planning	Section 8.3	7.5
10632(a)(7)	Provide an analysis of the impacts of each of the actions and conditions in the water shortage contingency analysis on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts.	Water Shortage Contingency Planning	Section 8.6	7.6

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location
10632(a)(8)	Provide a draft water shortage contingency resolution or ordinance.	Water Shortage Contingency Planning	Section 8.7	7.7; Appendix H
10632(a)(9)	Indicate a mechanism for determining actual reductions in water use pursuant to the water shortage contingency analysis.	Water Shortage Contingency Planning	Section 8.5	7.8
10631(f)(1)	Retail suppliers shall provide a description of the nature and extent of each demand management measure implemented over the past five years. The description will address specific measures listed in code.	Demand Management Measures	Sections and 9.3	8
10631(f)(2)	Wholesale suppliers shall describe specific demand management measures listed in code, their distribution system asset management program, and supplier assistance program.	Demand Management	Sections and 9.3	N/A
10631(j)	CUWCC members may submit their 2013-2014 CUWCC BMP annual reports in lieu of, or in addition to, describing the DMM implementation in their UWMPs. This option is only allowable if the supplier has been found to be in full compliance with the CUWCC MOU.	Demand Management Measures	Section 9.5	N/A
10608.26(a)	Retail suppliers shall conduct a public hearing to discuss adoption, implementation, and economic impact of water use targets.	Plan Adoption, Submittal, and Implementation	Section 10.3	2.2; Appendix B
10621(b)	Notify, at least 60 days prior to the public hearing, any city or county within which the supplier provides water that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.	Plan Adoption, Submittal, and Implementation	Section 10.2.1	2.2; Appendix B
10621(d)	Each urban water supplier shall update and submit its 2015 plan to the department by July 1, 2016.	Plan Adoption, Submittal, and Implementation	Sections 10.3.1 and 10.4	2.2; Appendix B

CWC Section	UWMP Requirement	Subject	Guidebook Location	UWMP Location
10635(b)	Provide supporting documentation that Water Shortage Contingency Plan has been, or will be, provided to any city or county within which it provides water, no later than 60 days after the submission of the plan to DWR.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	2.2; Appendix B
10642	Provide supporting documentation that the urban water supplier made the plan available for public inspection, published notice of the public hearing, and held a public hearing about the plan.	Plan Adoption, Submittal, and Implementation	Sections 10.2.2, and 10.5	2.2; Appendix B
10642	The water supplier is to provide the time and place of the hearing to any city or county within which the supplier provides water.	Plan Adoption, Submittal, and Implementation	Sections 10.2.1	2.2; Appendix B
10642	Provide supporting documentation that the plan has been adopted as prepared or modified.	Plan Adoption, Submittal, and Implementation	Section 10.3.1	2.2; Appendix B
10644(a)	Provide supporting documentation that the urban water supplier has submitted this UWMP to the California State Library.	Plan Adoption, Submittal, and Implementation	Section 10.4.3	2.2; Appendix B
10644(a)(1)	Provide supporting documentation that the urban water supplier has submitted this UWMP to any city or county within which the supplier provides water no later than 30 days after adoption.	Plan Adoption, Submittal, and Implementation	Section 10.4.4	2.2; Appendix B
10644(a)(2)	The plan, or amendments to the plan, submitted to the department shall be submitted electronically.	Plan Adoption, Submittal, and Implementation	Sections 10.4.1 and 10.4.2	2.2; Appendix B
10645	Provide supporting documentation that, not later than 30 days after filing a copy of its plan with the department, the supplier has or will make the plan available for public review during normal business hours.	Plan Adoption, Submittal, and Implementation	Section 10.5	2.2; Appendix B

APPENDIX B. NOTIFICATION AND OUTREACH MATERIALS

CITY OF ARROYO GRANDE CALIFORNIA

April 19, 2016

San Miguelito Mutual Water Company
Rick Koon
Manager
6680 Bay Laurel Pl
Avila Beach, CA 93424
rkoon@smmwc.com

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. Koon,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

The Act requires the City to notify cities and counties within its service area that it is preparing its 2015 UWMP 60 days prior to holding a public hearing, thereby encouraging public involvement and agency coordination. This letter serves as your official notice of our preparation and intent to adopt the UWMP. The City Council intends to hold a public hearing and consider adoption of the UWMP at a City Council Meeting in June 2016. Two weeks prior to the meeting, a draft of the UWMP will be available for review on the City's website and at the City of Arroyo Grande Offices located at 300 East Branch Street, Arroyo Grande, CA 93420 between the hours of 9:00 A.M. and 5:00 P.M. The specific meeting time and date will also be noticed two weeks prior to the meeting. The meeting will be held at the City Council Chambers located at 215 East Branch Street, Arroyo Grande, CA 93420.

If you have any questions or comments regarding the City of Arroyo Grande 2015 UWMP please contact Water Systems Consulting, Inc., the consultant responsible for the preparation of the UWMP at:

Spencer Waterman
Water Systems Consulting, Inc.
3765 South Higuera St. Suite 102
San Luis Obispo California 93401
(805) 457-8833 ext. 102
(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF ARROYO GRANDE
CALIFORNIA

April 19, 2016

San Luis Obispo County Flood Control and Water
Conservation District- Zone 3
Jill Ogren
1050 Monterey St.
Room 206
San Luis Obispo, CA 93408
jogren@co.slo.ca.us

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Miss Ogren,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

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(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF ARROYO GRANDE CALIFORNIA

April 19, 2016

San Luis Obispo Council of Governments
Steve Devencenzi
1114 Marsh Street
San Luis Obispo, CA 93401
sdevencenzi@slocog.org

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. Devencenzi,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

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3765 South Higuera St. Suite 102
San Luis Obispo California 93401
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(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grand

CITY OF ARROYO GRANDE CALIFORNIA

April 19, 2016

Port San Luis Harbor District
Steve McGrath
3950 Avila Beach Drive
PO Box 249, Pier #3
Avila Beach, California 93424
stevem@portsanluis.com

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. McGrath,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

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3765 South Higuera St. Suite 102
San Luis Obispo California 93401
(805) 457-8833 ext. 102
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Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF
ARROYO GRANDE
CALIFORNIA

April 19, 2016

Oceano Community Services District
Paavo Ogren
1655 Front Street
Oceano, CA 93445
ocsdgm@oceanocsd.org

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. Ogren,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

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Water Systems Consulting, Inc.
3765 South Higuera St. Suite 102
San Luis Obispo California 93401
(805) 457-8833 ext. 102
(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF ARROYO GRANDE CALIFORNIA

April 19, 2016

Northern Cities Management Area Technical Group
Daniel Heimel
3765 S. Higuera St. Suite 102
San Luis Obispo, CA 93401
dheimel@wsc-inc.com

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. Heimel,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

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(805) 457-8833 ext. 102
(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF ARROYO GRANDE CALIFORNIA

April 19, 2016

Nipomo Mesa Management Area Technical Group
Norm Brown
PO Box 6143
Santa Barbara, CA 93160
water@normbrown.com

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. Brown,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

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3765 South Higuera St. Suite 102
San Luis Obispo California 93401
(805) 457-8833 ext. 102
(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF ARROYO GRANDE CALIFORNIA

April 19, 2016

County Service Area 12
Wade Horton
1050 Monterey St.
Room 206
San Luis Obispo, CA 93408
whorton@co.slo.ca.us

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. Horton,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

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Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF ARROYO GRANDE CALIFORNIA

April 19, 2016

County of San Luis Obispo
Wade Horton
1050 Monterey St.
Room 206
San Luis Obispo, CA 93408
whorton@co.slo.ca.us

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. Horton,

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(805) 457-8833 ext. 102
(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF ARROYO GRANDE CALIFORNIA

April 19, 2016

County of San Luis Obispo
Bill Robeson
Deputy Director
976 Osos Street, Room 200
San Luis Obispo, CA 93408
brobeson@co.slo.ca.us

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. Robeson,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

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(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF ARROYO GRANDE CALIFORNIA

April 19, 2016

City of Grover Beach
Greg Ray
154 S. 8th Street
Grover Beach, CA 93433
gray@grover.org

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. Ray,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

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Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF ARROYO GRANDE CALIFORNIA

April 19, 2016

Avila Valley Mutual Water Company
Debra Seifert
Manager
P.O. Box 2120
Avila Beach, Ca. 93424
cimsmmwc@charterinternet.com

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Miss Seifert,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

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Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF
ARROYO GRANDE
CALIFORNIA

April 19, 2016

Avila Beach Community Services District
Brad Hagemann
191 San Miguel
Avila Beach, CA 93424
Avilacsd@gmail.com

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. Hagemann,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

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Water Systems Consulting, Inc.
3765 South Higuera St. Suite 102
San Luis Obispo California 93401
(805) 457-8833 ext. 102
(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF ARROYO GRANDE
CALIFORNIA

April 19, 2016

City Pismo Beach
Ben Fine
Director of Public Works/
City Engineer
760 Mattie Road
Pismo Beach, CA 93449
bfine@PismoBeach.org

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. Fine,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

The Act requires the City to notify cities and counties within its service area that it is preparing its 2015 UWMP 60 days prior to holding a public hearing, thereby encouraging public involvement and agency coordination. This letter serves as your official notice of our preparation and intent to adopt the UWMP. The City Council intends to hold a public hearing and consider adoption of the UWMP at a City Council Meeting in June 2016. Two weeks prior to the meeting, a draft of the UWMP will be available for review on the City's website and at the City of Arroyo Grande Offices located at 300 East Branch Street, Arroyo Grande, CA 93420 between the hours of 9:00 A.M. and 5:00 P.M. The specific meeting time and date will also be noticed two weeks prior to the meeting. The meeting will be held at the City Council Chambers located at 215 East Branch Street, Arroyo Grande, CA 93420.

If you have any questions or comments regarding the City of Arroyo Grande 2015 UWMP please contact Water Systems Consulting, Inc., the consultant responsible for the preparation of the UWMP at:

Spencer Waterman
Water Systems Consulting, Inc.
3765 South Higuera St. Suite 102
San Luis Obispo California 93401
(805) 457-8833 ext. 102
(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

CITY OF ARROYO GRANDE CALIFORNIA

April 19, 2016

South San Luis Obispo County Sanitation District
John Clemons
District Administrator
1600 ALOHA PL / P.O. BOX 339
OCEANO, CA 93475
jclemons@sslocsd.us

Subject: City of Arroyo Grande 2015 Urban Water Management Plan Update

Dear Mr. Clemons,

The City of Arroyo Grande (City) is in the process of preparing its 2015 Urban Water Management Plan Update (UWMP) as required by the Urban Water Management Planning Act (Act). The UWMP is a long-range planning document that focuses on current and projected water supplies and demand, as well as water supply reliability, water shortage contingency planning, and water use efficiency.

The Act requires the City to notify cities and counties within its service area that it is preparing its 2015 UWMP 60 days prior to holding a public hearing, thereby encouraging public involvement and agency coordination. This letter serves as your official notice of our preparation and intent to adopt the UWMP. The City Council intends to hold a public hearing and consider adoption of the UWMP at a City Council Meeting in June 2016. Two weeks prior to the meeting, a draft of the UWMP will be available for review on the City's website and at the City of Arroyo Grande Offices located at 300 East Branch Street, Arroyo Grande, CA 93420 between the hours of 9:00 A.M. and 5:00 P.M. The specific meeting time and date will also be noticed two weeks prior to the meeting. The meeting will be held at the City Council Chambers located at 215 East Branch Street, Arroyo Grande, CA 93420.

If you have any questions or comments regarding the City of Arroyo Grande 2015 UWMP please contact Water Systems Consulting, Inc., the consultant responsible for the preparation of the UWMP at:

Spencer Waterman
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3765 South Higuera St. Suite 102
San Luis Obispo California 93401
(805) 457-8833 ext. 102
(408) 705-3213
Swaterman@wsc-inc.com

Sincerely,

Geoff English
Director of Public Works
City of Arroyo Grande

THE Newspaper of the Central Coast
TRIBUNE

3825 South Higuera • Post Office Box 112 • San Luis Obispo, California 93406-0112 • (805) 781-7800

In The Superior Court of The State of California
In and for the County of San Luis Obispo
AFFIDAVIT OF PUBLICATION

AD # 2506209
CITY OF ARROYO GRANDE

STATE OF CALIFORNIA
ss.
County of San Luis Obispo

I am a citizen of the United States and a resident of the County aforesaid; I am over the age of eighteen and not interested in the above entitled matter; I am now, and at all times embraced in the publication herein mentioned was, the principal clerk of the printers and publishers of THE TRIBUNE, a newspaper of general Circulation, printed and published daily at the City of San Luis Obispo in the above named county and state; that notice at which the annexed clippings is a true copy, was published in the above-named newspaper and not in any supplement thereof – on the following dates to wit; JUNE 14, 21, 2016, that said newspaper was duly and regularly ascertained and established a newspaper of general circulation by Decree entered in the Superior Court of San Luis Obispo County, State of California, on June 9, 1952, Case #19139 under the Government Code of the State of California.

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Jane E. Durand
(Signature of Principal Clerk)
DATED: JUNE 21, 2016
AD COST: $353.32

CITY OF ARROYO GRANDE
CITY COUNCIL
NOTICE OF PUBLIC HEARING

On **TUESDAY, JUNE 28, 2016** the Arroyo Grande City Council will conduct a public hearing at **6:00 P.M.** in the **COUNCIL CHAMBERS** at **215 E. BRANCH STREET, ARROYO GRANDE** to consider the following item:

2015 URBAN WATER MANAGEMENT PLAN UPDATE. The City Council will consider adoption of the 2015 Urban Water Management Plan (UWMP). The UWMP describes and evaluates sources of supply, reasonable and practical efficient uses and demand management activities; it includes a description of the City's water facilities, projected water supply, projected water use, water conservation programs, water shortage contingency analysis and supplemental water supply opportunities. In compliance with the California Environmental Quality Act (CEQA), the City of Arroyo Grande Community Development Department has determined that this action is exempt pursuant to Section 15282(v) of the CEQA Guidelines. If the City Council does not feel that this determination is appropriate, project approval will not be considered.

The City Council may also discuss other hearings or business items before or after the item listed above. If you challenge the proposed action in court, you may be limited to raising only those issues you or someone else raised at the public hearing described in this notice, or in written correspondence delivered to the City Council at, or prior to, the public hearing. Comments may be either: (1) mailed to or hand delivered to the Public Works Department, 300 East Branch Street, Arroyo Grande, CA 93420; or (2) provided in person at the public hearing. Failure of any person to receive the notice shall not constitute grounds for any court to invalidate the action of the legislative body for which the notice was given.

Documents are available in the Public Works Department for public review. Staff reports are posted online at www.arroyogrande.org seventy two (72) hours prior to the meeting. Please call (805) 473-5420 for more information. The City Council meeting will be televised live on Charter Cable Channel 20.

/s/ Kelly Wetmore, City Clerk
June 14, 21, 2016 2506209

APPENDIX C. LETTER OF ADOPTION

RESOLUTION NO. 4738

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ARROYO GRANDE, COUNTY OF SAN LUIS OBISPO ADOPTING AND DIRECTING THE FILING AND IMPLEMENTATION OF THE CITY OF ARROYO GRANDE URBAN WATER MANAGEMENT PLAN REVISION

WHEREAS, the California Legislature enacted Assembly Bill 797 during the 1983-1984 Regular Session of the California Legislature (Water Code Section 10610 et. seq.), known as the Urban Water Management Planning Act, which mandates that every urban supplier of water 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, AB 797 required that an initial Plan be adopted by December 31, 1985, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

WHEREAS, the City of Arroyo Grande did prepare and file said Plan with the California Department of Water Resources after adoption in December, 1985; and

WHEREAS, AB 797 requires that said Plan be periodically reviewed at least once every five years, and that the urban water supplier shall make any amendments or changes to its plan which are indicated by the review; and

WHEREAS, the City is an urban supplier of water providing water to more than 17,600 customers, and has therefore prepared and advertised for public review a draft Urban Water Management Plan Update, in compliance with the requirements of AB 797, and a properly noticed public hearing regarding said Draft Plan Update was held by the City Council on June 28, 2016, and a Final Plan was ordered; and

WHEREAS, the City of Arroyo Grande has completed the revisions requested by the Department of Water Resources.

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

1. The Revised Urban Water Management Plan Update is hereby adopted and ordered filed with the City Clerk;

2. The City Manager is hereby authorized and directed to file the Revised Urban Water Management Plan Update with the California Department of Water Resources within 30 days after this date, in accordance with AB 797;

3. The City Manager is hereby authorized and directed to implement the programs as detailed in the adopted Revised Urban Water Management Plan Update, including development of recommendations to the City Council regarding necessary procedures, rules, and regulations to carry out effective and equitable water conservation programs;

On motion of Council Member Brown, seconded by Council Member Guthrie, and on the following roll call vote, to wit:

AYES: Council Members Brown, Guthrie, Barneich, Harmon, and Mayor Hill
NOES: None
ABSENT: None

The foregoing Resolution was passed and adopted this 28th day of June, 2016.

JIM HILL, MAYOR

ATTEST:

KELLY WETMORE, CITY CLERK

APPROVED AS TO CONTENT:

GEOFF ENGLISH, ACTING CITY MANAGER

APPROVED AS TO FORM:

HEATHER WHITHAM, CITY ATTORNEY

OFFICIAL CERTIFICATION

I, KELLY WETMORE, City Clerk of the City of Arroyo Grande, County of San Luis Obispo, State of California, do hereby certify under penalty of perjury, that the attached Resolution No. 4738 was passed and adopted at a regular meeting of the City Council of the City of Arroyo Grande on the 28th day of June, 2016.

WITNESS my hand and the Seal of the City of Arroyo Grande affixed this 29th day of June, 2016.

Kelly Wetmore

KELLY WETMORE, CITY CLERK

APPENDIX D. PER CAPITA WATER USE TM- AMENDED DRAFT

Date: 1/4/2017

To: Shane Taylor
City of Arroyo Grande
PO Box 550
1375 Ash Street
Arroyo Grande, CA 93421

Phone: (805) 473-5464

Prepared by: Spencer Waterman

Project: City of Arroyo Grande 2015 Urban Water Management Plan

SUBJECT: **BASELINE DAILY PER CAPITA WATER USE AND TARGET WATER USE – AMENDED DRAFT**

This memorandum presents the procedure used by the City of Arroyo Grande (City) to meet the requirements of Senate Bill x 7-7 (SB7) as defined in the Water Conservation Act of 2009 and incorporated into Division 6 of the California Water Code, commencing with Section 10608 of Part 2.55.

Background

On November 10, 2009, Governor Arnold Schwarzenegger signed Senate Bill x 7-7 into law. The legislation requires all water suppliers to achieve a reduction in per capita water use of 20% by December 31, 2020, with an interim target of 10% reduction by December 31, 2015. The legislation requires each urban water supplier to develop, and include in its Urban Water Management Plans (UWMPs), estimates of: 1) *baseline* daily per capita water use; 2) daily per capita water use *target*; 3) daily per capita water use *interim target*; 4) *compliance* daily per capita water use; and 5) confirmation that the target meets the minimum water use reduction requirement. The UWMP must also include bases for determining the estimates, with references to supporting data. However, SB 7 did not include a detailed description of the allowable methodologies for determining the required values. Instead, it required California Department of Water Resources (DWR) to develop appropriate methodologies and criteria, and to make them available to water suppliers no later than October 1, 2010. In consideration of this delay, the bill extended the deadline for adoption of the 2010 UWMP to July 1, 2011.

In connection with preparation of the 2010 and 2015 UWMPs, the City hired Water Systems Consulting, Inc. (WSC) to develop the required estimates described by SB 7. WSC applied methodologies consistent with those described in the *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* guidebook (Methodologies Guidebook). The procedure used to develop the required SB7 estimates includes the following basic steps:

1. Calculate baseline water use, which is the average gross daily water use per capita, reported in gallons per capita per day, based on gross water use and service area population for a continuous 10-year period ending no earlier than December 31, 2004.
2. Calculate the urban water use target using one of the four methods described below

3. Check and confirm targets using a selected five-year running average ending no earlier than December 31, 2007 and no later than December 31, 2010.
4. Calculate the interim urban water use target (equal to the average of the baseline and confirmed urban water use target)
5. Calculate the compliance daily per capita water use (equal to the gross daily water use per capita during the final year of the reporting period (i.e. 2010))

DWR allows the urban water supplier to choose one of four different methods to calculate the urban water use target in Step 2 above.

- Method 1 involves calculating the target based on 80% of baseline daily per capita water use and the interim target based on 90% of the baseline daily per capita water use.
- Method 2 involves calculating the per capita daily water use by using the sum of performance standards applied to indoor residential use, landscaped area water use, and commercial, industrial, and institutional uses.
- Method 3 calculates the water use target as 95% of the applicable state hydrologic region target as stated in the *20x2020 Water Conservation Plan*. The City's service area is located in the Central Coast hydrologic region number 3 as defined in the State's *20x2020 Water Conservation Plan*.
- Method 4 is an approach developed by DWR to estimate water savings factors associated with implementation of various conservation measures. The water savings factors are used to calculate water use targets. Appendix A and Appendix B show the input and calculation spreadsheets for Method 4.

Gross Water Use

SB 7 defines gross water use as:

> *"The total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following: (1) Recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier; (2) The net volume of water that the urban retail water supplier places into long-term storage; (3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.; (4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24."*

Groundwater and surface water are the only sources of water for the City. From 1995 through present, the City has not stored any water long-term or sold any water to other agencies. Therefore, gross water use is calculated as the sum of the City's total surface water purchases and groundwater production.

Population

The first step in determining the service area population involves establishing the service area boundary and the customers served within that boundary. WSC worked with City Staff to establish the location of customer connections outside of City limits served by the City and connections within the City limits not served by the City. WSC then plotted these connections as points in a map using Geographical Information Systems (GIS)

software. The points contain spatial data linked to a geodatabase with information about each connection. Figure 1 shows the connections located within City limits served by Oceano Community Services District (OCSD) and connections located outside of City limits served by the City.

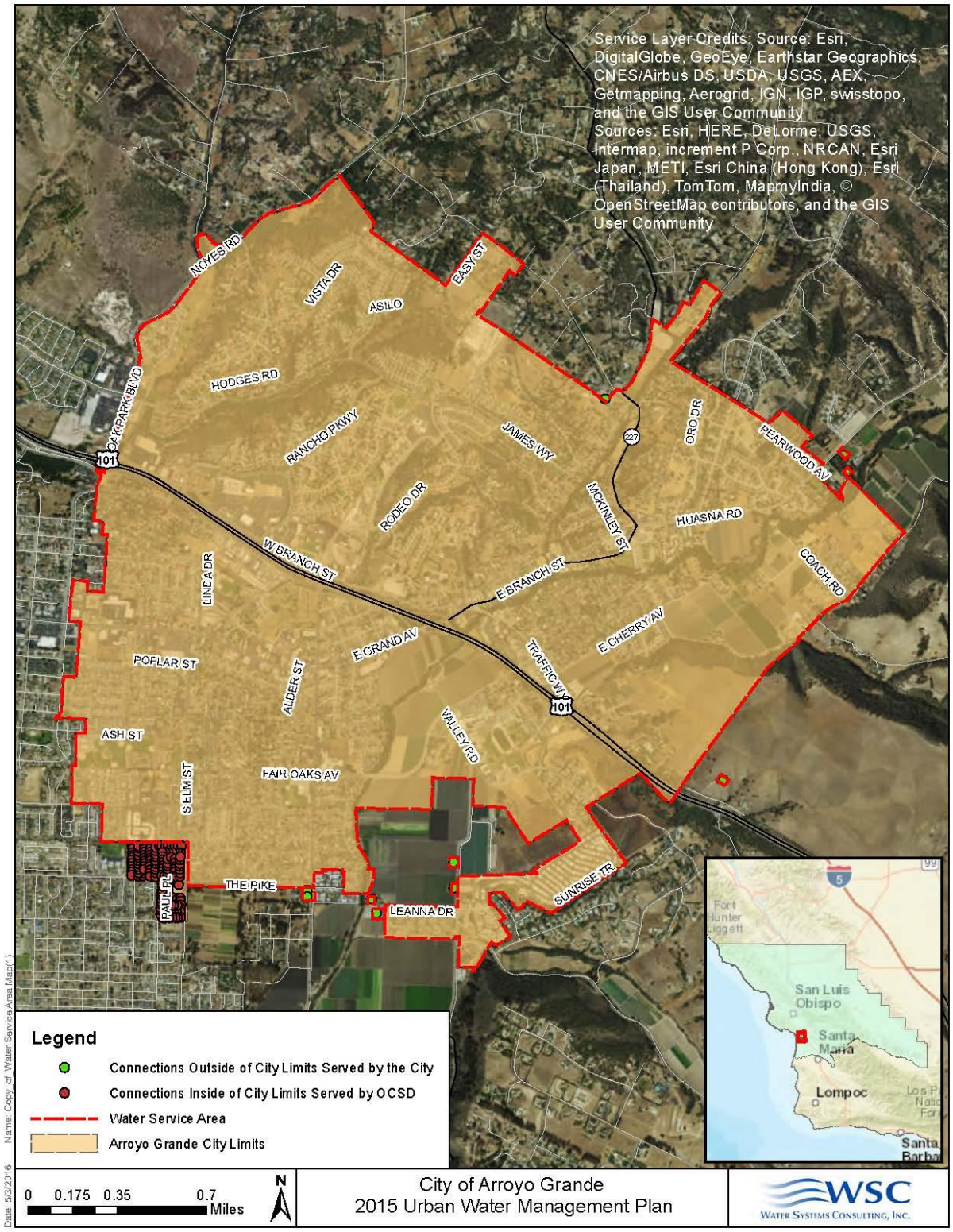


Figure 1. City of Arroyo Grande Water Service Area

To estimate the total population served by the City, WSC subtracted the population within City limits served by OCSD and added the population outside of City limits served by the City to the 2010 Census population calculated using the DWR Population Tool.

Table 1. Water Service Area Population

Population Area	Source	2010 Connections	2010 Population
City Limits	Census and DWR Population Tool	n/a	17,252
Inside City Limits Served by OCSD Water	City Staff & Land Use Element	138 [1]	368 [2]
Inside City Limits Served by City Water	Calculation (City Limits Census Pop. minus Pop. Served by OCSD)	n/a	16,884
Outside City Limits Served by City Water	City Staff & Land Use Element	9 [1]	24 [2]
Total Water Service Area	**Calculation (Inside City Limits Pop. plus Outside City Limits Pop.)**	**n/a**	**16,908**
[1] The connections were identified and provided by City Staff.			
[2] Assumes a persons per residential connection factor of 2.67 established using population calculated with DWR Population Tool for the City Limits.			

City Staff estimate the service area population each year for the Department of Water Resources Public Water System Statistics report (DWR reports). The methodology used by City staff to calculate service area population is very similar to the methodology WSC used to develop its 2010 population estimate based on the DWR Population Tool. City Staff historically calculated the service area population by applying 2.4 persons per household to the number of residential connections served by OCSD in each year and subtracting that population from the City limits population. The population estimated in the 2010 DWR report is 16,901, a difference of 0.04% from WSC's estimate of 16,908.

Historical Population

Because Census data is not available for interim years between 1990, 2000 and 2010, historical population is interpolated between non-census years for each year from 1995 through 2010. Figure 2 shows the historical population.

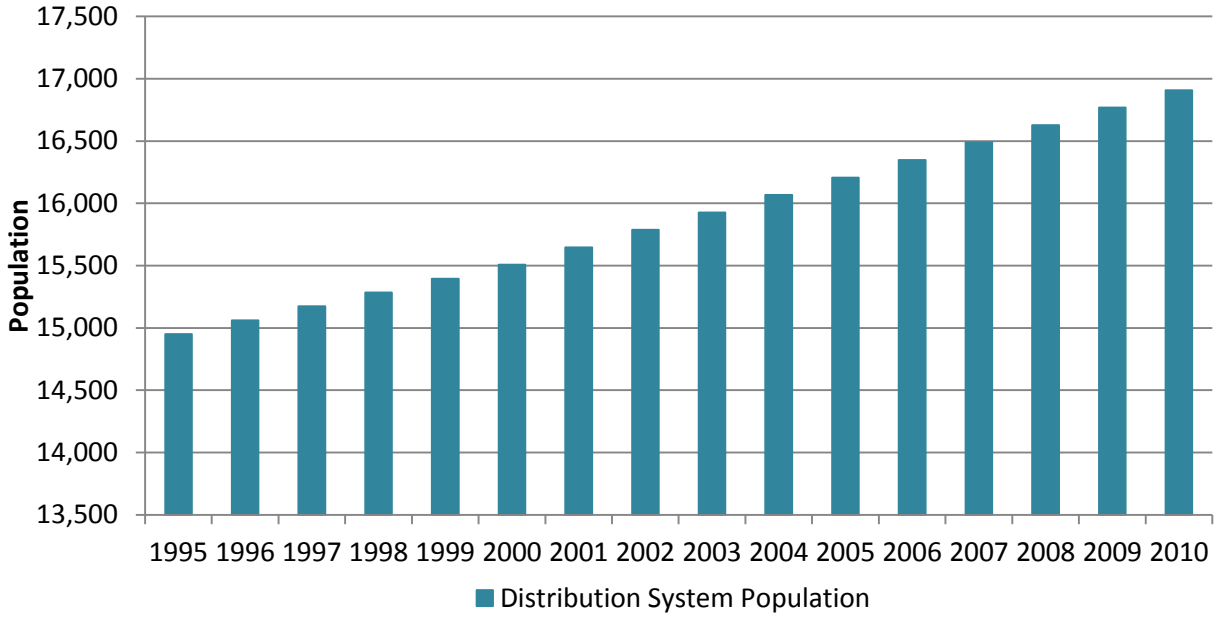


Figure 2. Historical Population

Projected Population

The San Luis Obispo Council of Governments (SLOCOG) develops population projections for San Luis Obispo County and the cities and communities within the County. SLOCOG projects the population for the City through 2040 in its *San Luis Obispo County 2040 Population, Housing & Employment Forecast* (1). The projections are based on a comprehensive study of historical population trends for California and the County, short-term and long-term population reports, economic conditions, and consultation with planners from the County. The report presents three growth scenarios: low, mid, and high. For the purposes of projecting population, WSC used the mid growth scenario population projections from SLOCOG's report to develop annual growth rates through 2035. 2015 population was calculated by applying the 2010 persons per connection factor of 2.67 to the total number of connections in 2015. The annual growth rates are applied to the 2015 population to yield the projected populations shown in Table 2. The build-out population, defined as the maximum population that can occur considering the zoning and land use designations of the current General Plan, is established at 20,000 persons based on the City's General Plan Housing Element.

Table 2. Service Area Population Projections

	2010	2015	2020	2025	2030	2035
Population	16,908	17,636	18,524	19,054	19,716	20,000
Annual Growth Rate %	n/a	0.52%	0.99%	0.57%	0.69%	

Baseline Per Capita Water Use

WSC calculated per capita water use using gross water use values and the population estimates shown in Table 3. The annual per capita water use value was averaged across 10-year periods ranging from 1995-2004 through 2001-2010. Figure 3 shows the historical population estimates, along with the annual per capita water use for the years 1995 through 2010.

Table 3. Baseline Daily Per Capita Water Use

Calendar Year	Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)	10 year running average (gpcd)
1995	14,951	2.3	157	
1996	15,062	2.5	166	
1997	15,173	2.8	182	
1998	15,284	2.5	162	
1999	15,396	2.8	184	
2000	15,507	3.0	195	
2001	15,647	2.9	188	
2002	15,787	3.1	198	
2003	15,927	3.1	197	
2004	16,067	3.2	200	183
2005	16,208	3.0	188	186
2006	16,348	3.0	182	187
2007	16,488	3.2	194	189
2008	16,628	3.1	189	191
2009	16,768	2.9	173	190
2010	16,908	2.6	156	187
Baseline Daily Per Capita Water Use				**191**

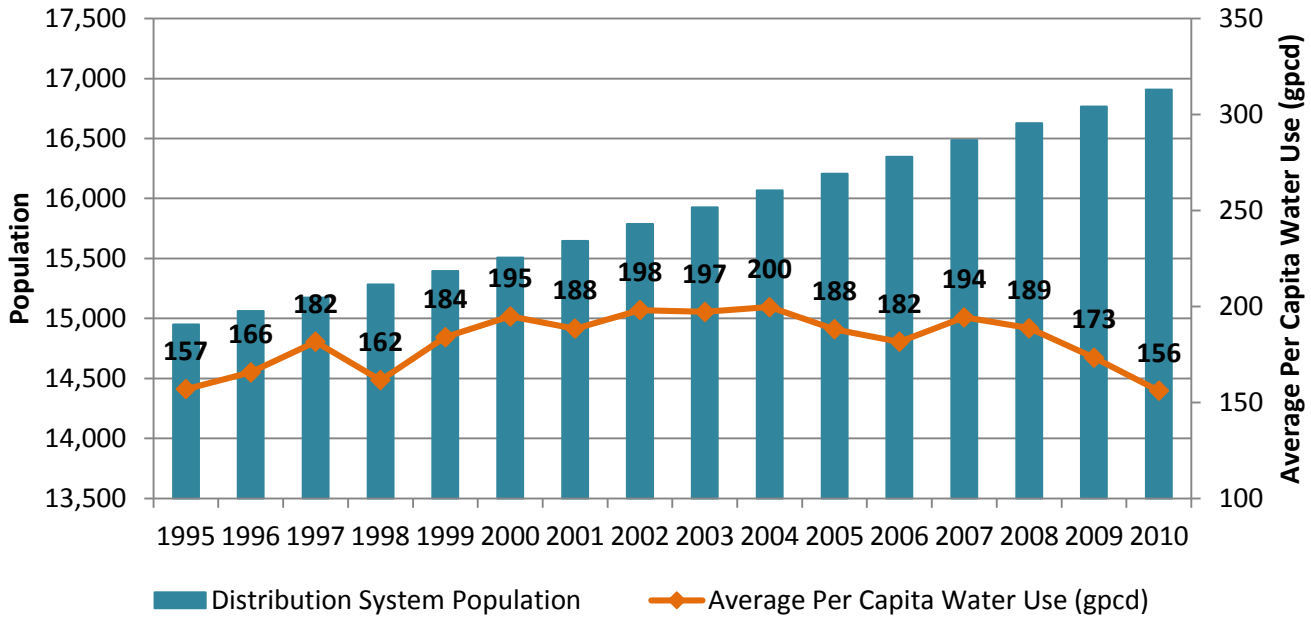


Figure 3. Population and Historical Per Capita Water Use

Water Use Targets

The baseline daily per capita water use is used to calculate the urban water use target and the interim urban water use target. The per capita water use target and interim target estimates are calculated using Method 1, Method 3, and Method 4 from the Methodologies Guidebook. Method 2 was not used due to a lack of available data. Table 4 shows the estimated daily per capita water use targets for each method analyzed.

Table 4. Daily Per Capita Water Use Targets

Calculation Method	Water Use Target (gpcd)
Method 1: 80% of Baseline Per Capita Water Use	153.2
Method 2: Performance Standards	Not calculated
Method 3: 95% of Regional Target	117.0
Method 4: DWR Approach	152.7
Selected Urban Water Use Target	**153.2**

Minimum Water Use Reduction Requirements

The selected target must be less than 95% of a selected five-year running average ending no earlier than December 31, 2007 and ending no later than December 31, 2010 per the requirements of California Water Code Section 10608.22. Table 5 shows the minimum water use reduction based on five-year running averages. Table 6 shows the confirmation that the selected target using Method 1 meets the minimum water use reduction. Table 7 shows the final baseline, compliance, interim target, and target per capita water use. Table 8 shows the status of meeting the interim target and target based on current compliance per capita water use. Figure 4 shows the past, current and projected per capita water use for the City.

The projected gpcd for interim years between 2016 and 2020 was calculated uniquely. It is assumed that the low gpcd experienced in 2015 was a result of multiple temporary factors, such as the economy, wet year hydrologic conditions, emergency drought regulations, and others. To account for this artificially low gpcd, it is assumed that the 2020 gpcd will be approximately 7% less than the five-year historical average gpcd from 2011-2015 based on City Staff input. The interim years between 2016 and 2020 were calculated through linear interpolation between the 2020 and 2015 water use. Lastly, the years following 2020 were assumed to stay the same through buildout. The values shown will be reported in the City's 2015 UWMP.

Table 5. Minimum Water Use Reduction

Calendar Year	Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)	5 year running average
2003	15,927	3.1	197	
2004	16,067	3.2	200	
2005	16,208	3.0	188	
2006	16,348	3.0	182	
2007	16,488	3.2	194	192
2008	16,628	3.1	189	190
2009	16,768	2.9	173	185
2010	16,908	2.6	156	179
5-yr Baseline Daily Per Capita Water Use				**192**

Table 6. Target Confirmation

Selected Urban Water Use Target (gpcd)	**153**
95% of 5-year Base Daily Per Capita Water Use (gpcd)	183
Selected Urban Water Use Target < 95% of 5-year Base GPCD	Yes
Confirmed Urban Water Use Target, 2020 (gpcd)	**153**

Table 7. Baseline, Compliance, Interim Target, and Target Water Use

Parameter	Water Use (gpcd)
Baseline Daily Per Capita Water Use	191
2015 Daily Per Capita Water Use	113
2015 Interim Urban Water Use Target	172
2020 Urban Water Use Target	**153**

Table 8. Water Use Reduction Status

Water Use Reduction (on gpcd basis)	% Reduction[1]
Achieved by 2015	40.8%
Needed to meet 2015 target	-52.0%
Needed to meet 2020 target	-35.1%
[1] A negative % means the compliance is currently lower than the target.	

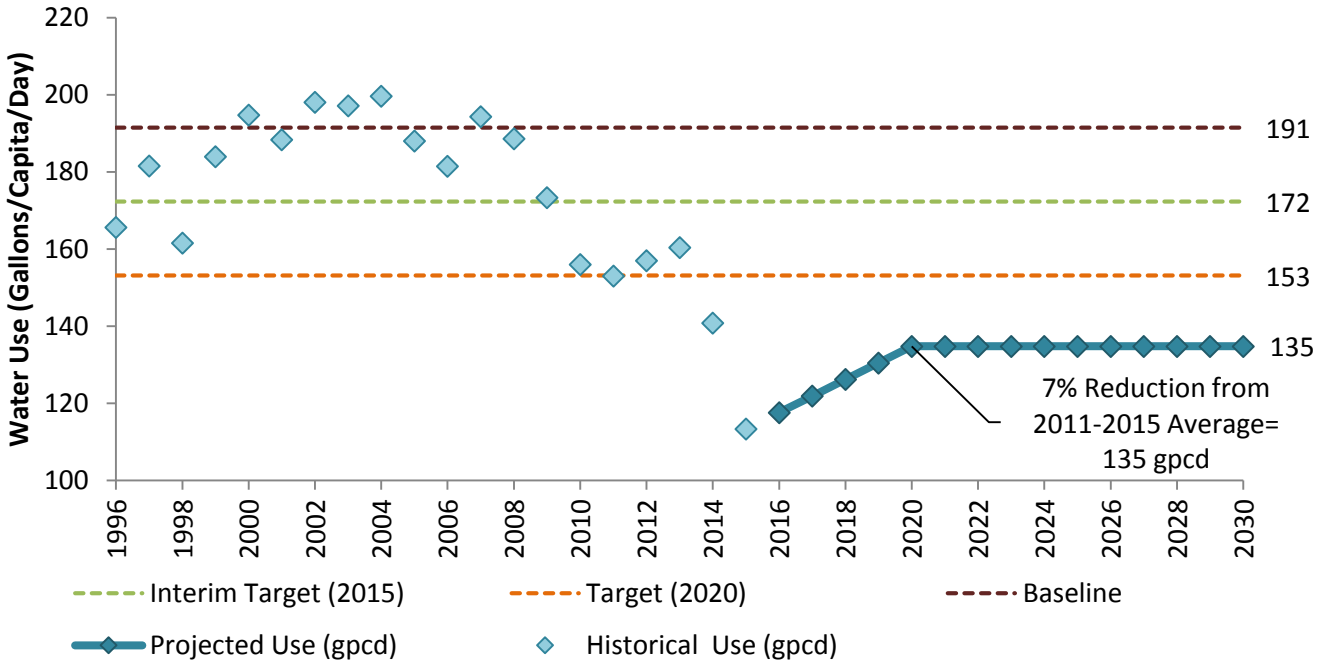


Figure 4. Historical, Current, and Project Per Capita Water Use

Appendix A. User Input- Method 4

User Input -- Provisional Method 4 Target

Target Calculation Option (select one): * Calculate Targets Using Default Indoor Residential Savings

* = Required Data

Water Supplier Name: * City of Arroyo Grande

10-15 Year Baseline Water Use Information

Baseline Period: * 1999-2008

Midpoint of Baseline Period: 2003

Baseline Water Use GPCD: * 191.5

Population in Midpoint Year: * 15,927

5 Year Baseline Water Use Information

Baseline Period: * 2003-2007

Baseline Water Use GPCD: * 192.0

95% of 5-Year Baseline GPCD: 182.4

Unmetered Connections

Number of Unmetered Connections in 2003: * 0

Water Use By Unmetered Connections In 2003: * 0 Acre-Feet

Baseline CII Water Use[1]

CII Water Use in 2003: * 380 Acre-Feet

Per Capita Use: 21.3 GPCD

[1]CII = Commercial, Industrial, Institutional.

If you have chosen to calculate targets using the Default Indoor Residential Savings, you do not need to complete the remaining tables.
Go to the "Calculated Targets" worksheet.

Appendix B. Calculator-Method 4

Target Calculation -- Provisional Method 4 Target

Step 1. Calculation of Landscape Water Use and System Water Loss

Urban Supplier	1999-2008 Baseline GPCD	—	Assumed Indoor Residential per Capita Water Use GPCD	—	CII per Capita Water Use GPCD	=	Estimated Landscape Water Use and System Water Loss GPCD
City of Arroyo Grande	191.5		70.0		21.3		100.1

Step 2. Calculation of Savings Using BMP Calculators

(Alternate) STEP 2 BEING USED TO CALCULATE TARGET

Urban Supplier	Indoor Residential Savings Calculators					+	Metering Savings BMP 1.3	+	CII Savings BMP 4	+	Land-scape + Water Loss Savings 21.6%	=	Total Savings GPCD
	Single Family Toilets	Multi Family Toilets	Resi-dential Washers	Resi-dential Showers	Total IR Savings								
City of Arroyo Grande	XXXX	XXXX	XXXX	XXXX	XXXX		XXXX		XXXX		XXXX		XXXX

(Alternate) Step 2. Calculation of Savings Using Default Indoor Residential Savings

Urban Supplier	Default Resi-dential Indoor Savings	+	Metering Savings BMP 1.3	+	CII Savings BMP 4	+	Land-scape + Water Loss Savings 21.6%	=	(alt) Total Savings GPCD
City of Arroyo Grande	15.0		0.0		2.1		21.6		38.8

Step 3. Calculation of Urban Water Use Targets

Urban Supplier	1999-2008 Baseline GPCD	—	Total Savings GPCD	=	**Computed 2020 Target GPCD**	⇒	**Less Than 95% of 5-Year Baseline**	⇒	**Final 2020 Target**	⇒	**Final 2015 Target**
City of Arroyo Grande	191.5		38.8		**152.7**		**TRUE**		**152.7**		**172.1**

APPENDIX E. AWWA WATER LOSS AUDIT

AWWA Free Water Audit Software:
Reporting Worksheet

WAS v5.0

American Water Works Association

? Click to access definition

+ Click to add a comment

Water Audit Report for: << Please enter system details and contact information on the Instructions tab >>

Reporting Year:

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

PLEASE CHOOSE REPORTING UNITS FROM THE INSTRUCTIONS SHEET BEFORE ENTERING DATA

To select the correct data grading for each input, determine the highest grade where the

Master Meter and Supply Error Adjustments

WATER SUPPLIED <---------- Enter grading in column 'E' and 'J' ----------> Pcnt: Value:

Volume from own sources:	9	86.800					
Water imported:	9	2,152.200					
Water exported:	9						

Enter negative % or value for under-registration

Enter positive % or value for over-registration

WATER SUPPLIED: 2,239.000

AUTHORIZED CONSUMPTION

Click here: ? for help using option buttons below

			Pcnt:	Value:
Billed metered:	9	2,106.300		
Billed unmetered:	9			
Unbilled metered:	9			
Unbilled unmetered:	5	27.988	1.25%	

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

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

AUTHORIZED CONSUMPTION: 2,134.288

WATER LOSSES (Water Supplied - Authorized Consumption) 104.713

Apparent Losses

			Pcnt:	Value:
Unauthorized consumption:		5.598	0.25%	

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

Customer metering inaccuracies:	8	0.000		
Systematic data handling errors:	7	5.266	0.25%	

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

Apparent Losses: 10.863

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: 93.849

WATER LOSSES: 104.713

NON-REVENUE WATER

NON-REVENUE WATER: 132.700

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	7	87.5
Number of active AND inactive service connections:	7	6,605
Service connection density:		75

Are customer meters typically located at the curbstop or property line? Yes

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:	7	65.0

COST DATA

Total annual cost of operating water system:	8	$1,328,115	$/Year
Customer retail unit cost (applied to Apparent Losses):	8	$3.50	$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	8	$1,458.00	$/

Use Customer Retail Unit Cost to value real losses

WATER AUDIT DATA VALIDITY SCORE:

*** YOUR SCORE IS: 81 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:

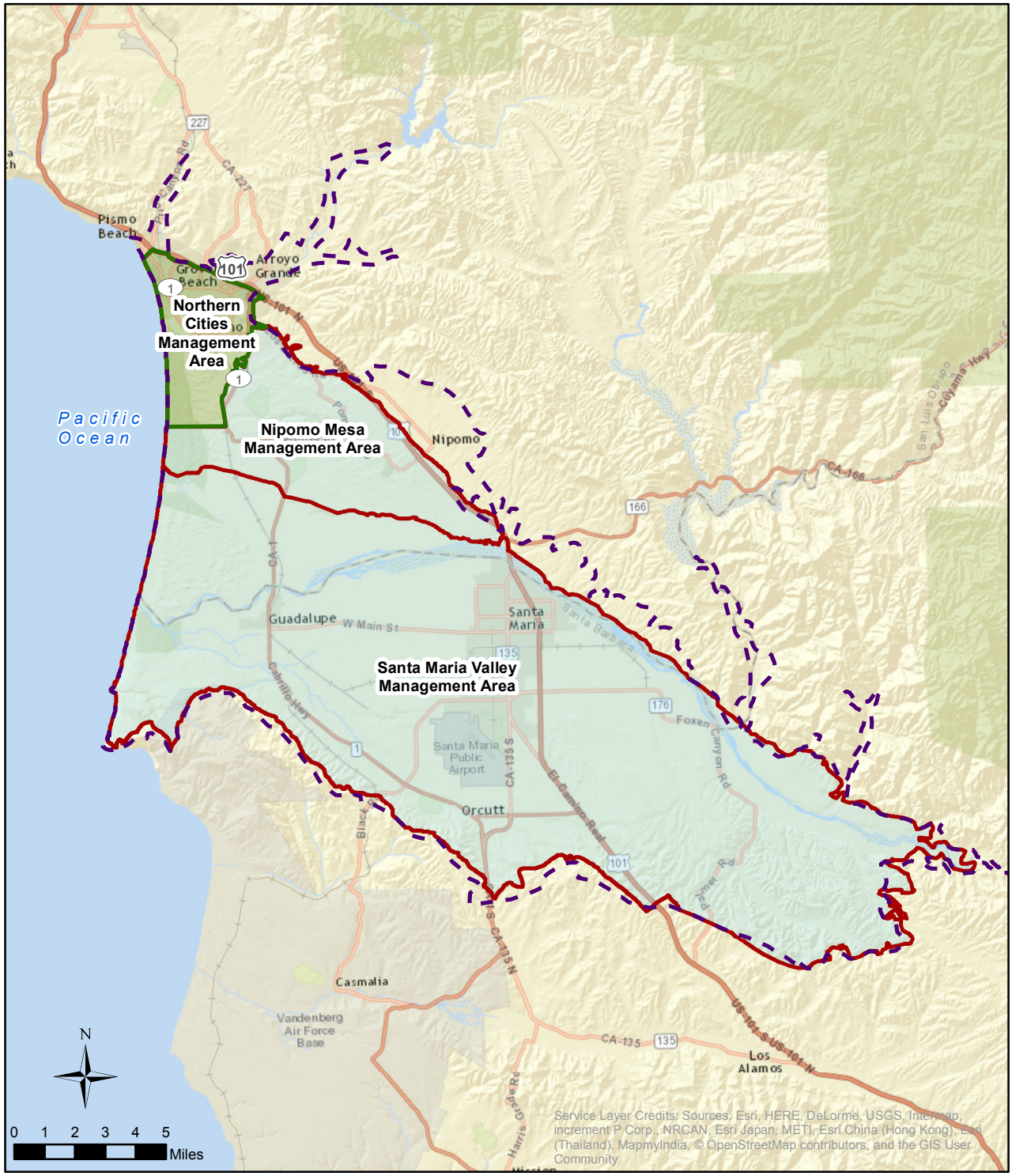
Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Water imported

2: Unauthorized consumption

3: Systematic data handling errors

APPENDIX F. SELECTED FIGURES FROM THE NCMA 2015 ANNUAL MONITORING REPORT



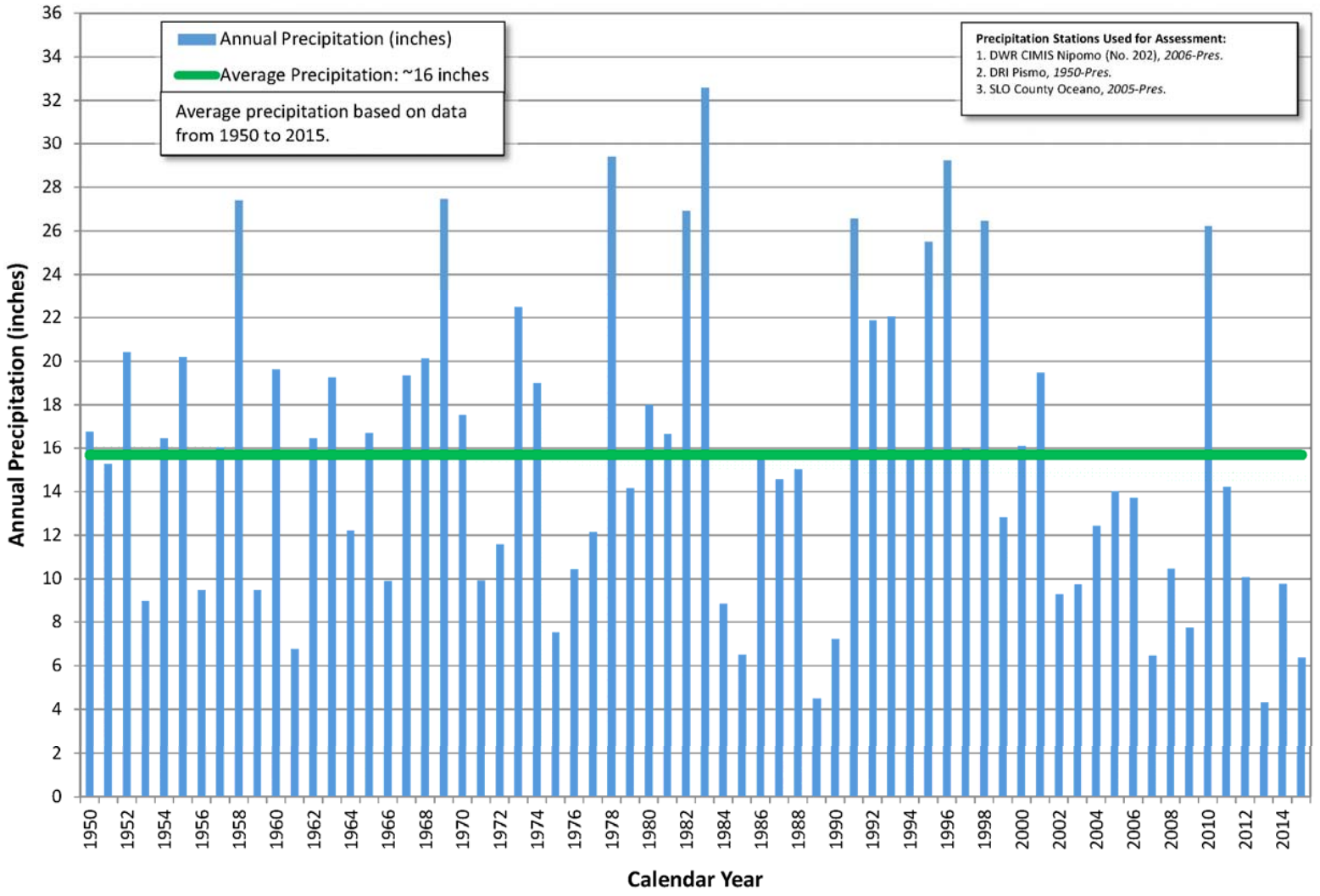
Legend

- Northern Cities Management Area
- Adjudication Area Boundary
- Santa Maria Groundwater Basin (DWR Bulletin 118)

SANTA MARIA GROUNDWATER BASIN

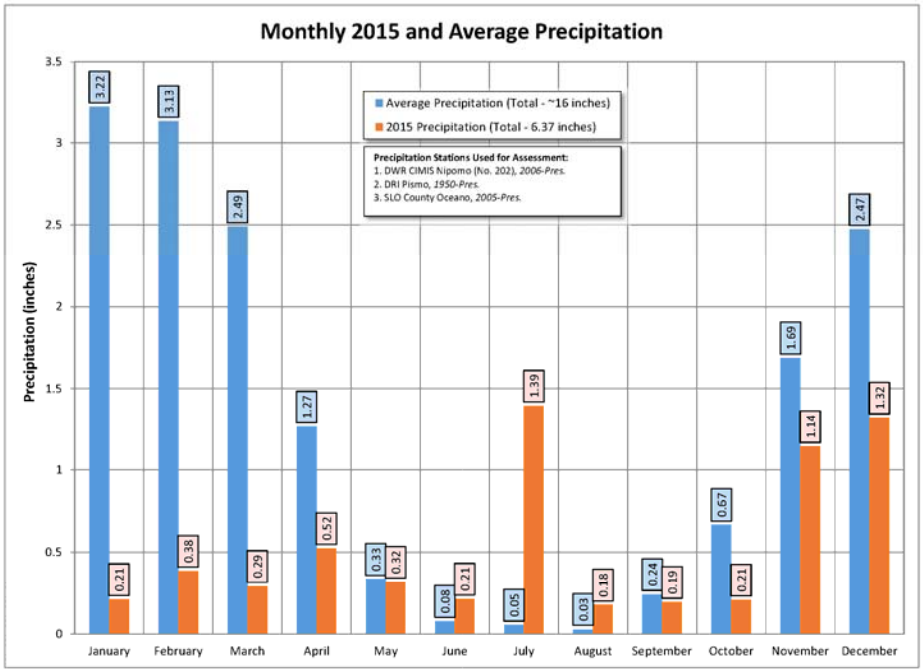
Northern Cities Management Area
San Luis Obispo County, California

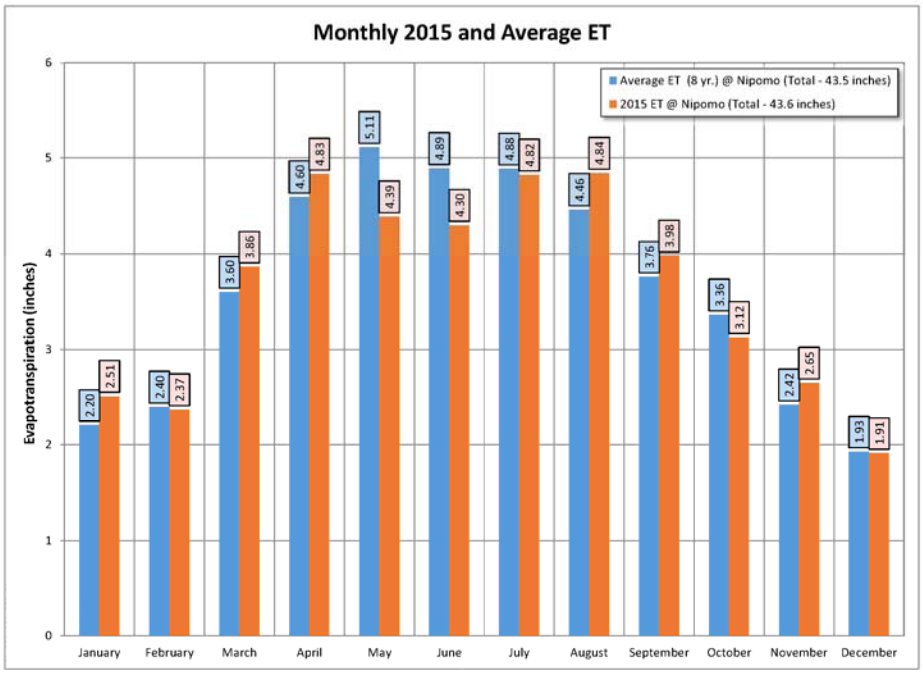
FIGURE 1



ANNUAL PRECIPITATION 1950 TO 2015
Northern Cities Management Area
San Luis Obispo County, California

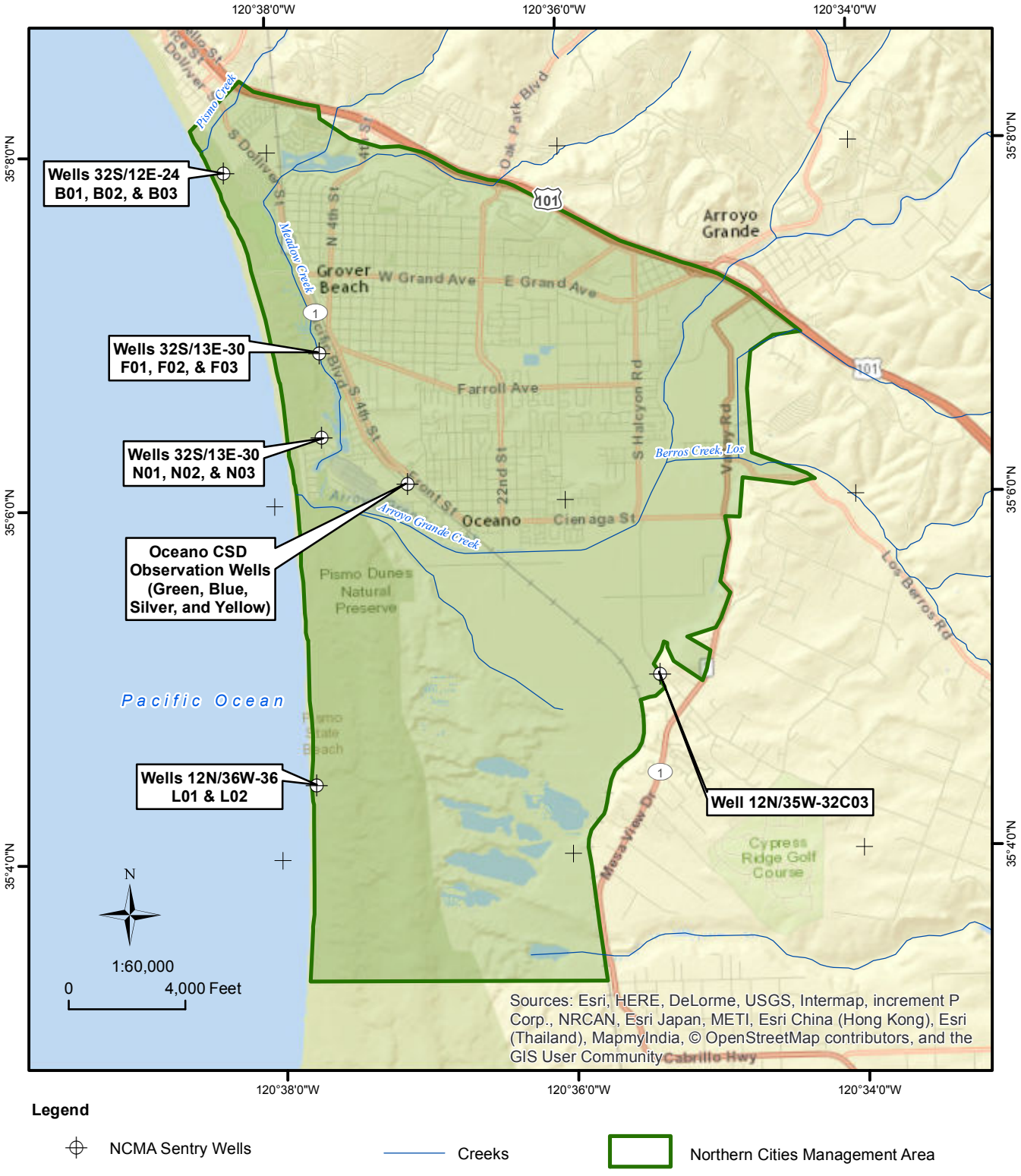
FIGURE 3





MONTHLY 2015 AND AVERAGE PRECIPITATION AND EVAPOTRANSPIRATION
Northern Cities Management Area
San Luis Obispo County, California

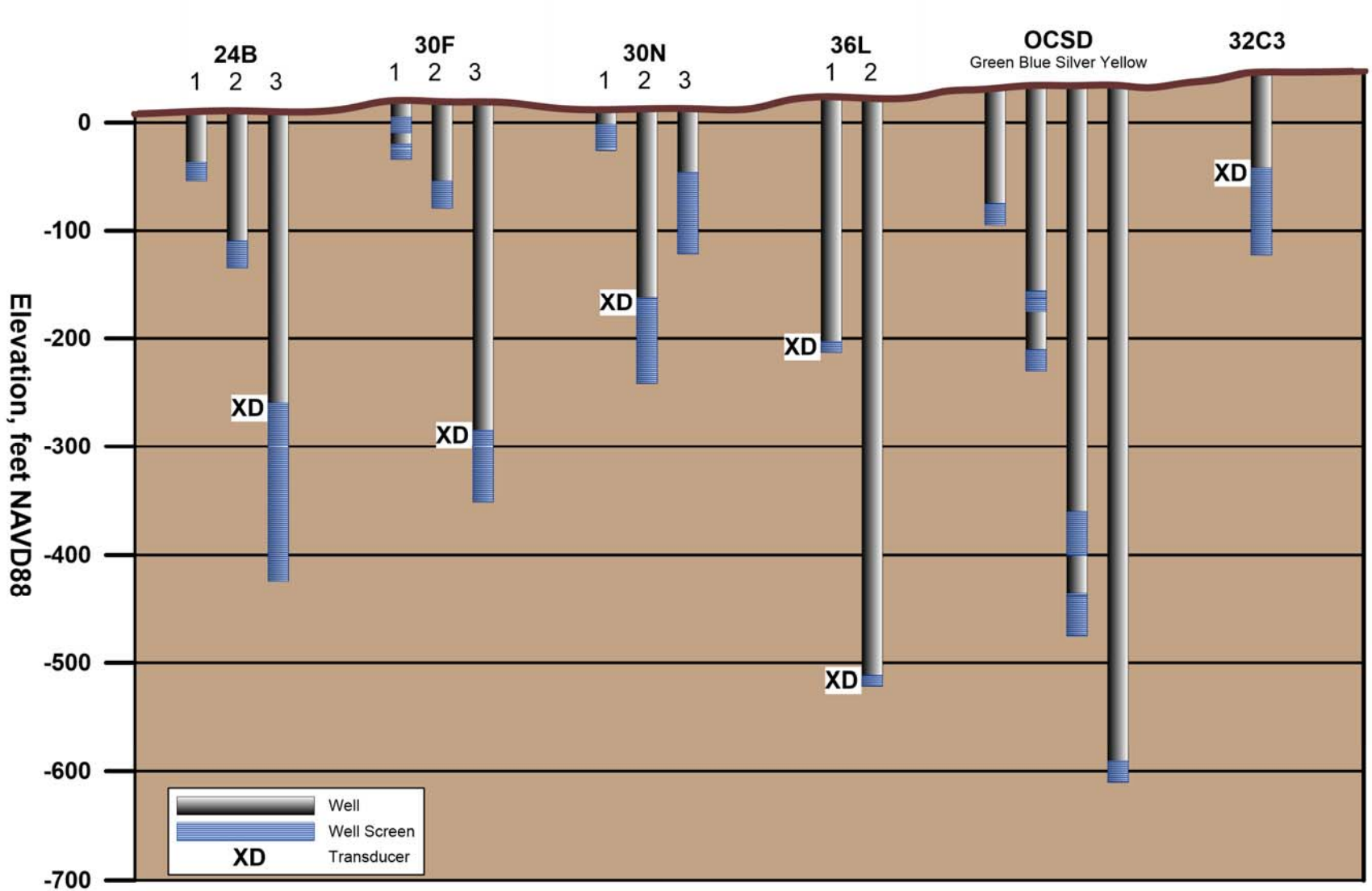
FIGURE 5



\\Venwest10\Data5\Projects\04_2014\04_6214_0105_NCMA_2014AnnualReport\Outputs\2014_NCMA_Annual_Monitoring_Report\mxd\Figure 7 Location of Sentry Wells.mxd, 04/01/15, tricely

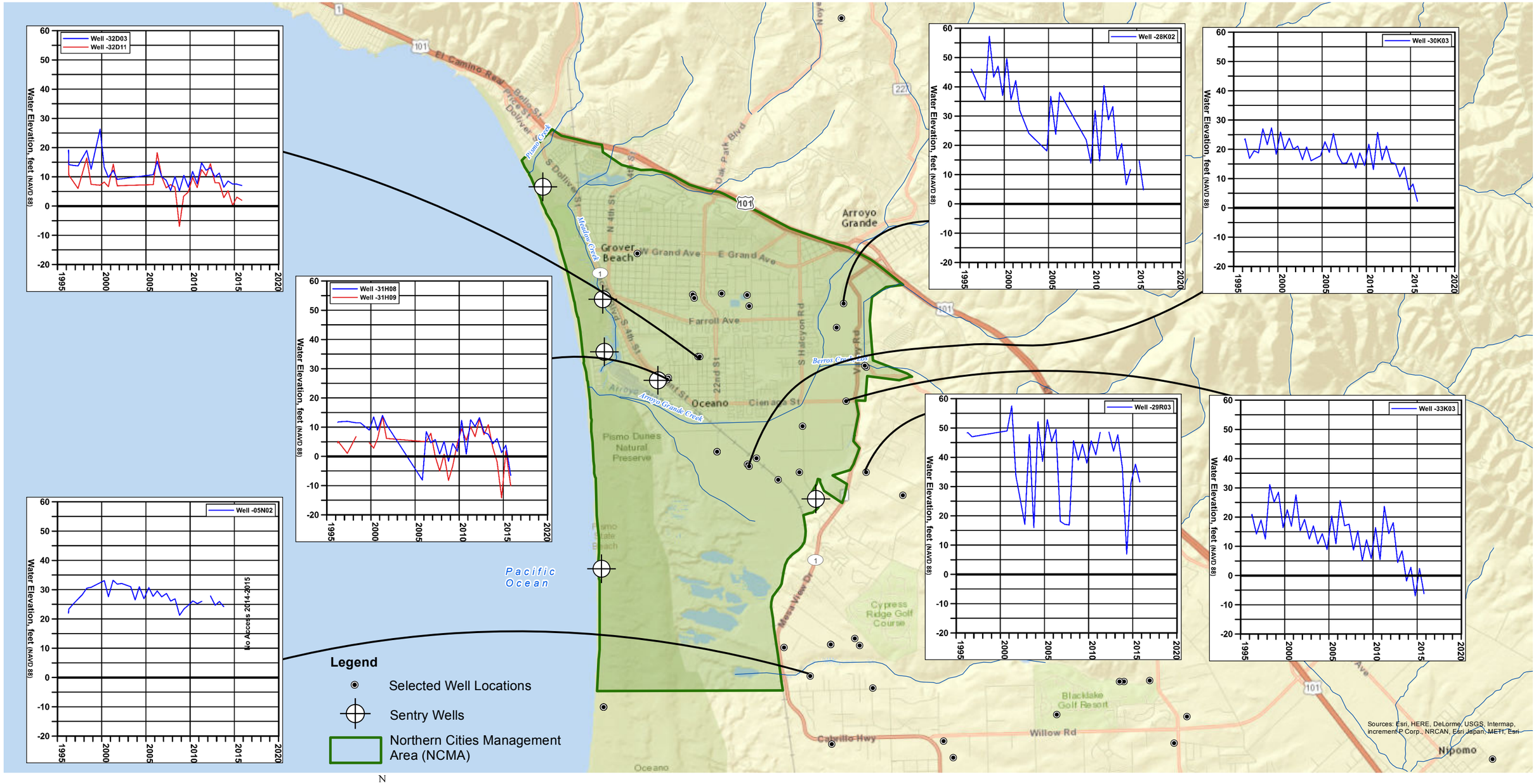
LOCATION OF SENTRY WELLS
Northern Cities Management Area
San Luis Obispo County, California

FIGURE 6



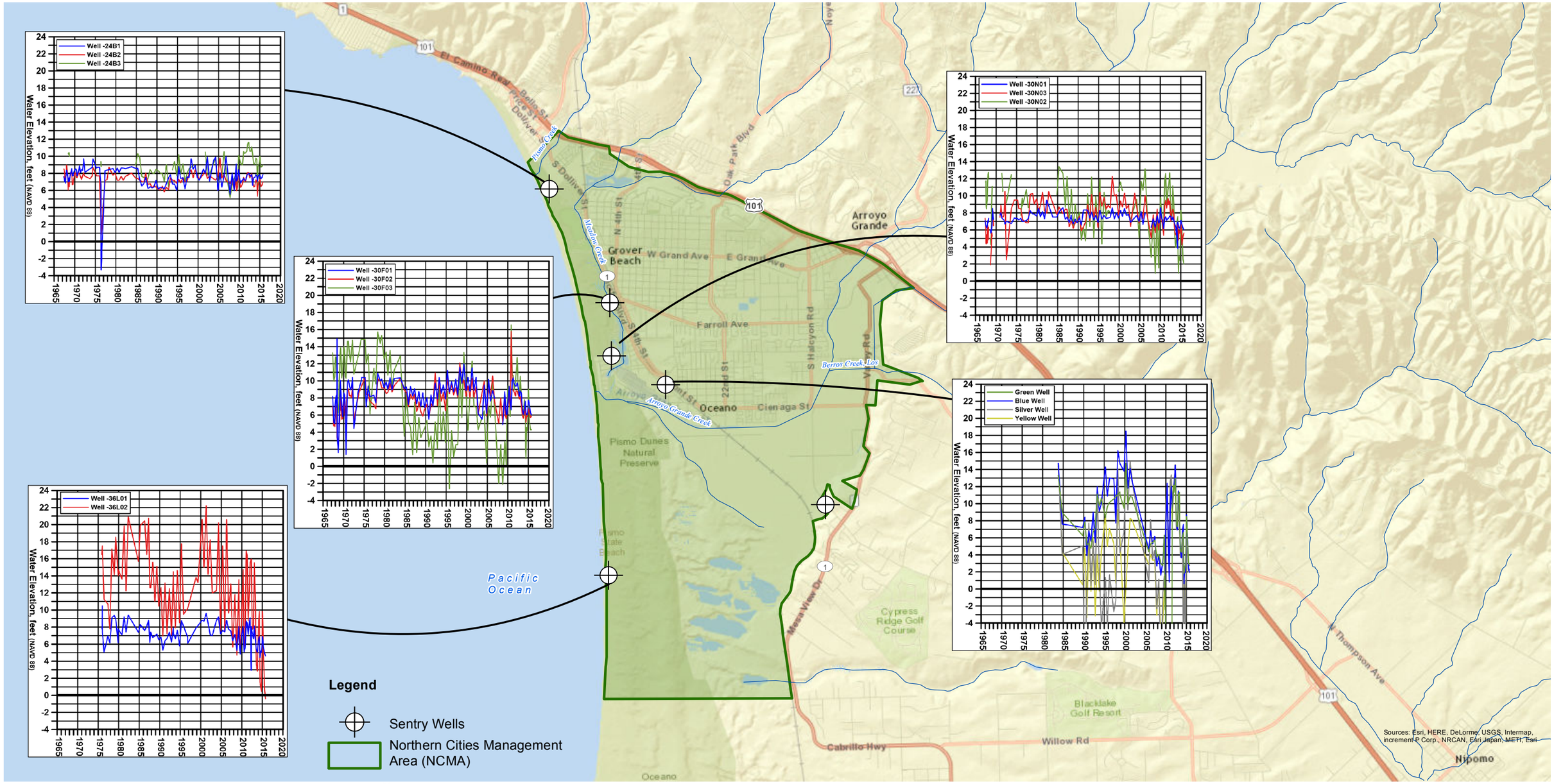
DEPTHS OF SENTRY WELLS
Northern Cities Management Area
San Luis Obispo County, California

FIGURE 7



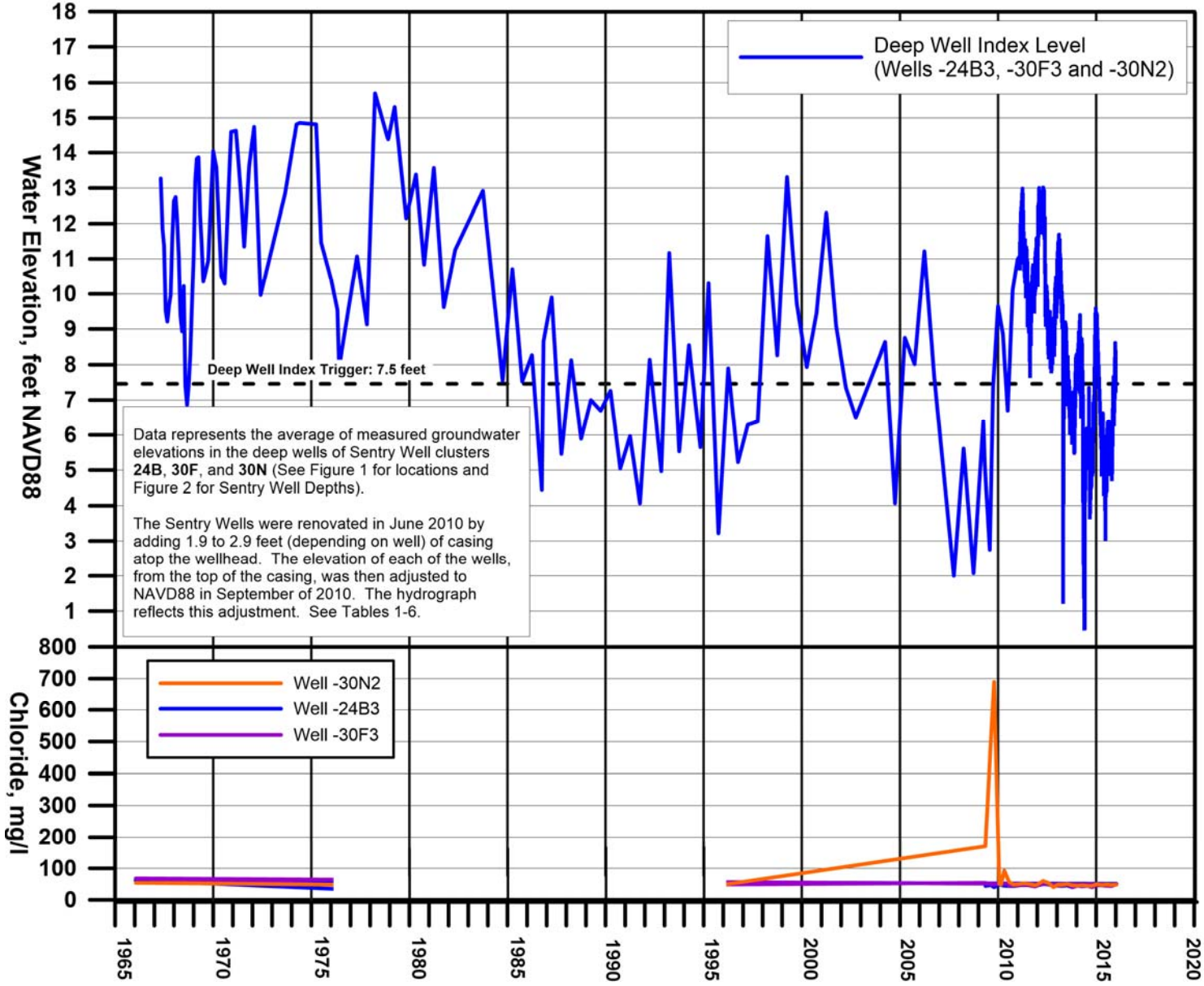
SELECTED HYDROGRAPHS
Northern Cities Management Area
San Luis Obispo County, California

FIGURE 10



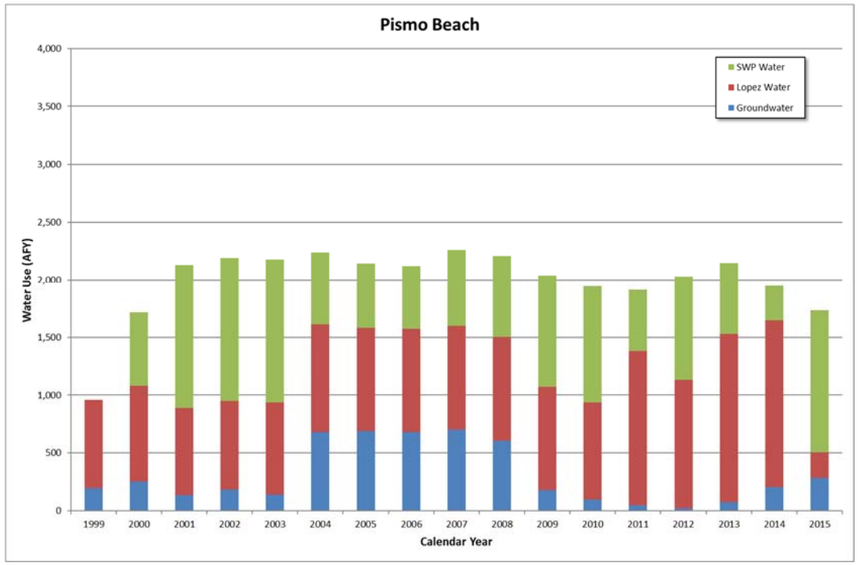
SENTRY WELL HYDROGRAPHS
Northern Cities Management Area
San Luis Obispo County, California

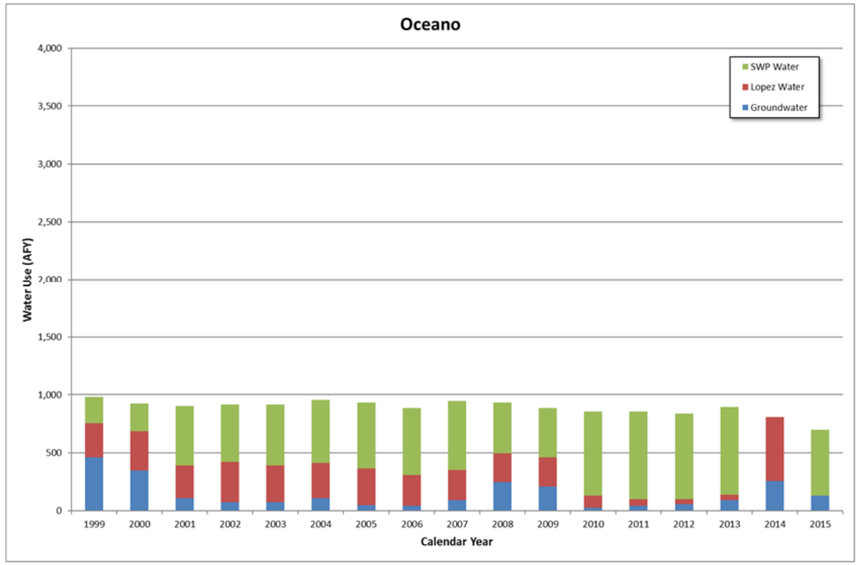
FIGURE 11

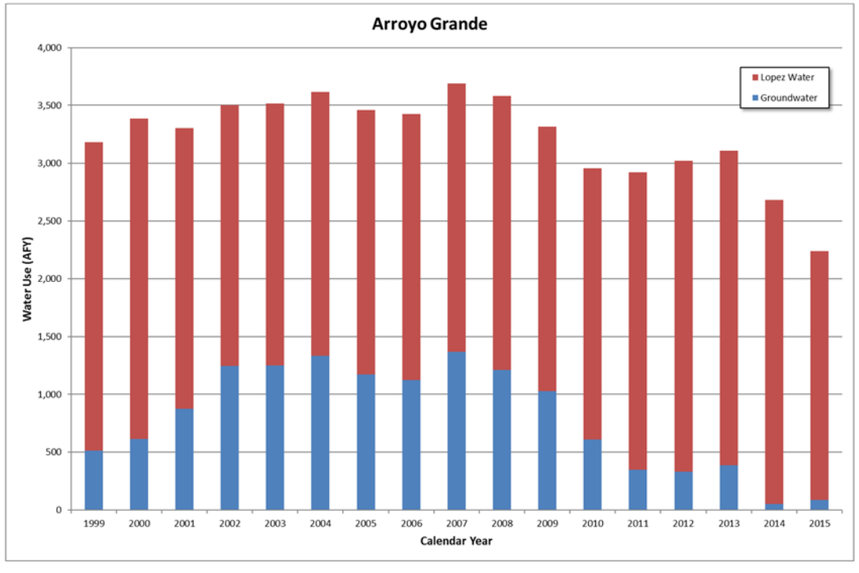


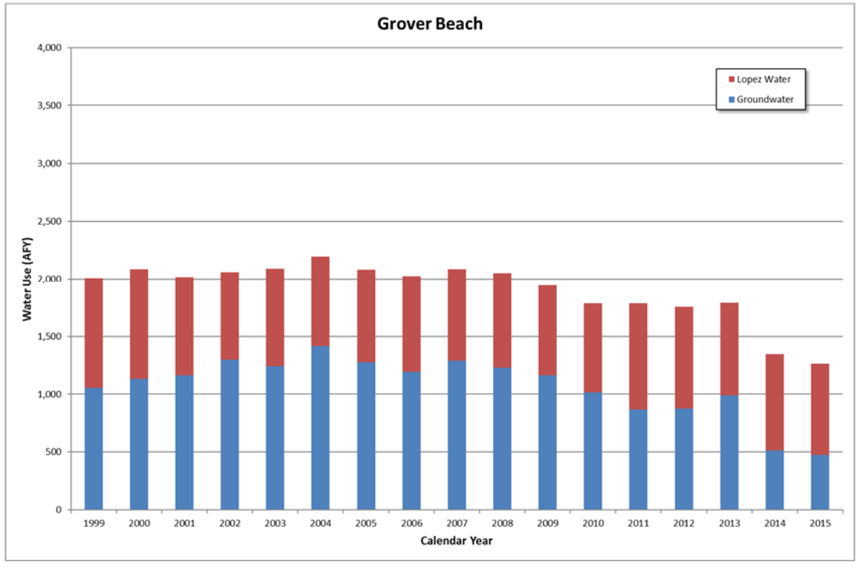
HYDOGRAPH OF AVERAGE DEEP SENTRY WELL ELEVATIONS
Northern Cities Management Area
San Luis Obispo County, California

FIGURE 12









MUNICIPAL WATER USE BY SOURCE
Northern Cities Management Area
San Luis Obispo County, California

FIGURE 23

APPENDIX G. SMGB GROUNDWATER MANAGEMENT AGREEMENT

AGREEMENT REGARDING MANAGEMENT OF THE ARROYO GRANDE GROUNDWATER BASIN

A. Parties

This Agreement is entered into among the Cities of Arroyo Grande, Pismo Beach, Grover Beach and the Oceano Community Services District (collectively referred to hereinafter as "Parties" or "Urban Parties").

B. Recitals

WHEREAS, in January 1983, a Technical Advisory Committee consisting of representatives of Arroyo Grande, Grover City, Pismo Beach, Oceano Community Services District, Port San Luis Harbor District, the Farm Bureau, Avila Beach County Water District and the County of San Luis Obispo ("Committee") determined in reliance on the 1979 Report of the Department of Water Resources entitled Ground Water in the Arroyo Grande Area that the safe yield of the Arroyo Grande Groundwater Basin ("Basin") is 9,500 acre feet per year;

WHEREAS, in or about February 1983, the Parties agreed to enter into a voluntary groundwater management plan to provide for effective management of groundwater resources in the Basin through which each party was given sufficient water to meet its needs as then projected; such needs being met in part by the City of Arroyo Grande foregoing 358 acre feet per year of its historical use and the City of Pismo Beach foregoing 20 acre feet per year of its historical use;

WHEREAS, this management plan provided a reasonable division of the safe yield of the Basin without court imposed groundwater basin adjudication;

WHEREAS, on February 9, 1983, the terms of the management plan were incorporated into Resolution No. 83-1 of the South San Luis Obispo County Water Association Approving the Recommendations of the Committee relating to the Basin (the "Resolution");

WHEREAS, each of the Parties have adopted individual resolutions endorsing the provisions of the Resolution;

WHEREAS, the Parties have generally complied with the terms and conditions of the Resolution; and

WHEREAS, general compliance with the Resolution has proven to be a fair and efficient means of managing and protecting groundwater resources in the Basin as confirmed by the revised final draft report prepared by the Department of Water Resources entitled, Water Resources of Arroyo Grande and Nipomo Mesa, January 2000.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. Division of Safe Yield.

a. The Parties agree to a division of the safe yield of the Basin as follows:

Applied Irrigation	5,300 acre feet
Subsurface flow to ocean	200 acre feet
Urban Use:	
City of Arroyo Grande	1,202 acre feet
City of Grover Beach	1,198 acre feet
City of Pismo Beach	700 acre feet
Oceano Community Services District	900 acre feet

b. Any increase or decrease in the safe yield of the Basin attributable to changed operation of the Lopez Reservoir, or any other cause, shall first be divided between the Urban Parties and applied irrigation on a pro rata basis using the formula from the 1983 Gentlemen's Agreement, fifty-seven percent (57%) to applied irrigation and forty-three percent (43%) to the Urban Parties. Thereafter, the first 378 acre feet per year of any increase of safe yield allocated to the Urban Parties shall be divided between the City of Arroyo Grande and the City of Pismo Beach on a pro rata basis (95% to Arroyo Grande and 5% to Pismo Beach).

c. The entitlements of each respective Urban Party may be increased based upon the conversion of irrigated agricultural lands to urban use. An Urban Party to this Agreement may increase its entitlement for urban use by a factor of three (3) acre feet per acre per year minus the calculated urban usage per acre per year upon the conversion of irrigated agricultural land to urban usage. "Irrigated agricultural land" shall be that land within the corporate limits of the party that was identified as irrigated agricultural land in the 1979 Department of Water Resources Report entitled Ground Water in the Arroyo Grande Area. This agricultural conversion factor may be applied to all acreage converted to urban use from January 1, 1983, throughout the life of this Agreement. Such an agricultural conversion factor is in the best interests of the overall Basin in that it will not result in any decline in the groundwater service over time. The Parties agree that no water should be converted to urban use within the Basin without establishing that it was irrigated agricultural land as defined in the 1979 Department of Water Resources Report, Groundwater in the Arroyo Grande Area.

d. The Parties agree and understand that the safe yield figures utilized in this Agreement are a product of the 1979 Department of Water Resources Report regarding the Arroyo Grande Basin as adjusted by the 1983 ad hoc Technical Advisory Committee and that the division of the resources is based upon the historical use of each party and a practical accommodation of each Party's needs as they existed at the time of the adoption of the 1983

agreement. It is agreed that the Parties will meet and confer on issues related to safe yield and division of existing water resources upon the final adoption of the new Arroyo Grande Basin study performed by the Department of Water Resources, which is currently in draft.

2. Shared Information and Monitoring: The Urban Parties to this Agreement shall freely share information with each other regarding each of their respective uses of groundwater in the Basin, including all pumping data such as amounts of water extracted, well static water levels, and water quality. The Urban Parties to this Agreement shall meet on a quarterly basis to share this information and to discuss water usage and impacts upon the Basin. The Parties shall conduct a review of water usage and the impacts on Basin hydrology in 2010 and 2020.

3. Term:

a. This Agreement shall bind the Parties indefinitely absent a significant change of circumstances as to available water, water quality, or hydrogeology of the Arroyo Grande Basin. A significant change of circumstances shall allow any Party to opt out of this Agreement if the significant change of circumstances put that Party at risk of not being able to meet its potable water needs.

b. Significant changed circumstances shall include changes within the Basin or outside of the Basin, including but not restricted to, a change in the Lopez Reservoir safe yield or an increase in Lopez Reservoir discharges for conservation purposes that threatens the ability of the Urban Parties to obtain their contractual allotments under their Lopez agreements, or a significant change in groundwater yields or quality, or a reduction in foreign water imported by any Urban Party. The Parties recognize that rainfall within the watershed is the most significant factor affecting the yield of Lopez Reservoir and the Basin.

c. The Parties shall revisit the issue of the allocation of groundwater resources within the Arroyo Grande Basin in 2010 and 2020 in the context of the review provided for in section 2 of this Agreement. The Parties shall make new allocations of groundwater resources at that time if circumstances justify it and if no harm will result to other groundwater users. Priority shall be given to reallocation of historical use of groundwater to Arroyo Grande and Pismo Beach that those agencies chose not to pursue in the entering into of the original Gentlemen's Agreement in 1983 should such new allocations be made.

d. A Party may opt out of this Agreement if significant changed circumstances arise as defined in this section. Such a party shall give all other parties to the agreement not less than six months written notice of its intention to opt out. The written notice shall describe in detail the significant changed circumstances upon which the Party bases its election to opt out of the Agreement.

4. Mediation Agreement: The Parties agree to mediate any disputes that arise out of the Parties' performance under this Agreement, or the interpretation of the terms of this Agreement, prior to instituting any litigation against or between any other Party to this Agreement. Should a Party institute litigation without first offering in good faith to mediate any such dispute, any Party may move for an order compelling mediation and staying the proceedings in the litigation until

after mediation has been completed. The prevailing party on a motion to compel mediation shall be entitled to recover its attorney's fees against any resisting party or any party who filed litigation without first making a good faith attempt to mediate the dispute. This mediation requirement shall not apply where the health and safety of any of the Parties, or any of the Parties' residents, is threatened and they must seek, and have obtained, preliminary relief for the purposes of preserving health and safety.

5. No Third Party Beneficiaries: The Parties are entering into this Agreement in order to reasonably allocate existing groundwater resources between themselves and not to benefit any third parties. This agreement shall only be enforceable between the Parties themselves. This Agreement does not create any right enforceable by any person or entity that is not a party to this Agreement.

6. General Provisions:

a. The Parties warrant that all necessary approvals and authorizations have been obtained to bind them to all terms of this Agreement, and further warrant that the persons signing have authority to sign on behalf of their respective Parties.

b. Written notice under this Agreement shall be given by placing such notice in the first class mail, postage prepaid, or by hand delivery to the current address of the office of any Party to this Agreement.

c. No amendment to this Agreement will be binding on any of the Parties unless it is in writing and signed by an authorized representative of all of the Parties.

d. This Agreement will be construed in accordance with, and governed by, the laws of the State of California as applied to contracts that are executed and performed entirely in California.

e. If any provision of this Agreement is held invalid or unenforceable by any final judgment, it is the intent of the Parties that all other provisions of this Agreement be construed to remain fully valid, enforceable, and binding on the Parties.

f. This Agreement may be executed simultaneously in one or more counterparts, each of which will be considered an original, but all of which together will constitute one and the same instrument.

g. The Parties represent that prior to the execution of this Agreement, they consulted independent legal counsel of their own selection regarding the substance of this Agreement.

WHEREFORE, the Parties publicly consent to the terms and conditions of this Agreement by executing the same as set forth below.

Dated: MAY 30, 2002.

City of Arroyo Grande

By: _____

Print Name and Title: MICHAEL A. LADY, MAYOR

Dated: June 10, 2002.

City of Pismo Beach

By: Rudy Natoli

Print Name and Title: MAYOR RUDY NATOLI

Dated: May 21, 2002.

City of Grover Beach

Attest: _____
Donna L. McMahon
City Clerk

By: _____

Print Name and Title: MAYOR

Dated: April 24, 2002.

Oceano Community Services District

Attest:

By: Bill Simon

Print Name and Title: Board President

Francis M. Cooney, Board Secretary

SUPERIOR COURT OF CALIFORNIA

COUNTY OF SANTA CLARA

SANTA MARIA VALLEY WATER CONSERVATION DISTRICT,

Plaintiff,

vs.

CITY OF SANTA MARIA, ET AL.,

Defendants.

AND RELATED CROSS-ACTIONS AND ACTIONS CONSOLIDATED FOR ALL PURPOSES

SANTA MARIA GROUNDWATER LITIGATION
Lead Case No. 1-97-CV-770214

(CONSOLIDATED FOR ALL PURPOSES)

[Consolidated With Case Numbers: CV 784900; CV 785509; CV 785522; CV 787150; CV 784921; CV 785511; CV 785936; CV 787151; CV 784926; CV 785515; CV 786791; CV 787152; 1-05-CV-036410]

San Luis Obispo County Superior Court Case Nos. 990738 and 990739

JUDGMENT AFTER TRIAL

This matter came on for trial in five separate phases. Following the third phase of trial, a large number of parties entered into a written stipulation dated June 30, 2005 to resolve their differences and requested that the court approve the settlement and make its terms binding on them as a part of any final judgment entered in this case. Subsequent to the execution of the stipulation by the original settling parties, a number of additional parties have agreed to be bound by the stipulation – their signatures are included in the attachments to this judgment.

The June 30, 2005 Stipulation is attached as Exhibit "1;" and all exhibits to the Stipulation are separately attached as Exhibits "1A" through "1H". The Stipulating Parties are identified on Exhibit "1A." The court approves the Stipulation, orders the Stipulating Parties only to comply with each and every term thereof, and incorporates the same herein as though set forth in full. No non-stipulating party is bound in any way by the stipulation except as the court may otherwise independently adopt as its independent judgment a term or terms that are the same or similar to such term or provision of the stipulation.

As to all remaining parties, including those who failed to answer or otherwise appear, the court heard the testimony of witnesses, considered the evidence found to be admissible by the court, and heard the arguments of counsel. Good cause appearing, the court finds and orders judgment as follows.

As used in this Judgment, the following terms shall have the meanings herein set forth:

Basin – The groundwater basin described in the Phase I and II orders of the court, as modified, with attachments and presented in Exhibit "1B".

Defaulting Parties – All persons or entities listed on Exhibit "3".

Imported Water – Water within the Basin received from the State Water Project, originating outside the Basin, that absent human intervention would not recharge or be used in the Basin.

LOG Parties – All persons or entities listed on Exhibit "2," listed under the subheading "LOG Parties".

Non-Stipulating Parties – All Parties who did not sign the Stipulation, including the Defaulting Parties and the LOG and Wineman Parties.

Parties – All parties to the above-referenced action, including Stipulating Parties, Non-Stipulating Parties, and Defaulting Parties.

Public Water Producers – City of Santa Maria, Golden State Water Company, Rural Water Company, the "Northern Cities" (collectively the Cities of Arroyo Grande, Pismo Beach, and Grover Beach, and Oceano Community Services District), and the Nipomo Community Services District.

Return Flows – All water which recharges the Basin after initial use, through the use of percolation ponds and others means, derived from the use and recharge of imported water delivered through State Water Project facilities.

Stipulating Parties – All Parties who are signatories to the Stipulation.

Stipulation – The Stipulation dated June 30, 2005 and incorporated herein as Exhibit "1," with each of its Exhibits separately identified and incorporated herein as Exhibits "1A" through "1H".

Storage Space – The portion of the Basin capable of holding water for subsequent reasonable and beneficial uses.

Wineman Parties – All persons or entities listed on Exhibit "2," under the subheading "Wineman Parties".

The following Exhibits are attached to this Judgment:

1. *Exhibit "1,"* June 30, 2005 Stipulation and the following exhibits thereto:

a. *Exhibit "1A,"* list identifying the Stipulating Parties and the parcels of land bound by the Stipulation.

b. *Exhibit "1B,"* Phase I and II Orders, as modified, with attachments.

c. *Exhibit "1C,"* map of the Basin and boundaries of the three Management Areas.

d. *Exhibit "1D,"* map identifying those lands as of January 1, 2005: 1) within the boundaries of a municipality or its sphere of influence, or within the process of inclusion in its sphere of influence; or 2) within the certificated service area of a publicly regulated utility; and a list of selected parcels that are nearby these boundaries which are excluded from within these areas.

e. *Exhibit "1E,"* 2002 Settlement Agreement between the Northern Cities and Northern Landowners.

f. *Exhibit "1F,"* the agreement among Santa Maria, Golden State and Guadalupe regarding Twitchell Project and the Twitchell Management Authority.

g. *Exhibit "1G,"* the court's Order Concerning Electronic Service of

Pleadings and Electronic Posting of Discovery Documents dated June 27, 2000.

h. *Exhibit "1H,"* the form of memorandum of agreement to be recorded.

2. *Exhibit "2,"* List of Non-Stipulating LOG and Wineman Parties and recorded deed numbers of property they owned at the time of trial.

3. *Exhibit "3,"* List of Defaulting parties.

A declaratory judgment and physical solution are hereby adjudged and decreed as follows:

1. As of the time of trial, LOG and Wineman Parties owned the real property, listed by assessor's parcel numbers, as presented in Exhibit 2.

2. The City of Santa Maria and Golden State Water Company are awarded prescriptive rights to ground water against the non-stipulating parties, which rights shall be measured and enforced as described below.

3. The City of Santa Maria and Golden State Water Company have a right to use the Basin for temporary storage and subsequent recapture of the Return Flows generated from their importation of State Water Project water, to the extent that such water adds to the supply of water in the aquifer and if there is storage space in the aquifer for such return flows, including all other native sources of water in the aquifer. The City of Santa Maria's Return Flows represent 65 percent of the amount of imported water used by the City. Golden State Water Company's Return Flows represent 45 percent of the amount of imported water used by Golden State in the basin.

4. (a) The Northern Cities have a prior and paramount right to produce 7,300 acre-feet of water per year from the Northern Cities Area of the Basin; and (b) the Non-Stipulating Parties have no overlying, appropriative, or other right to produce any water supplies in the Northern Cities Area of the Basin.

5. The Groundwater Monitoring Provisions and Management Area Monitoring Programs contained in the Stipulation, including Sections IV(D) (All Management Areas); V(B) (Santa Maria Management Area), VI(C) (Nipomo Mesa Management Area), and VII (1) (Northern Cities Management Area), inclusive, are independently adopted by the court as

necessary to manage water production in the basin and are incorporated herein and made terms of this Judgment. The Non-Stipulating Parties shall participate in, and be bound by, the applicable Management Area Monitoring Program. Each Non-Stipulating Party also shall monitor their water production, maintain records thereof, and make the data available to the court or its designee as may be required by subsequent order of the court.

6. No Party established a pre-Stipulation priority right to any portion of that increment of augmented groundwater supply within the Basin that derives from the Twitchell Project's operation.

7. The court determines that there is a reasonable likelihood that drought and overdraft conditions will occur in the Basin in the foreseeable future that will require the exercise of the court's equity powers. The court therefore retains jurisdiction to make orders enforcing the rights of the parties hereto in accordance with the terms of this judgment.

a. Groundwater

i. The overlying rights of the LOG and Wineman Parties shall be adjusted by amounts lost to the City of Santa Maria and Golden State Water Company by prescription. The prescriptive rights of the City of Santa Maria and Golden State Water Company must be measured against the rights of all overlying water producers pumping in the acquifer as a whole and not just against the LOG and Wineman Parties because adverse pumping by the said water producers was from the aquifer as a whole and not just against the non-stipulating parties. The City of Santa Maria established total adverse appropriation of 5100 acre feet per year and Golden State Water Company established adverse appropriation of 1900 acre feet a year, measured against all usufructuary rights within the Santa Maria Basin. The City of Santa Maria and Golden State Water Company having waived the right to seek prescription against the other stipulating parties, may only assert such rights against the non stipulating parties in a proportionate quantity. To demonstrate the limited right acquired by the City of Santa Maria and Golden State Water Company, by way of example, if the cumulative usufructuary rights of the LOG and Wineman Parties were 1,000 acre-feet and the cumulative usufructuary rights of all other overlying groundwater right holders within the

Basin were 100,000 acre-feet, the City of Santa Maria and Golden State Water Company would each be entitled to enforce 1% of their total prescriptive right against the LOG and Wineman Parties. That is, Golden State Water Company could assert a prescriptive right of 19 annual acre-feet, and the City of Santa Maria 51 annual acre-feet, cumulatively against the LOG and Wineman Parties, each on a proportionate basis as to each LOG and Wineman Party's individual use.

ii. The Defaulting Parties failed to appear at trial and prove any usufructuary water rights. The rights of the Defaulting Parties, if any, are subject to the prescriptive rights of the City of Santa Maria and Golden State Water Company, as well as the other rights of said parties as established herein.

b. Imported Water

The City of Santa Maria and Golden State Water Company shall have rights to Return Flows in the amount provided above.

c. Northern Cities

The rights of all Parties in the Northern Cities Management Area shall be governed as described above on page 4, lines 21 to 24.

8. The LOG and Wineman Parties have failed to sustain the burden of proof in their action to quiet title to the quantity of their ground water rights as overlying owners. All other LOG and Wineman party causes of action having been dismissed, judgment is hereby entered in favor of the Public Water Producers as to the quiet title causes of action brought by the LOG and the Wineman Parties. Legal title to said real property is vested in the Log and Wineman Parties and was not in dispute in this action.

9. Each and every Party, their officers, agents, employees, successors and assigns, are enjoined and restrained from exercising the rights and obligations provided through this Judgment in a manner inconsistent with the express provisions of this Judgment.

10. Except upon further order of the court, each and every Party and its officers, agents, employees, successors and assigns, is enjoined and restrained from transporting groundwater to areas outside the Basin, except for those uses in existence as of the date of this

Judgment; provided, however, that groundwater may be delivered for use outside the Basin as long as the wastewater generated by that use of water is discharged within the Basin, or agricultural return flows resulting from that use return to the Basin.

11. Jurisdiction, power and authority over the Stipulating Parties as between one another are governed exclusively by the Stipulation. The court retains and reserves jurisdiction as set forth in this Paragraph over all parties hereto. The court shall make such further or supplemental orders as may be necessary or appropriate regarding interpretation and enforcement of all aspects of this Judgment, as well as clarifications or amendments to the Judgment consistent with the law.

12. Any party that seeks the court's exercise of reserved jurisdiction shall file a noticed motion with the court. Any noticed motion shall be made pursuant to the court's Order Concerning Electronic Service of Pleadings and Electronic Posting of Discovery Documents dated June 27, 2000.

13. The court shall exercise *de novo* review in all proceedings. The actions or decisions of any Party, the Monitoring Parties, the TMA, or the Management Area Engineer shall have no heightened evidentiary weight in any proceedings before the court.

14. As long as the court's electronic filing system remains available, all court filings shall be made pursuant to court's Order Concerning Electronic Service of Pleadings and Electronic Posting of Discovery Documents dated June 27, 2000, or any subsequent superseding order. If the court's electronic filing system is eliminated and not replaced, the Parties shall promptly establish a substitute electronic filing system and abide by the same rules as contained in the court's Order.

15. Nothing in this Judgment shall be interpreted as relieving any Party of its responsibilities to comply with state or federal laws for the protection of water quality or the provisions of any permits, standards, requirements, or order promulgated thereunder.

16. Each Party shall designate the name, address and e-mail address, if any, to be used for purposes of all subsequent notices and service by a designation to be filed within thirty days after entry of this Judgment. This designation may be changed from time to time

by filing a written notice with the court. Any Party desiring to be relieved of receiving notices may file a waiver of notice on a form approved by the court. The court shall maintain at all times a current list of Parties to whom notices are to be sent and their addresses for purposes of service. The court shall also maintain a full current list of names, addresses, and e-mail addresses of all Parties or their successors, as filed herein. Copies of such lists shall be available to any Person. If no designation is made, a Party's designee shall be deemed to be, in order of priority: i) the Party's attorney of record; ii) if the Party does not have an attorney of record, the Party itself at the address specified.

17. All real property owned by the Parties within the Basin is subject to this Judgment. The Judgment will be binding upon and inure to the benefit of each Party and their respective heirs, executors, administrators, trustees, successors, assigns, and agents. Any party, or executor of a deceased party, who transfers property that is subject to this judgment shall notify any transferee thereof of this judgment and shall ensure that the judgment is recorded in the line of title of said property. This Judgment shall not bind the Parties that cease to own property within the Basin, and cease to use groundwater. Within sixty days following entry of this Judgment, the City of Santa Maria, in cooperation with the San Luis Obispo entities and Golden State, shall record in the Office of the County Reporter in Santa Barbara and San Luis Obispo Counties, a notice of entry of Judgment.

The Clerk shall enter this Judgment.

SO ORDERED, ADJUDGED, AND DECREED.

Dated: January 25, 2008

Judge of the Superior Court
JACK KOMAR

APPENDIX H. WATER CONSERVATION ORDINANCE

Chapter 13.05 - WATER CONSERVATION[1]

Sections:

Footnotes:

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Editor's note—Ord. No. 631, § 2, adopted May 10, 2011, repealed and replaced in its entirety the former Ch. 13.05, §§ 13.05.010—13.05.070, and enacted a new Ch. 13.05 as set out herein. The former Ch. 13.05 pertained to similar subject matter and derived from Ord. 576 §§ 2—4, 2005: Ord. 540 § 1, Exh. A (part), 2003.

13.05.010 - Water conservation measures established.

Mandatory water conservation measures are hereby established as set forth in this chapter. Please refer to Chapter 16.84, Water Efficient Landscape Requirements, for rules and regulations regarding landscape and irrigation, including limitations on the percentage of turf/lawn that can be placed in landscape areas.

(Ord. No. 631, § 2, 5-10-2011; Ord. No. 633, § 3, 6-14-2011)

13.05.020 - 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.

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.

C. The city council may adopt resolutions designed to implement the provisions of this chapter.

(Ord. No. 631, § 2, 5-10-2011)

13.05.030 - Water conservation requirements.

The following water conservation requirements are effective at all times. Violations of this section shall be considered waste and an unreasonable use of water. Penalties for noncompliance are listed in Sections 13.05.050 and 13.05.060.

A. Use of water which results in excessive gutter runoff is prohibited.

B. Outdoor Water Use—Except Irrigation.

1. No water shall be used for cleaning driveways, patios, parking lots, sidewalks, streets or other such use except where necessary to protect the public health and safety;

2. Outdoor water use for washing vehicles shall be attended and have hand-controlled watering devices.

C. Outdoor Irrigation.

1. Outdoor irrigation is prohibited between the hours of ten (10) a.m. and four p.m.
2. Irrigation of private and public landscaping, turf areas and gardens is permitted at even-numbered addresses only on Mondays and Thursdays and at odd-numbered addresses only on Tuesdays and Fridays. No irrigation of private and public landscaping, turf areas and gardens is permitted on Wednesdays. Irrigation is permitted at all addresses on Saturdays and Sundays however, in all cases customers are directed to use no more water than necessary to maintain landscaping.

D. Emptying and refilling swimming pools and commercial spas is prohibited except to prevent structural damage and/or to provide for the public health and safety. New swimming pools may be constructed, however, they shall have a cover that conforms to the size and shape of the pool and act as an effective barrier to evaporation. The cover must be in place during periods when use of the pool is not reasonably expected to occur.

E. Use of potable water for soil compaction or dust control purposes in construction activities is prohibited unless specifically approved by the city.

F. Hotel, motel or other commercial lodging establishment shall offer their patrons the option to forego the daily laundering of towels, sheets and linens.

G. Restaurants or other commercial food service establishments shall not serve water except upon the request of a patron.

(Ord. No. 631, § 2, 5-10-2011; Ord. No. 669, § 2, 2-24-2015)

13.05.050 - Penalties for noncompliance.

A. Violation of any provision of this chapter may result in termination of water service until such violation is corrected, and until penalties are paid in full and will be subject to the following administrative procedure:
   1. Written notice to the alleged offender, including the furnishing of informational material and advice where appropriate;
   2. Recovery of all city staff costs, including overhead, or any second or greater offense within any one-year period;
   3. Additional civil administrative penalties for any third or greater offense within any one-year period;
   4. The right to appeal first to the utility billing adjustment committee and then to the city council.

(Ord. No. 631, § 2, 5-10-2011)

13.05.060 - Violation—Penalty.

In addition to, and completely separate from, the civil enforcement provisions of the ordinance codified in this chapter, any person who knowingly and willfully violates the provisions of this chapter shall be guilty of a criminal misdemeanor as provided in the general penalty provisions of this code. All previous attempts by the city to obtain compliance by the defendant may be introduced as evidence of the offender's knowledge and willfulness.

(Ord. No. 631, § 2, 5-10-2011)

ORDINANCE NO. 669

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF ARROYO GRANDE REPEALING SECTION 13.05.040, AMENDING SECTION 13.05.030 AND ADDING CHAPTER 13.07 TO THE ARROYO GRANDE MUNICIPAL CODE RELATING TO WATER CONSERVATION AND EMERGENCY WATER SHORTAGE RESTRICTIONS AND REGULATIONS

WHEREAS, The City of Arroyo Grande's limited water supply consists of Lake Lopez and groundwater, and an extended drought could result in a reduction in delivery of Lake Lopez water and/or the threat of seawater intrusion. Therefore, if rainfall below normal levels continues to occur there will be the need for dramatic reductions in water usage in the City; and

WHEREAS, Chapter 13.05 of the Arroyo Grande Municipal Code contains permanent mandatory water conservation restrictions, and therefore there are limited options available to significantly reduce water use in a water shortage emergency; and

WHEREAS, California Water Code Sections 350 et. seq. authorizes water suppliers, after holding a properly noticed public hearing and after making certain findings, to declare a water shortage emergency and to adopt such regulations and restrictions to conserve the water supply for the greatest public benefit with particular regard for domestic use, sanitation, and fire protection; and

WHEREAS, the framework to adopt restrictions and regulations on water use contained in this Ordinance are intended to provide an effective and immediately available means to implement the conservation of water that is essential during periods of a declared water shortage emergency, to ensure a reliable and sustainable minimum supply of water for public health, safety, and welfare, preserve limited water supplies, avoid depletion of water to an unacceptably low level and provide mechanisms to address critical water shortages if dry conditions continue or worsen; and

WHEREAS, the City Council has determined that creating procedures for the implementation of usage allotments and restrictions, as provided herein, will provide a fair and equitable mechanism to spread the burden when it has been determined that the City's water supply is so limited that a water shortage emergency exists and available water supply is less than projected demand in the case of a Stage 1 Water Shortage Emergency, or in the case of a Stage 2 Water Shortage Emergency, equal to or less than amounts that have been determined necessary to meet basic household health and safety requirements; and

WHEREAS, the provisions of Chapter 13.07, as adopted by this Ordinance, are intended to only take effect when the City Council, by Resolution, and based upon the

recommendations of City staff and its analysis of the City's water supplies, finds and determines that the conditions justifying the declaration of a Stage 1 or Stage 2 Water

Shortage Emergency exists or is imminent, and when so declared the restrictions and regulations shall remain in effect for the duration of the water shortage emergency set forth in the Resolution.

NOW, THEREFORE BE IT ORDAINED by the City Council of the City of Arroyo Grande as follows:

SECTION 1. Section 13.05.040 of the Arroyo Grande Municipal Code is hereby repealed.

SECTION 2. Section 13.05.030 of the Arroyo Grande Municipal Code is hereby amended to read as follows:

The following water conservation requirements are effective at all times. Violations of this section shall be considered waste and an unreasonable use of water. Penalties for noncompliance are listed in Sections 13.05.050 and 13.05.060.

A. Use of water which results in excessive gutter runoff is prohibited.

B. Outdoor Water Use - Except Irrigation.

1. No water shall be used for cleaning driveways, patios, parking lots, sidewalks, streets or other such use except where necessary to protect the public health and safety;

2. Outdoor water use for washing vehicles shall be attended and have hand-controlled watering devices.

C. Outdoor Irrigation.

1. Outdoor irrigation is prohibited between the hours of ten a.m. and four p.m.

2. Irrigation of private and public landscaping, turf areas and gardens is permitted at even-numbered addresses only on Mondays and Thursdays and at odd-numbered addresses only on Tuesdays and Fridays. No irrigation of private and public landscaping, turf areas and gardens is permitted on Wednesdays. Irrigation is permitted at all addresses on Saturdays and Sundays however, in all cases customers are directed to use no more water than necessary to maintain landscaping.

D. Emptying and refilling swimming pools and commercial spas is prohibited except to prevent structural damage and/or to provide for the public health and safety. New swimming pools may be constructed, however, they shall have a cover that conforms to the size and shape of the pool and act as an effective barrier to evaporation. The cover must be in place during periods when use of the pool is not reasonably expected to occur.

E. Use of potable water for soil compaction or dust control purposes in construction activities is prohibited unless specifically approved by the city.

F. Hotel, motel or other commercial lodging establishment shall offer their patrons the option to forego the daily laundering of towels, sheets and linens.

G. Restaurants or other commercial food service establishments shall not serve water except upon the request of a patron.

SECTION 3. Chapter 13.07 is hereby added to the Arroyo Grande Municipal to read as follows:

Chapter 13.07 Emergency Water Shortage Restrictions and Regulations

13.07.010. Definitions.

A. "Director" refers to the City of Arroyo Grande Public Works Director or his or her designee.

B. "Water" refers to water produced and served by the City of Arroyo Grande water department.

C. "City" refers to the City of Arroyo Grande.

D. "Water department" refers to the City of Arroyo Grande Water Department.

E. "Customer" shall refer to any account customer of the City of Arroyo Grande Water Department as well as to any consumer of City water who may not be a City of Arroyo Grande Water Department account customer.

F. "Household Allocation" refers to the establishment of a water allocation amount, to be established by resolution of the City Council, and which allocation amount, if exceeded, is subject to mandatory financial penalties that escalate based upon the level of water use and as further set forth in the resolution.

G. "Historical Use" refers to the establishment of a baseline amount of water that is equal to the amount of water used in the same billing period for the prior year, and which will subject the customer to mandatory financial penalties if specified percentages of water savings are not met, as further set forth in a resolution adopted by the City Council.

13.07.020 Stage 1 or Stage 2 Water Shortage Emergencies Defined

A. The provisions of this Chapter relating to Emergency Water Shortage Restrictions and Regulations are in addition to the Water Conservation Requirements contained in Section 13.05.030 and shall take effect upon adoption of a resolution by the City Council as further provided in Section 13.07.030 and 13.07.040, based upon the recommendations of City staff and its analysis of the City's water supplies that Stage 1 Water Shortage Emergency or Stage 2 Water Shortage Emergency conditions exist, as defined in this Section. Upon adoption, such resolutions shall remain in effect for the duration of the water shortage emergency conditions.

1. **Stage 1 Water Shortage Emergency**. A Stage 1 Water Shortage Emergency shall mean that there have been impacts to the City's water supply, and/or it has been determined that it is imminent that the City's water supply has or will become so limited that an emergency water shortage condition exists as far as the available water supply being less than projected demand.

2. **Stage 2 Water Shortage Emergency**. A Stage 2 Water Shortage Emergency shall mean that that it has been determined that the projected City's water supply is, or will become equal to or less than amounts that have been determined necessary to meet basic minimum household health and safety requirements, and restrictions and limits through the implementation of water allocations are necessary for continued water use that is reliable and sustainable by providing a minimum supply for the most essential purposes for human consumption, sanitation, and fire protection during the emergency situation.

B. During a Stage 1 or Stage 2 Water Shortage Emergency, if it is deemed in the City's interest in order to better monitor water usage, the billing period may be adjusted by City staff to provide for monthly billing, instead of bimonthly billing.

C. Upon adoption of a resolution declaring a Stage 1 or Stage 2 Water Shortage Emergency, the provisions of this Chapter and any restrictions set forth in the resolution, shall apply to all persons using or consuming water provided by the City inside and outside of the city, regardless of whether any person using such water has a contract for water service with the City.

D. If any other provision of the Arroyo Grande Municipal Code, whether enacted prior to or subsequent to the enactment of this Chapter, is inconsistent with the provisions of this Chapter, the provisions of this Chapter shall supersede and control for the duration of the declared Water Shortage Emergency set forth in the resolution of the City Council.

13.07.030 Stage 1 Water Shortage Emergency and Historical Use Water Restrictions

A. After holding a noticed public hearing in accordance with the requirements of Water Code Section 350 et seq., the City Council may declare a Stage 1 Water Shortage Emergency based upon a determination that there has been impacts to the City's water supply,

and/or it has been determined that it is imminent that the City's water supply has or will become so limited that an emergency water shortage condition exists as far as the available water supply being less than projected demand necessitating the institution of reductions in water usage based upon Historical Use, as further set forth in subsection B.

B. Upon adoption of a Stage 1 Water Shortage Emergency resolution, all residential customers will be assigned a baseline amount of water, based upon the amount of water used during the same billing period of the previous year prior to the adoption of the resolution. All residential customers shall reduce water usage by a percentage amount set forth in the resolution, which percentages may be modified or amended by the City Council as deemed necessary and appropriate. The percentage of required conservation shall increase depending on the billing Tier of the residential customers water use as provided in the City's tiered water rate structure. The resolution shall include provisions for the imposition of mandatory financial penalties if the amount of water in each Tier is exceeded, which penalties may also be modified or amended by the City Council as deemed necessary and appropriate based upon a determination of the severity of the Water Shortage Emergency.

The following shall be used as a general framework for the resolution establishing the baseline units for billing Tiers and penalties, subject to such revisions deemed necessary in order to achieve the desired water savings:

Residential customers in Tier 1 shall be required to reduce consumption by the lowest percentage. Residential customers in Tier 2 shall be required to reduce consumption by a larger percentage than those in Tier 1. Residential Customers in Tier 3 shall be required to reduce consumption by an even larger percentage than those in Tier 1 and Tier 2. For example, Tier 1 customers may initially be required to conserve 5%, Tier 2 customers 10% and Tier 3 15%. As the emergency worsens, the City Council, may by resolution, increase the percentage reduction deemed necessary in order to achieve the projected amount of water savings established as necessary.

13.07.040 Stage 2 Water Shortage Emergency and Household Allocation Water Restrictions.

A. After holding a noticed public hearing in accordance with the requirements of Water Code Section 350 et seq., the City Council may declare a Stage 2 Water Shortage Emergency based upon a determination that the

projected City's water supply is or will become equal to or less than amounts that have been determined necessary to meet basic minimum household health and safety requirements, and restrictions and limits through the implementation of water allocations are necessary for continued water use that is reliable and sustainable by providing a minimum supply for the most essential purposes for human consumption, sanitation, and fire protection during the emergency situation.

B. Upon adoption of a Stage 2 Water Shortage Emergency, restrictions and limits shall be imposed through the implementation of Household Allocations of water units for residential customers. All residential customers will be allocated units of water deemed necessary for an average household size (1 unit of water is equal to 100 cubic feet or 748 gallons). Any residential customer using over the assigned baseline unit amount shall be subject to a citation and the imposition of mandatory financial penalties, which shall be set forth in the resolution adopted by the City Council and be based upon the severity of the Water Shortage Emergency. Each household shall be allowed 12 units of water per two month billing period (which is equivalent to 150 gallons per household per day). Households with over 5-7 people will be allowed 20 units of water per two month billing period (250 gallons per day). Households with over 7 people will be allowed 28 units of water per two month billing period (350 gallons per day). The allocations contained herein may be adjusted by the City Council by resolution.

13.07.050 Commercial Properties and Irrigation Meters

During a Stage 1 Water Shortage Emergency commercial water customers shall not be subject to mandatory penalties for use, provided however, that commercial customers with irrigation meter accounts shall reduce water use by such percentages specified in the resolution declaring the Water Shortage Emergency. During a State 2 Water Shortage Emergency commercial water customers shall not use potable water for irrigation of outdoor landscaping. All commercial irrigation meters shall be shut off and billing will be suspended. The resolution shall also establish mandatory financial penalties for failing to meet required water use reductions.

13.07.060 Additional Requirements and Restrictions during Stage 1 or Stage 2 Water Shortage Emergency

Upon adoption of a resolution declaring a Stage 1 or Stage 2 Water Shortage Emergency the following shall apply:

1. Commercial, industrial or irrigation meter customers shall immediately follow any directive issued or declared by the City's Water Department to conduct water use audits, prepare water conservation plans and immediately repair any identified water system leaks, including leaks attributable to faulty pipes or fixtures. Commercial customers shall not violate any other water use restrictions intended to preclude excessive water usage, as adopted by the City.

2. Residential customers shall not violate any water use/allocation or other water rationing regulation implemented by resolution of the City Council, including such regulations intended to preclude excessive water usage and specifying maximum water usage limitations, as otherwise provided by this Chapter.

13.07.070 Adjustments in Stage 1 Reduction Amounts, and Other Exceptions.

A. During a Stage 1 Water Shortage Emergency the Director, upon application made in writing by a customer on a form promulgated by the Water Department and accompanied by supporting documentation, shall be authorized to modify the percentage of water consumption reduction that is required by the customer, upon the customer's production of substantial evidence demonstrating the existence of unusual circumstances, including but not limited to the household having been vacant during a portion of the prior year billing period, resulting in the baseline water amount assigned to the household being lower than what would normally have been experienced.

B. The percentage of reduction in water consumption during a Stage 1 Water Shortage Emergency, or the water allotments during a Stage 2 Water Shortage Emergency may also be adjusted if the existence of one or more of the following circumstances are shown and that are particular to that customer and which are not generally shared by other Water Department customers:

    1. Failure to approve the requested exception would cause a condition having an adverse effect on the health, sanitation, fire protection, or safety of the customer.

    2. Alternative restrictions to which the customer is willing to adhere are available that would achieve the same level of demand reduction as the restriction for which an exception is

being sought and such alternative restrictions are enforceable by the water department.

3. Circumstances concerning the customer's property have changed since the implementation of the subject restriction warranting a change in the customer's water usage allocation or required percentage of reduction in consumption.

C. In order to qualify for an exception, a customer must first complete a self water audit pursuant to standards and procedures promulgated by the water department. This audit shall be made part of the customer's exception application and water conservation measures indicated by the audit may be incorporated as conditions of approval to an exception in addition to any other conditions of approval imposed by the Director in connection with the director's approval of the customer's exception application.

13.07.080 Water Shortage Appeals Board (WSAB)

A. Upon adoption of a resolution declaring a Stage 1 or Stage 2 Water Shortage Emergency, the Utility Billing Adjustment Committee shall be empowered to act as the Water Shortage Appeal Board (WSAB). Thereafter, the Water Shortage Appeal Board will remain available to convene for as long as the Water Shortage Emergency remains in effect.

B. Any customer who considers an action taken by the Director or an enforcement official under the provisions of this Chapter, including action on adjustments to Stage 1 water consumption reduction amounts, and on exception application, or the assessment of administrative penalties which have been erroneously taken or issued, may appeal that action or penalty to the Water Shortage Appeals Board in the following manner:

1. The appeal shall be made in writing, shall state the nature of the appeal specifying the action or penalty that is being appealed and the basis upon which the action or penalty is alleged to be in error. Penalty appeals shall include a copy of the bill or any applicable notice of violation;

2. An appeal, to be effective, must be received by the Director not later than ten business days following the date of the notice of violation or the date that the Director took the action which is the subject of the appeal;

3. The Director shall schedule the appeal for consideration by the WSAB. The WSAB shall hear the appeal within ninety days of

the date of the appeal and issue its decision within thirty days of the date of the hearing;

4. In ruling on appeals, the WSAB shall strictly apply the provisions of this Chapter, and shall not impose or grant terms and conditions not authorized by this Chapter.

5. Decisions of the WSAB shall be subject to appeal to the City Council in accordance with the procedures in Chapter 1.12 of this Code, including the requirement that decisions be first taken up with the City Manager.

13.07.090 Penalties and Enforcement.

A. Penalties. The purpose of the mandatory penalties assessed pursuant to this Chapter and set forth in a resolution of the City Council declaring a Stage 1 or Stage 2 Water Shortage Emergency is to assure compliance by the customer through the imposition of increasingly significant penalties so as to create a meaningful incentive to reduce water use. In acknowledgment of the fact that the City's water is scarce and irreplaceable commodity and that this Chapter is intended to equitably distribute that commodity among Water Department customers and to assure that, to the extent feasible, City water is conserved and used only for purposes deemed necessary for public health and safety, such mandatory penalties are not to be construed as creating a "water pricing" structure pursuant to which customers may elect to pay for additional water significantly higher rates.

B. Stage 2 Penalties. A customer's repeated use of excessive water during a Stage 2 Water Shortage Emergency shall result in criminal prosecution as a misdemeanor, and may result in the installation of a flow restriction device or disconnection of the customer's property from the City's water service system at the customer's cost, as further set forth herein. Flow restriction devices shall not be installed on residences that have fire sprinkler systems.

C. Misdemeanor. In addition to, and completely separate from, the civil penalties for excessive water use, any person who knowingly and willfully violates the provisions of this Chapter during a Stage 2 Water Shortage Emergency shall be guilty of a criminal misdemeanor as provided in the general penalty provisions of this Code. In accordance with Section 1.16.010, such misdemeanor violations may, at the discretion of the City Attorney, be initially charged or subsequently prosecuted as an infraction. All previous attempts by the City to obtain compliance by the defendant may be introduced as evidence of the offender's knowledge and willfulness.

D. Discontinuing Service. In addition to any penalties, misdemeanor criminal prosecution and the installation of a water flow restrictor, during a Stage 2 Water Shortage Emergency the Director may disconnect a customer's water service for willful violations of mandatory restrictions and regulations in this Chapter and Chapter 13.05. Upon disconnection of water service, a written notice shall be served upon the customer which shall state the time, place, and general description of the prohibited or restricted activity and the method by which reconnection can be made.

E. Cost of Flow Restrictor and Disconnecting Service. A person or entity that as a result of violations of this Chapter has a flow restrictor installed or water service disconnected is responsible for payment of charges for installing and/or removing the flow-restricting device and for disconnecting and/or reconnecting service in accordance with the City's fee schedule then in effect. The charge for installing and/or removing any flow restricting device must be paid before the device is removed. Nonpayment will be subject to the same remedies as nonpayment of basic water rates.

SECTION 4. If any section, subsection, subdivision, paragraph, sentence, or clause of this Ordinance or any part thereof is for any reason held to be unlawful, such decision shall not affect the validity of the remaining portion of this Ordinance or any part thereof. The City Council hereby declares that it would have passed each section, subsection, subdivision, paragraph, sentence, or clause thereof, irrespective of the fact that any one or more section, subsection, subdivision, paragraph, sentence, or clause be declared unconstitutional.

SECTION 5. A summary of this Ordinance shall be published in a newspaper published and circulated in the City of Arroyo Grande at least five (5) days prior to the City Council meeting at which the proposed Ordinance is to be adopted. A certified copy of the full text of the proposed Ordinance shall be posted in the office of the City Clerk. Within fifteen (15) days after adoption of the Ordinance, the summary with the names of those City Council Members voting for and against the Ordinance shall be published again, and the City Clerk shall post a certified copy of the full text of such adopted Ordinance.

SECTION 6. This Ordinance shall take effect thirty (30) days after its adoption.

On motion by Council Member Guthrie, seconded by Council Member Barneich, and by the following roll call vote to wit:

AYES: Council Members Guthrie, Barneich, Brown, Harmon, and Mayor Hill
NOES: None
ABSENT: None

the foregoing Ordinance was adopted this 24th day of February, 2015.

JIM HILL, MAYOR

ATTEST:

KELLY WETMORE, CITY CLERK

APPROVED AS TO CONTENT:

ROBERT MCFALL, INTERIM CITY MANAGER

APPROVED AS TO FORM:

TIMOTHY J. CARMEL, CITY ATTORNEY

OFFICIAL CERTIFICATION

I, KELLY WETMORE, City Clerk of the City of Arroyo Grande, County of San Luis Obispo, State of California, do hereby certify under penalty of perjury, that the attached Ordinance No. 669 which was introduced at a regular meeting of the City Council on February 10, 2015; was passed and adopted at a regular meeting of the City Council on the 24th day of February, 2015; and was duly published in accordance with State law (G.C. 40806).

WITNESS my hand and the Seal of the City of Arroyo Grande affixed this 25th day of February 2015.

Kelly Wetmore

KELLY WETMORE, CITY CLERK

RESOLUTION NO. 4659

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ARROYO GRANDE DECLARING A STAGE 1 WATER SHORTAGE EMERGENCY IN ACCORDANCE WITH CALIFORNIA WATER CODE SECTION 350 AND ARROYO GRANDE MUNICIPAL CODE SECTION 13.07.030

WHEREAS, on February 24, 2015 the City Council of the City of Arroyo Grande adopted Ordinance No. 669 adding Chapter 13.07 to the Arroyo Grande Municipal Code relating to Emergency Water Shortage Restrictions and Regulations; and

WHEREAS, Section 13.07.030 provides that after holding a noticed public hearing in accordance with the requirements of Water Code Section 350, et seq., the City Council may declare a Stage 1 Water Shortage Emergency based upon a determination that there has been impacts to the City's water supply, and/or it has been determined that it is imminent that the City's water supply has or will become so limited that an emergency water shortage condition exists as far as the available water supply being less than projected demand; and

WHEREAS, California Water Code sections 350 et seq. authorize the governing body of a public water supply distributor to declare that water shortage emergency conditions prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection, and Water Code Section 353 provides that when such a water shortage emergency is declared the governing body shall adopt necessary regulations and restrictions on the delivery and consumption of water; and

WHEREAS, on January 17, 2014, the Governor of the State of California proclaimed a state of emergency in the State of California due to current drought conditions in the state and the Governor's proclamation acknowledged that the State of California is experiencing extremely dry conditions that have persisted since 2012, and on April 25, 2014, the Governor issued a proclamation of a continued state of emergency under the California Emergency Services Act based on continuing drought conditions; and

WHEREAS, on April 1, 2015, the Governor issued an Executive Order directing the imposition of further restrictions on water suppliers to achieve a statewide 25 percent reduction in potable urban water usage through February 2016, and the implementing regulations adopted by the State Water Resources Control Board mandate that the City of Arroyo Grande reduce its total potable water production by 28 percent for each month as compared to the amount of water used in the same month in 2013; and

WHEREAS, The City of Arroyo Grande has a limited water supply that consists of two primary sources: Lake Lopez and groundwater. The San Luis Obispo County Flood Control and Water Conservation District has developed the Lake Lopez Low Level Reservoir Response Plan (LRRP) which provides for a series of management procedures that are to be followed when the reservoir level drops below 20,000 acre feet which includes reduced municipal water deliveries. In addition, significant concerns exist regarding groundwater pumping and the potential for seawater intrusion; and

WHEREAS, as a result of the reductions in the reservoir level at Lake Lopez the San Luis Obispo County Flood Control and Water District Zone 3 Advisory Board has implemented a 10% reduction in deliveries of water to Lake Lopez member agencies,including the City of Arroyo Grande. Additionally, based upon the concerns about seawater intrusion, the City has reduced pumping groundwater; and

WHEREAS, these actions, and the recently imposed mandatory 28% cutback imposed by the State of California, combined with the ongoing drought, the fact that this years rainy season has ended and the continued decline in the City's available water supply, has resulted in City Staff having advised the City Council that it has determined that the City's water supply has or will become so limited that an emergency water shortage condition exists and the available water supply is less than projected demand; and

WHEREAS, pursuant to Chapter 13.07 of the Arroyo Grande Municipal Code, based upon the foregoing determinations, City Staff has recommended that the City Council declare a Stage 1 Water Shortage Emergency and implement reductions in water usage based upon Historical Use, as defined in Section 13.07.010 and as further set forth in Exhibit A to this resolution; and

WHEREAS, the City of Arroyo Grande is granted authority by Water Code Sections 350 et seq. and by Arroyo Grande Municipal Code Chapter 13.07 to declare a Stage 1 Water Shortage Emergency and adopt by resolution regulations and restrictions on the delivery and consumption of water; and

WHEREAS, in accordance with the requirements of Arroyo Grande Municipal Code Section 13.07.030 and Water Code sections 351 and 352, a public hearing on this declaration was duly noticed and held on May 26, 2015.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Arroyo Grande does resolve, declare, determine, and order as follows

SECTION 1. The foregoing Recitals are true and correct and are incorporated herein.

SECTION 2. Pursuant to Arroyo Grande Municipal Code Section 13.07.030 and Water Code section 350, et seq. and for the reasons set forth herein, the City Council of the City of Arroyo Grande hereby declares that a Stage 1 Water Shortage Emergency now exists throughout the area served by the City of Arroyo Grande and that there have been impacts on the City's water supply such that the available water supply is less than projected demand and that the demands and requirements of the City's water consumers cannot be satisfied without depleting the water supply of the City to the extent that there would be insufficient water for human consumption, sanitation and fire protection. Based on this condition and on concerns regarding the anticipated prolonged drought conditions, and pursuant to the Arroyo Grande Municipal Code and the authority in Water Code Section 353, the City Council hereby implements reductions in water usage based upon Historical Use, as further set forth in Exhibit A, which exhibit is attached hereto and incorporated herein, which the City Council finds are necessary and appropriate to protect the health, safety and welfare of the public.

SECTION 3. In accordance with the provisions of Section 13.07.030, and as further set forth in Exhibit "A", all residential water customers shall be assigned a baseline amount of water based upon the amount of water used during the same billing period of the previous year prior to the adoption of this Resolution. All residential customers shall reduce water usage by the percentage amount set forth in Exhibit A. Such percentages may be modified or amended by the City Council as deemed necessary and appropriate. Commercial customers with irrigation meter accounts shall reduce water use as set forth in Exhibit A. Residential and Commercial customers shall be subject to mandatory penalties for failing to meet required water use reductions, as provided in Exhibit A.

SECTION 4. All other water conservation rules, regulations, restrictions, definitions, enforcement procedures, violation provisions and appeal procedures, including but not limited to those contained in Arroyo Grande Municipal Code Section 13.05.030, shall remain in full force and effect.

SECTION 5. The adoption of this Resolution declaring a Stage 1 Water Shortage Emergency is categorically exempt from the California Environmental Quality Act ("CEQA") pursuant to 15307 of the State CEQA Guidelines (Actions by Regulatory Agencies for Protection of Natural Resources.)

SECTION 6. If any section, subsection, sentence, clause, or phrase of this Resolution is for any reason held to be invalid, such determination shall not affect the validity of the remaining portions of this Resolution. The City Council hereby declares that it would have passed this Resolution and each and every section, subsection, sentence, clause, or phrase not declared invalid without regard to whether any portion of the Resolution would be subsequently declared invalid or unconstitutional.

SECTION 7. The restrictions and regulations adopted herein shall remain in effect for the duration of the Stage 1 Water Shortage Emergency declared by this Resolution, and until rescinded or modified by the City Council. This Resolution shall be effective immediately upon its adoption.

On motion of Council Member Brown, seconded by Council Member Guthrie, and by the following roll call vote, to wit:

AYES: Council Members Brown, Guthrie, Harmon, Barneich, and Mayor Hill
NOES: None
ABSENT: None

the foregoing Resolution was passed and adopted this 26th day of May, 2015.

JIM HILL, MAYOR

ATTEST:

KELLY WETMORE, CITY CLERK

APPROVED AS TO CONTENT:

ROBERT MCFALL, INTERIM CITY MANAGER

APPROVED AS TO FORM:

HEATHER WHITHAM, CITY ATTORNEY

EXHIBIT "A"

CITY OF ARROYO GRANDE RESOLUTION _____

DECLARATION OF A STAGE 1 WATER SHORTAGE EMERGENCY

A. ASSIGNMENT OF BASELINE WATER AMOUNT BASED UPON HISTORICAL USE

All residential customers and commercial customers with irrigation meters will be assigned a Baseline Water Amount based upon their Historical Use, as further set forth herein. Except when adjusted in accordance with the provisions contained in Arroyo Grande Municipal Code Section 13.07.070 A or B, the Baseline Water Amount shall be based upon the amount of water used during the same billing period of the previous year prior to the adoption of this Resolution.

B. COMMERCIAL CUSTOMERS

All commercial customers with irrigation meter accounts shall reduce water use by 25% from the amount of usage of the assigned Baseline Water Amount. Failure to reduce water use by this required percentage shall result in the imposition of the mandatory financial penalties contained in Subsection D, herein.

C. REQUIRED RESIDENTIAL CUSTOMER WATER REDUCTIONS

1. Except for customers whose bi-monthly Baseline Water Amount is 10 units or less, residential customers in Tier 1 (bi-monthly usage of 0 to 18 units) shall be required to reduce consumption by 10% from the amount of usage of the assigned Baseline Water Amount. Customers whose bi-monthly use is 10 units or less shall not increase their usage above the amount of their assigned Baseline Water Amount.

2. All residential customers in Tier 2 (bi-monthly usage of 19 to 36 units) shall be required to reduce consumption by 20% from the amount of usage of the assigned Baseline Water Amount.

3. All residential Customers in Tier 3 (bi-monthly usage of 37 units or more) shall be required to reduce consumption 30% from the amount of usage of the assigned Baseline Water Amount.

Failure to reduce water use by the required percentage shall result in the imposition of the mandatory financial penalties contained in Subsection D, herein.

In accordance with Arroyo Grande Municipal Code Section 13.07.030, the City Council, may by resolution, increase the required percentage of reduction if it deems it

necessary in order to achieve the projected amount of water savings established as necessary.

D. MANDATORY FINANCIAL PENALTIES

The purpose of the mandatory penalties assessed pursuant to this resolution is to assure compliance by the customer through the imposition of increasingly significant penalties so as to create a meaningful incentive to reduce water use. In acknowledgment of the fact that the City's water is scarce and irreplaceable commodity, the intent is to equitably distribute that commodity among Water Department customers and to assure that, to the extent feasible, City water is conserved and used only for purposes deemed necessary for public health and safety. Accordingly, the mandatory penalties contained herein are not to be construed as creating a "water pricing" structure pursuant to which customers may elect to pay for additional water at significantly higher rates.

The following mandatory financial penalties will be levied on all water users who fail to reduce consumption in the percentages required in Subsections B and C herein, and customers whose bi-monthly use is 10 units or less and whose use increases above the amount of their assigned Baseline Water Amount:

First Violation:	Written notice of violation and opportunity to correct violation.
Second Violation:	The City shall impose a penalty of $50. Written notice shall be given to the owner by certified mail. The penalty will be billed to the customer on the regular water bill.
Third Violation:	A penalty of $100. Written notice shall be given to the owner by certified mail. The fine will be billed to the customer on the regular water bill.
Subsequent Violations:	In addition to a penalty of $200, continued violations may be subject to referral to the City Attorney for appropriate action, including but not limited to prosecution under the Arroyo Grande Municipal Code, as well as possible discontinuance of service.
Failure to pay:	The City may discontinue water service to any customer who fails to pay penalties billed on the regular water bill. Service will be restored upon full payment of all outstanding balances and reconnection charges. A delinquent bill shall also be increased by penalty of ten (10) percent of the amount of delinquency.

Customers who incur penalties may have them waived by attending a minimum two hour session of Water Conservation School, which will be conducted by the City of

Arroyo Grande. The option to have penalties waived by attending Water School shall be available only one time for any customer who has incurred penalties.

The foregoing penalties may also be modified or amended by the City Council as deemed necessary and appropriate based upon a determination of the severity of the Water Shortage Emergency.

OFFICIAL CERTIFICATION

I, KELLY WETMORE, City Clerk of the City of Arroyo Grande, County of San Luis Obispo, State of California, do hereby certify under penalty of perjury, that the attached Resolution No. 4659 was passed and adopted at a regular meeting of the City Council of the City of Arroyo Grande on the 26th day of May, 2015.

WITNESS my hand and the Seal of the City of Arroyo Grande affixed this 27th day of May, 2015.

Kelly Wetmore

KELLY WETMORE, CITY CLERK

RESOLUTION NO. 4766

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ARROYO GRANDE AMENDING EXHIBIT A OF RESOLUTION 4659 RELATING TO TRIGGERING CONDITIONS THAT WILL IMPLEMENT ADDITIONAL RESTRICTIONS DURING THE DECLARED STAGE 1 WATER SHORTAGE EMERGENCY ("STAGE 1B") WHEN SPECIFIED WATER CONDITIONS ARE DETERMINED TO EXIST, IN ORDER TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THE CITIZENS OF THE CITY

WHEREAS, on February 24, 2015 the City Council of the City of Arroyo Grande adopted Ordinance 669, adding Chapter 13.07 to the Arroyo Grande Municipal Code (AGMC) relating to Emergency Water Shortage Restrictions and Regulations; and

WHEREAS, after holding a noticed public hearing in accordance with the requirements of Water Code Section 350, et seq and the AGMC, on May 26, 2015 the City Council adopted Resolution 4659 declaring a Stage 1 Water Shortage Emergency in accordance with Water Code Section 350 and AGMC Section 13.07.030, implementing reductions in water usage based upon Historical Use, and mandatory penalties for failing to meet water use requirements as set forth in Exhibit A of that Resolution; and

WHEREAS, on April 1, 2015, the Governor issued an Executive Order directing the imposition of restrictions on water suppliers to achieve a statewide 25 percent reduction in potable urban water usage through February 2016, and the implementing regulations adopted by the State Water Board mandated that the City of Arroyo Grande reduce its total potable water production by 28 percent for each month as compared to the amount of water used in the same month in 2013; and

WHEREAS, the City of Arroyo Grande continues to experience historic drought conditions, which are negatively impacting the City's limited water supply which consists of two primary sources: Lake Lopez and groundwater. The reservoir level at Lake Lopez was not significantly replenished during the 2015-16 rainy season and continues to decline, and there continue to be significant concerns regarding groundwater pumping and the potential for seawater intrusion; and

WHEREAS, Water Code Section 353 provides that when a water shortage emergency has been declared by the governing body, it shall adopt necessary regulations and restrictions on the delivery and consumption of water, and pursuant to Water Code Section 356 such regulations and restrictions may include denying applications for new and additional service connections; and

WHEREAS, given the continuing concerns regarding the ongoing severe drought's impact on the City's limited water supply, the City Council has determined that it is necessary and appropriate to modify the regulations and restrictions on the delivery and consumption of water to provide that if certain specified water supply conditions are determined to exists (hereinafter referred to as "Triggering Conditions"), that additional restrictions on water use will need to be immediately implemented, including denying new and additional water service connections for projects that do not participate in a water demand offset program, while the water shortage emergency conditions continue to exist, in order to protect the health, safety and welfare of the citizens of the City of Arroyo Grande; and

WHEREAS, the City Council desires to provide that such a water demand offset program provide for water savings that offsets a development project's water demand by a ratio of 1:1.5 and finds and determines that requiring an offset of estimated water demand in a ratio somewhat higher than estimated use is prudent and appropriate since water demand varies and is always being based upon estimates and therefore future demand could potentially be underestimated, water savings fixtures lose efficiency with wear and tear over time, and water savings devices may be removed by property owners.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Arroyo Grande does resolve, declare, determine, and order as follows

SECTION 1. The foregoing Recitals are true and correct and are incorporated herein.

SECTION 2. The City Council hereby finds and determines that failure to adopt and impose additional restrictions on water use and deny new or additional water service connections, as set forth herein, would place the community in a condition that is dangerous to the health and safety of its citizens, due to the severe impact on the City's water supply if it is determined that specified water supply conditions exist.

Based upon this determination, the City Council hereby adopts the attached amended Exhibit A, which amends Exhibit A of Resolution 4659, and is attached hereto and incorporated herein by reference. The amended Exhibit A sets forth the Triggering Conditions that, when the specified water supply conditions have been determined to exist, will result in the imposition of additional restrictions on water use and denial of new or additional water service connections for projects that do not participate in a water demand offset program, until it has been determined that the water shortage emergency conditions no longer exist and as otherwise set forth in Exhibit A, in order to protect the health, safety and welfare of the citizens of the City of Arroyo Grande (for

purposes of convenience these additional restrictions shall be referred to as "Stage 1B").

SECTION 3. All other water conservation rules, regulations, restrictions, definitions, enforcement procedures, violation provisions and appeal procedures, including but not limited to those contained in Arroyo Grande Municipal Code Section 13.05.030, shall remain in full force and effect.

SECTION 4. The adoption of this Resolution amending Exhibit A to Resolution 4659 is categorically exempt from the California Environmental Quality Act ("CEQA") pursuant to 15307 of the State CEQA Guidelines (Actions by Regulatory Agencies for Protection of Natural Resources.)

SECTION 5. If any section, subsection, sentence, clause, or phrase of this Resolution is for any reason held to be invalid, such determination shall not affect the validity of the remaining portions of this Resolution. The City Council hereby declares that it would have passed this Resolution and each and every section, subsection, sentence, clause, or phrase not declared invalid without regard to whether any portion of the Resolution would be subsequently declared invalid or unconstitutional.

SECTION 6. The restrictions and regulations adopted by Resolution 4659, and as amended herein, shall remain in effect for the duration of the Stage 1 Water Shortage Emergency, and until rescinded or modified by the City Council. This Resolution shall be effective immediately upon its adoption.

On motion of Mayor Hill, seconded by Council Member Guthrie, and by the following roll call vote, to wit:

AYES: Mayor Hill, and Council Members Guthrie and Barneich
NOES: Council Members Brown and Harmon
ABSENT: None

the foregoing Resolution was passed and adopted this 22nd day of November, 2016.

JIM HILL, MAYOR

ATTEST:

KELLY WETMORE, CITY CLERK

APPROVED AS TO CONTENT:

ROBERT MCFALL, INTERIM CITY MANAGER

APPROVED AS TO FORM:

HEATHER K. WHITHAM, CITY ATTORNEY

EXHIBIT "A"

CITY OF ARROYO GRANDE RESOLUTION 4766

RESOLUTION 4766 AMENDING EXHIBIT A OF RESOLUTION 4659, WHICH DECLARED A STAGE 1 WATER SHORTAGE EMERGENCY, RELATING TO ADDITIONAL STAGE 1B RESTRICTIONS IF CERTAIN SPECIFIED WATER SUPPLY CONDITIONS ("TRIGGERING CONDITIONS") ARE DETERMINED TO EXIST

A. ASSIGNMENT OF BASELINE WATER AMOUNT BASED UPON HISTORICAL USE

All residential customers and commercial customers with irrigation meters will be assigned a Baseline Water Amount based upon their Historical Use, as further set forth herein. Except when adjusted in accordance with the provisions contained in Arroyo Grande Municipal Code Section 13.07.070 A or B, the Baseline Water Amount shall be based upon the amount of water used during the same billing period of the previous year prior to the adoption of Resolution 4659.

B. COMMERCIAL CUSTOMERS

All commercial customers with irrigation meter accounts shall reduce water use by 50% from the amount of usage of the assigned Baseline Water Amount. Failure to reduce water use by this required percentage shall result in the imposition of the mandatory financial penalties contained in Subsection D, herein.

C. REQUIRED RESIDENTIAL CUSTOMER WATER REDUCTIONS

1. Except for customers whose bi-monthly Baseline Water Amount is 10 units or less, residential customers in Tier 1 (bi-monthly usage of 0 to 18 units) shall be required to reduce consumption by 10% from the amount of usage of the assigned Baseline Water Amount. Customers whose bi-monthly use is 10 units or less shall not increase their usage above the amount of their assigned Baseline Water Amount.

2. All residential customers in Tier 2 (bi-monthly usage of 19 to 36 units) shall be required to reduce consumption by 20% from the amount of usage of the assigned Baseline Water Amount.

3. All residential Customers in Tier 3 (bi-monthly usage of 37 units or more) shall be required to reduce consumption 30% from the amount of usage of the assigned Baseline Water Amount.

Failure to reduce water use by the required percentage shall result in the imposition of the mandatory financial penalties contained in Subsection D, herein. No penalties shall be imposed on customers whose bi-monthly Baseline Water Amount is 10 units or less.

In accordance with Arroyo Grande Municipal Code Section 13.07.030, the City Council, may by resolution, increase the required percentage of reduction if it deems it necessary in order to achieve the projected amount of water savings established as necessary.

D. MANDATORY FINANCIAL PENALTIES

The purpose of the mandatory penalties assessed pursuant to this resolution is to assure compliance by the customer through the imposition of increasingly significant penalties so as to create a meaningful incentive to reduce water use. In acknowledgment of the fact that the City's water is scarce and irreplaceable commodity, the intent is to equitably distribute that commodity among Water Department customers and to assure that, to the extent feasible, City water is conserved and used only for purposes deemed necessary for public health and safety. Accordingly, the mandatory penalties contained herein are not to be construed as creating a "water pricing" structure pursuant to which customers may elect to pay for additional water at significantly higher rates.

For purposes of determining the number of violations (i.e. First Violation, Second Violation, etc.) that result in escalating monetary penalties, violations occurring prior to the effective date of Resolution 4756, amending the penalty provisions contained herein, shall not be considered.

The following mandatory financial penalties will be levied on all water users who fail to reduce consumption in the percentages required in Subsections B and C herein, provided that no penalties shall be levied on customers whose bi-monthly Baseline Water Amount is 10 units or less:

First Violation:	Written notice of violation and opportunity to correct violation.
Second Violation:	The City shall impose a penalty of $50. Written notice shall be given to the owner by certified mail. The penalty will be billed to the customer on the regular water bill.
Third Violation:	A penalty of $100. Written notice shall be given to the owner by certified mail. The fine will be billed to the customer on the regular water bill.
Subsequent Violations:	In addition to a penalty of $200, continued violations may be subject to referral to the City Attorney for appropriate action, including but not limited to prosecution under

the Arroyo Grande Municipal Code, as well as possible discontinuance of service.

Failure to pay: The City may discontinue water service to any customer who fails to pay penalties billed on the regular water bill. Service will be restored upon full payment of all outstanding balances and reconnection charges. A delinquent bill shall also be increased by penalty of ten (10) percent of the amount of delinquency.

Customers who incur penalties may have them waived by attending a minimum two hour session of Water Conservation School, which will be conducted by the City of Arroyo Grande. The option to have penalties waived by attending Water School shall be available only one time for any customer who has incurred their first monetary penalty under the provisions contained herein.

The foregoing penalties may also be modified or amended by the City Council as deemed necessary and appropriate based upon a determination of the severity of the Water Shortage Emergency.

E. ADDITIONAL STAGE 1B RESTRICTIONS IF SPECIFIED WATER SUPPLY CONDITIONS ("TRIGGERING CONDITIONS") ARE DETERMINED TO EXIST

1. The purpose of this Section is to establish that if any one of the following water supply Triggering Conditions are determined to exist, the additional water use restrictions contained herein shall immediately be imposed (for purposes of convenience these additional restrictions shall be referred to as "Stage 1B"):

a. The interruption of local water deliveries, the water delivery system or additional State mandated reductions in water use.

b. The water level at the Lopez Reservoir is at or below 10,000 acre feet.

c. There have been six quarterly continuous events of sentry well level readings in the Santa Maria Ground Water Basin below the deep well index trigger level of 7.5 feet, or indications of sea water intrusion are detected.

In the event that any of the foregoing Triggering Conditions are determined to exist, the Public Works Director and City Manager shall Certify to its existence, immediately notify the City Council of such determination, post the Certification of the existence of the condition on the City website, and make additional notifications to alert the public that the additional Stage 1B restrictions contained herein are being implemented.

2. Upon Certification that a Triggering Condition exists, the following additional Stage 1B regulations and restrictions shall immediately apply:

a. Irrigation of City-owned non-sports field turf areas shall be reduced to 25% of the water used for such irrigation in 2015.

b. The Required Residential Customer Water Reductions set forth in Section C, above, shall be increased by five (5) percent for each of the three water rate Tiers.

c. There shall be no new or additional water connections for any project that does not have all required planning project approvals and entitlements at the time of the Certification that a Triggering Condition exists. Smaller projects of less than four residential units or less than 5,000 sq. feet of commercial space shall be exempt from this restriction. Notwithstanding this restriction, development projects may continue to be processed.

e. The restriction on new or additional water connections shall not apply to any project that participates in the City's approved water demand offset program by providing water savings that offset their project's water demand by a ratio of 1: 1.5. This shall be determined on a case-by-case basis by City staff, and can be achieved through payment of the City's Water Neutralization Fee, combined with either 1) the purchase of new permanent water supply through an approved contract, and/or 2) the retrofit of off-site facilities by use of allowed conservation measures derived from the table below, the installation of which is certified by the Public Works Department. In addition, onsite development must include all applicable water efficiency measures and requirements. For any redevelopment project subject to the 1:1.5 offset requirement, the existing demand on the site shall be credited to the project, and the additional 1:1.5 offset requirement shall only apply to new water demand for the project, as determined by City staff. Projects shall also have the option of achieving all of the required ratio by paying fees if staff determines that providing retrofits are not feasible, which fees may be established by resolution of the City Council after following applicable procedures for establishing such fees.

Eligible Conservation Measure	**Estimated Cost**	**Offset Potential**	**References**
Air-cooled Ice Machine	$10,000 (10 units)	Approximately 100 gallons per 100 pounds of ice	http://www ocwatersmart com/ice
Soil Moisture Sensor	$1,750 (50 units)	Up to 20% of current irrigation demand	http://socalwatersmart com/commercial/?page_id=4865
Water Efficient Commercial Washing Machine	$6,000 (30 units)	15,000 - 30,000 gallons per year per unit depending on use 25-40% average annual savings	http://www.ebmud com/water-and-drought/conservation-and-rebates/commercial/rebates/commercial-clothes-washer-rebates/

Eligible Conservation Measure	Estimated Cost	Offset Potential	References
Greywater Can be used for: 1. Laundry **(no building permit required)** 2 Shower **(building permit required)** 3 Bathroom Sink **(building permit required)**	$4,500 (30 connections)	Savings potential of approximately 17 gallons per person per day. Average of 14,500 gallons saved per household per year	http://www valleywater org/GraywaterRebate aspx http://www soquelcreekwater org/conserving-water/rebates/graywater-landscape http://greywateraction org/wp-content/uploads/2014/12/GW_Study_revised-2013.pdf
Rain Barrel	$5,000 (100 units)	623 gallons per inch of rain per 1,000 sqft of roof. Harvested Water (Gal) = Catchment Area (sqft) X Rainfall Depth (inch) X Conversion Factor (0.623)	http://www socalwatersmart com/qualifyingproducts/rain-barrels/
Water Efficient Commercial Dishwasher	$10,000 (10 units)	60,000 - 100,000 gallons per year per unit depending on use 25% average annual savings	http://www.montereywaterinfo org/NonResidential html http://www allianceforwaterefficiency org/commercial_dishwash_intro aspx
Turf Replacement	$4.75 SF	18 gallons per year per square foot of turf removed	

3. The foregoing Stage 1B additional regulations and restrictions contained in this Section shall no longer apply upon Certification by the Public Works Director and the City Manager that the water level at the Lopez Reservoir is at or above 15,000 acre feet and increasing, none of the other Triggering Conditions exist, or upon a determination by the City Council that these additional water use regulations and restrictions are no longer necessary to protect the City's water supply.

OFFICIAL CERTIFICATION

I, KELLY WETMORE, City Clerk of the City of Arroyo Grande, County of San Luis Obispo, State of California, do hereby certify under penalty of perjury, that the attached Resolution No. 4766 was passed and adopted at a regular meeting of the City Council of the City of Arroyo Grande on the 22nd day of November, 2016.

WITNESS my hand and the Seal of the City of Arroyo Grande affixed this 16th day of December, 2016.

Kelly Wetmore

KELLY WETMORE, CITY CLERK