CITY OF GROVER BEACH
County of San Luis Obispo
State of California

2010 URBAN WATER MANAGEMENT PLAN

Adopted by the City Council on
June 20, 2011 (Resolution No. 11-39)
City of Grover Beach
2010 Urban Water Management Plan
Contact Sheet

Date plan submitted to the Department of Water Resources:

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The Water supplier is a: Municipality

The Water supplier is a: Retailer

Utility services provided by the water supplier include: Water, Sewer

Is This Agency a Bureau of Reclamation Contractor? No

Is This Agency a State Water Project Contractor? No
Acronyms and Abbreviations

AFY – Acre feet per year
CRM – Consumption Reduction Methods
CSD – Community Services District
CUWCC – California Urban Water Conservation Council
DMM – Demand Management Measures
DWR – Department of Water Resources
GB – Grover Beach
Gpcd – gallons per capita per day
IRWMPC – Integrated Regional Water Management Planning Committee
LUE – Land Use Element
MGD – Million Gallons per Day
MOU – Memorandum of Understanding
NCMA – Northern Cities Management Area
SB-7 - Senate Bill No. 7
SLO – San Luis Obispo
TDS – Total Dissolved Solids
SSLOCSD – South San Luis Obispo County Sanitation District
UWMP – Urban Water Management Plan
WSCP – Water Shortage Contingency Plan
WSSA – Water Shortage Stages of Action
WWTP – Wastewater Treatment Plant
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Areawide Participation

Law
Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable (10620(d)(2)).

Area Water Agencies and Organizations

The Northern Cities, which include the City of Arroyo Grande, City of Grover Beach, City of Pismo Beach and the Oceano Community Services District, County of San Luis Obispo, San Luis Obispo County Flood Control & Water Conservation District (Zone 3) and local landowners have actively and cooperatively managed surface water and groundwater resources for more than 30 years, with the goal of preserving the long-term integrity of water supplies in the Northern Cities Management Area (NCMA).

The Northern Cities Monitoring Program collects and analyzes data pertinent to water supply and demand, including:
- Land and water uses in the basin
- Sources of supply to meet those uses
- Groundwater conditions (including water levels and water quality).

The City of Grover Beach is a member of the San Luis Obispo County Integrated Regional Water Management Planning Committee which contributes to the countywide water master plan.

Public Participation

The City of Grover Beach has encouraged community participation in its urban water management planning efforts since the first Urban Water Management Plan was developed in 1990. Public meetings were held prior to the adoption of the 1990, 1995, 2000, 2005 and 2010 Urban Water Management Plans.

For this update to the Urban Water Management Plan, a public meeting was held for review and comment on the draft plan before the City Council’s approval. Notices of this public meeting were posted on the City’s Website on the Internet. Legal public notices for the meeting were published in the local newspaper, posted at City facilities and the local library. Copies of the draft 2010 update were sent to all local water management agencies.

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1 2009 Annual Monitoring Report (NCMA) by Todd Engineers, April, 2010
Plan Adoption

The City of Grover Beach prepared this update of its Urban Water Management Plan during the winter of 2010/2011. The updated plan was adopted by the City Council in June of 2011 and was submitted to the California Department of Water Resources within 30 days of Council approval. Attached to the cover letter addressed to the Department of Water Resources and as Appendix A are copies of the signed Resolution of Plan Adoption. This plan includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning).

Coordination within the City

Robert James Garing, City Engineer, Water and Sewer and Garing, Taylor & Associates, Inc., consultant for the preparation of this plan, coordinated with the City Manager, City Community Development Director, City Engineer/Director of Public Works and the City Finance Department staff to aid in the development of this plan.

Interagency Coordination

The City is a member of the South County Sanitation District for the purpose of collection and treatment of wastewaters. The City coordinated the development of this plan with the following agencies:

- South San Luis Obispo County Sanitation District
- Arroyo Grande High School, serving the City of Grover Beach
- Grover Beach Elementary, Grover Heights Elementary and North Oceano Elementary Schools
- All members of the NCMA area water agencies and organizations
Supplier Service Area

Law

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier’s water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

Climate

The City of Grover Beach has a Mediterranean coastal climate with mild and dry summers, cool winters and an annual average of 16 inches of precipitation. During the summer months, fog helps reduce irrigation requirements by decreasing evapotranspiration.
The years represent “rainfall” years, which begin on July 1st and end on June 30th.

### Table 1.
City of Grover Beach Rainfall Statistics

<table>
<thead>
<tr>
<th>YEAR*</th>
<th>RAINFALL (Inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>17.35</td>
</tr>
<tr>
<td>2009</td>
<td>7.35</td>
</tr>
<tr>
<td>2008</td>
<td>12.02</td>
</tr>
<tr>
<td>2007</td>
<td>7.79</td>
</tr>
<tr>
<td>2006</td>
<td>20.30</td>
</tr>
<tr>
<td>2005</td>
<td>23.20</td>
</tr>
<tr>
<td>2004</td>
<td>10.80</td>
</tr>
<tr>
<td>2003</td>
<td>13.55</td>
</tr>
<tr>
<td>2002</td>
<td>7.10</td>
</tr>
<tr>
<td>2001</td>
<td>16.79</td>
</tr>
<tr>
<td>2000</td>
<td>18.70</td>
</tr>
<tr>
<td>1999</td>
<td>15.20</td>
</tr>
<tr>
<td>1998</td>
<td>32.60</td>
</tr>
<tr>
<td>1997</td>
<td>17.65</td>
</tr>
<tr>
<td>1996</td>
<td>15.80</td>
</tr>
<tr>
<td>1995</td>
<td>24.15</td>
</tr>
</tbody>
</table>

Other Demographic Factors

The City of Grover Beach covers 2.25 square miles and is located along the central coast of California, 92 miles north of Santa Barbara and 150 miles south of Monterey.

The land was first claimed in 1867 as part of 8,838 acres secured under a U.S. land grant by Isaac J. Sparks. He sold half of the property after 20 years and it was D.W. Grover who filed
plans at the San Luis Obispo County Court House to found what would become the City of Grover City. D.W. Grover laid out streets in a grid pattern, naming them for popular beaches of the time and set aside land for a train depot, a hotel and a city park. The seeds of development didn’t flourish as planned until many years later. In the mid-1940’s, the first store opened followed by the first post office. 1949 saw the Fairgrove Fire District and the Grover City Water District formed and the early 1950’s brought a building boom. The growing desire among residents to give their community a more beach-oriented name culminated in a citywide vote reaffirming the City Council’s vote to change the name by Ordinance to The City of Grover Beach.

As part of the Five Cities area of southern San Luis Obispo County, Grover Beach and its neighbors of Arroyo Grande and Pismo Beach offer an ideal living environment that has made the south county one of the most desirable places to live in California. The residents of Grover Beach enjoy a community that is primarily residential in nature, with about 375 businesses providing retail, light industrial and service oriented employment opportunities.

Table 2. shows the population total for the City from 2010, with projections to 2030.

<table>
<thead>
<tr>
<th>Service Area Population</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>13,156</td>
<td>13,950</td>
<td>14,400</td>
<td>14,700</td>
<td>15,000</td>
</tr>
</tbody>
</table>

Based on year 2010 Census and LUE projection (City of Grover Beach) population to year 2030.

Past Drought, Water Demand and Conservation Information

Grover Beach overlies a portion of groundwater basin 3-12 as defined by the State of California Department of Water Resources. Named Santa Maria River Valley Groundwater Basin and consisting of a surface area of 184,000 acres (288 square miles), this groundwater basin underlies the Santa Maria Valley in the coastal portion of northern Santa Barbara and southern San Luis Obispo Counties. The basin also underlies Nipomo and Tri-Cities Mesas, Arroyo Grande Plain, as well as the Nipomo, Arroyo Grande and Pismo Creek Valleys (DWR 2002).

The basin is bounded on the north by the San Luis and Santa Lucia Ranges, on the east by the San Rafael Mountains, on the south by the Solomon Hills and the San Antonio Creek Valley Groundwater Basin, on the southwest by the Casmalia Hills, and on the west by the Pacific Ocean. Several rivers and creeks drain westward to the Pacific Ocean. The Sisquoc, Cuyama, and Santa Maria Rivers and Orcutt Creek drain the Santa Maria Valley. Arroyo Grande and Pismo Creeks drain Tri-Cities Mesa and Arroyo Grande Plain. Nipomo Valley is drained by
Nipomo Creek into the Santa Maria River. Annual precipitation ranges from 13 to 17 inches, with an average of 16 inches. See Figure 1.

Although the south county area of San Luis Obispo County has experienced drought conditions in recent years, these droughts have not caused a shortage of water to the community of Grover Beach. In the years leading up to the Resolution by the South San Luis Obispo County Water Association approving urban use of a portion of the safe yield of the Arroyo Grande Plain-Tri-Cities-Mesa Groundwater Basin, the City relied exclusively upon ground water.

Hydrographs show that water levels near Tri-Cities Mesa generally remained stable in the Paso Robles Formation and the alluvium from about 1965 through 2000 (DWR 2002). Groundwater levels in the deeper Squire Member of the Pismo Formation near Tri-Cities Mesa declined.
during the 1980’s and partially recovered by 2000 to between 4 and 11 feet below late 1970’s to early 1980’s levels (DWR 2002).

Groundwater levels beneath Nipomo Mesa declined from 1 to 10 feet in the northern part during 1975 through 2000 and as much as 58.6 feet in the central part during 1968 through 2000; whereas water levels were stable in the western and southeastern parts, generally following rainfall cycles (DWR 2002). Groundwater levels beneath Santa Maria Valley generally declined during 1945 through 1977, recovered by about 1986, declined again until about 1992, then recovered to near historic high levels by 1998 (DWR 2002).

Natural recharge to the basin comes from seepage losses from the major streams, percolation of rainfall, and subsurface flow (DWR 2002). Percolation of flow in Pismo Creek provides recharge for the northern portion of the basin (DWR 2002). Percolation of flow in Arroyo Grande Creek, controlled by releases from Lopez Dam, provides recharge for the Tri-Cities Mesa, Arroyo Grande Plain, and Arroyo Grande Valley portions of the basin (DWR 2002).

**Water Sources (Supply)**

**Law**

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments described in subdivision (a).

**Water Supply Sources**

The City now has two main water sources: ground water and local surface water. The City may have the opportunity to access additional supplies from up to three new sources. A 1999 study indicated the possibility of using recycled water from the South County Sanitation District in Oceano to recharge Arroyo Grande Creek, thereby freeing additional potable water from Lopez Lake. The Recycled Water Study was updated for June 2010. Results are summarized on page 11 of this report (Recycled Water).²

In 2005, another study compared the possibility of extending water resources from Lake Nacimiento via pipeline extension to constructing a new seawater desalinization plant at the South County Sanitation District Wastewater Treatment Plant site. Of these two potential sources, the lower cost option would be to construct the desalinization plant at that same site.³

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³ Wallace Group, Consultant for SSLOCSD, 2005.
The proposed desalination plant would provide supplemental water to the City of Arroyo Grande, the City of Grover Beach, and the Oceano Community Services District.

In 2008, a Funding Study was prepared by Wallace Group to examine feasibility and funding for a desalination plant. The purpose of the study was to determine feasibility, identify constraints, develop a timeline, and examine the effect on water rates to customers. In general, the project was found feasible, would take eight years or more to complete, and would raise a typical water bill for Grover Beach residential customers between $21 and $39.4

Currently, a study is in progress to determine the feasibility of raising the Lopez Reservoir Spillway. If feasible, a spillway raise could be a less costly alternative for supplemental water.

<table>
<thead>
<tr>
<th>Water Supply Sources</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
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<tr>
<td>Gentleman’s Agreement (Groundwater)</td>
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<td>1,198</td>
<td>1,198</td>
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<tr>
<td>Agricultural land conversion credit (Groundwater)</td>
<td>209</td>
<td>209</td>
<td>209</td>
<td>209</td>
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<td>Other Supplemental Water (Future)#</td>
<td></td>
<td>400</td>
<td>400</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>South SLO County–Zone 3 (Lopez)</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>Transfers (Oceano Community Services District)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exchanges</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recycled Water</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,207</strong></td>
<td><strong>2,207</strong></td>
<td><strong>2,607</strong></td>
<td><strong>2,607</strong></td>
<td><strong>2,607</strong></td>
</tr>
</tbody>
</table>

Units of Measure: Acre-feet per year

# The City Council is currently considering several potential sources of supplemental water including Desalination, Raise Lopez Spillway, obtain State Water and Recycled Wastewater. The 400 acre foot amount is shown for discussion purposes only and is not an adopted target amount.

**Groundwater**

The City typically pumps approximately 1,100 -1,300 acre-feet per year from four wells. The City manages its water supply so that additional ground water pumping is reserved for years when the other water supplies may be in shortfall, keeping ground water as a local reserve. Wells No. 1, No. 2 and No. 3 are shallow wells drawing water from the Paso Robles formation while well No. 4 is a deep well drawing water from the Careaga formation.

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4 Wallace Group, SSLOC Desal Funding Study (Draft), August, 2008.
The ground water from the Paso Robles formation meets all state and federal standards except for nitrate concentration. The City of Grover Beach completed construction of an ion exchange water treatment plant designed to remove nitrates from the shallow well water in 1989. This allows the City to use its shallow well water to produce water straight into the water mains after it passes through the treatment plant and a chlorination station.

Water from the Careaga and Paso Robles formations is shared with other South County Communities under the terms of a Gentlemen’s Agreement. (See Appendix G) This agreement provides for each signatory to pump only its “groundwater entitlement”. According to the agreement, the City’s extraction is limited to no more than 1,407 acre-feet per year including the Agricultural Land Use Conversion Credit.

Additional groundwater is pumped by two irrigation wells that provide non-potable water for use on a State Parks Department golf course and a large park within the City. It is estimated that the availability of non-potable water from these wells reduces the volume of treated water required by approximately 225 acre-feet per year.

The City has available an agricultural land conversion water credit that has been in place since 1991. The water usage of irrigated agricultural land that is converted to urban use is credited to the amount of water the City has available for non-agricultural use based on the 1979 Department of Water Resources report.⁵

Litigation and Settlement

The Cities of Grover Beach, Arroyo Grande, Pismo Beach, and Oceano Community Services District engaged the firm of Todd Engineers to perform an analysis of the Safe Yield of the Arroyo Grande Plain Tri-Cities Mesa groundwater basin and provide the first annual monitoring report for the NCMA per Santa Maria Groundwater Litigation Lead Case # CV 770214.

This (safe yield) is recognized in the 2002 Settlement Agreement among the Northern Cities, Northern Landowners, and Other Parties, and in the 2005 Settlement Stipulation for the Santa Maria groundwater basin adjudication, which were adopted by the Superior Court of California, County of Santa Clara, in its Judgment After Trial, entered January 25, 2008 (herein “Judgment”). See Figure 1, page 6.

Each of the Northern Cities has developed groundwater supply by means of respective well fields in the NCMA; NCMA groundwater also supplies agricultural and rural uses. Groundwater use in the NCMA is governed by the Judgment and the 2002 Settlement Agreement, which states that groundwater will continue to be allocated and independently managed by the Northern Parties (Northern Cities, NCMA overlying owners, San Luis Obispo County and Flood Control & Water Conservation District). The Settlement Agreement initially allocates 57 percent

⁵ Gentlemen’s Agreement, Appendix G
of groundwater safe yield to agriculture and 43 percent to the cities and confirms that any increase or decrease in groundwater yield will be shared by the cities and landowners on a pro rata basis.

A groundwater safe yield value of 9,500 AFY was cited in the 2002 Groundwater Management Agreement among the Northern Cities. The entitlement reserved for agricultural irrigation is (5,300 AFY), for subsurface outflow to the ocean (200 AFY), and urban use (4,000 AFY). The Management Agreement’s safe yield allotment for urban use was subdivided as follows:

City of Arroyo Grande 1,202 AFY
City of Grover Beach 1,198 AFY
City of Pismo Beach 700 AFY
Oceano Community Services District 900 AFY

The Management Agreement’s subdivision for agriculture is higher than the actual agricultural groundwater use and the amount designated for subsurface outflow is believed to be low. Maintenance of subsurface outflow is essential to preventing seawater intrusion. While the minimum subsurface outflow needed to prevent seawater intrusion is unknown, a regional outflow on the order of 3,000 AFY was presented in the 2002 DWR report, Water Resources of the Arroyo Grande-Nipomo Mesa Area.

The 2002 Settlement Agreement provides that the various urban parties’ allocations can be increased when land is converted from agricultural uses to urban uses, referred to as an agricultural conversion credit. Agricultural credits for the cities of Arroyo Grande and Grover Beach are 112 AFY and 209 AFY, respectively, for a total of 321 AFY.

**Surface Water**

Zone 3 of the San Luis Obispo County Flood Control and Water Conservation District was established to construct and operate the Lopez water supply system, and is a wholesale supplier. Water from Lopez Reservoir is the sole source of water provided by Zone 3. The contractors in Zone 3 include the communities of Oceano, Grover Beach, Pismo Beach, Arroyo Grande, and CSA 12 (including the Avila Beach area).

The safe yield of Lopez Reservoir is 8,730 acre-feet per year, which reflects the amount of sustainable water supply during a drought. 4,530 acre-feet have been apportioned by agreements to contract agencies that are primarily municipal water purveyors. Of these 4,530 acre-feet, the City of Grover Beach has an entitlement of 800 acre-feet per year. The remaining 4,200 acre-feet per year is reserved for downstream releases to maintain stream flows and groundwater recharge downstream. Management of the releases to avoid surface flow to the ocean has in the past resulted in an unreleased portion of the 4,200 AFY, which was periodically

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6 2009 Annual Monitoring Report (NCMA) by Todd Engineers, April, 2010
offered to the contractors as surplus water. Surplus water had been unavailable for a number of years because of the dam remediation release water for habitat and drought. Starting with deliveries in 2010, surplus water has again been identified. 805 acre-feet was identified in 2009-2010 and including current estimates a total of 2,205 acre-feet is projected to be available through March 31, 2012.7

Recycled Water

The City of Grover Beach does not currently use recycled water as a primary water source. The completed feasibility study mentioned under Water Sources (Supply) in this report indicates the possible use of this option to help recharge Arroyo Grande Creek. The Water Recycling Conceptual Plan was updated in June 2010 by Wallace Group for the SSLOCSD and is summarized in the next paragraphs as applicable to the City of Grover Beach.

SSLOCSD Collection System and WWTP. The SSLOCSD trunk sewer system collects wastewater from individual sewer collection systems in the Cities of Arroyo Grande and Grover Beach, and Oceano CSD. The SSLOCSD trunk sewers vary between 18" and 30" in diameter. The SSLOCSD Plant is rated at 5 million gallons per day (mgd). The plant provides secondary treatment using a fixed film reactor. The plant is also designed for a 9 mgd peak wet weather flow. Effluent is chlorinated and dechlorinated prior to discharge. Plant effluent is discharged through the existing joint outfall line to the Pacific Ocean. This plant currently serves a permanent population of approximately 38,000 persons.8

SSLOCSD WWTP. In 2008, a comprehensive study (update to 2001 recycled water feasibility study) was prepared to evaluate the feasibility of various recycled water applications including turf irrigation, stream augmentation/environmental demand, indirect potable reuse/groundwater recharge, and agricultural irrigation. The market assessment covered turf irrigation predominantly in the City of Arroyo Grande and Grover Beach areas and focused on agricultural irrigation potential in Oceano. In 2009, a supplemental study was conducted to evaluate the feasibility of a focused secondary effluent reuse project to irrigate a local City of Arroyo Grande cemetery and freeway median landscaping. The study reviewed options to serve these secondary reuse sites from the SSLOCSD WWTP and/or the City of Pismo Beach WWTP.9

SSLOCSD WWTP. It was estimated that a turf irrigation program alone would cost on the order of $8,000 per AF (on a life cycle basis), and up. Stream augmentation in Arroyo Grande Creek was expensive, and infeasible due to environmental/permitting constraints, and water quality issues that would require the addition of a reverse osmosis treatment system to comply with in-stream chlorides and TDS quality. Indirect potable reuse/groundwater recharge was estimated to be expensive, and may have considerable hurdles with public perception, and complex

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7 Information provided by San Luis Obispo Department of Public Works, January, 2011.
8 Appendix D (South San Luis Obispo County Wastewater Treatment Plant)
9 Water Recycling Conceptual Plan, June 2010, Wallace Group (Draft)
permitting to meet California Department of Public Health requirements. Of the various alternatives considered, one alternative appears to be viable for future implementation if done on a large scale. This would be the implementation of a large-scale tertiary recycled water program for crop irrigation in the nearby Oceano area. This program would be modeled after the successful program in Monterey County. This program cost was still estimated to be quite expensive at $4,900 per AF; however, if implemented in phases over time, the project could prove to be viable.¹⁰

Transfer or Exchange Opportunities

Law

10631 A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

Potential exists for transfers and exchanges with other groundwater users, Lopez contractors and the State Water Project contractors. The NCMA is currently investigating the possibility of obtaining additional State water using existing pipelines more fully either on a temporary or permanent basis.

Water Use

Law

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:

(A) Single family residential; (B) Multi-family; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; and (I) Agricultural.

(2) The water use projections shall be in the same 5-year increments to 20 years or as far as data is available.

Projected Demand

Demand is projected through 2030 using population projections from the Grover Beach 2010 Land Use Element and previous calculations used to derive projected demand for the Grover Beach 2005 Urban Water Management Plan. Prior to 2007, the City of Grover Beach benefitted

¹⁰ Water Recycling Conceptual Plan, June 2010, Wallace Group (Draft)
from the computed agricultural conversion credit of 230 AF. This number was based on agricultural water use of 3 acre-feet/acre and because the demand for water in urban areas is less, agricultural land that is converted would receive a credit. In 2007, Todd Engineers reviewed the agricultural credit calculation procedure and negotiations occurred between the cities of Arroyo Grande, Pismo Beach, Grover Beach, and Oceano Community Services District.

In 2007, the City of Grover Beach credit of 230 AFY was reduced to 207 AFY, lowering the City’s total water entitlement to 2,207 AFY. In 2010, the temporary offer of 100 acre-feet of groundwater from the Oceano Community Services District expired. For projected demand in 2010 and subsequent years, the Average Daily and Yearly Productions were derived from the projected population within the GB LUE and the baseline per capita use (SB 7) as an average of gpcd values between the years 2003-2007 (see next section).

State of California Senate Bill No. 7, Chapter 4 (2009)

In February 2008, Governor Schwarzenegger of the State of California directed state agencies to initiate a comprehensive plan for the improvement of the Sacramento-San Joaquin Delta and to reduce statewide per capita urban water use. On November 10, 2009, the Governor signed Senate Bill No. 7; Chapter 4 (SB 7), requiring the State to achieve a 20% reduction in urban per capita water use in California by December 31, 2020. The State would be required to make incremental progress towards this goal by reducing per capita water use by at least 10% on or before December 31, 2015. This undertaking perpetuated the inception of California’s 20x2020 Water Conservation Plan (20x2020 Plan).

In 2005, the State of California established statewide baseline urban water use value of 192 gallons per capita day (gpcd). The Interim 2015 Statewide Target would be a 10% use reduction or 173 gpcd and the final 2020 Statewide Target would be a 20% use reduction or 154 gpcd, representing a statewide savings of 1.59 million acre-feet based on a population of 37 million. Regional Water Use Patterns established by the 20x2020 Water Conservation Plan are divided into 10 DWR Hydrologic Regions for planning purposes. Regional baseline and target values were derived for daily per capita water use. The 20x2020 Plan designates the Central Coastal Region as DWR Region 3. Region 3 has the following information:

The Department of Water resources, through a public process and in consultation with the California Urban Water Conservation Council, shall develop technical methodologies and criteria for the consistent implementation of this part.

As stated in Senate Bill #7, the baseline daily per capita water use was determined by calculation over a continuous 5 year period ending no earlier than December 31, 2007 and no later than December 31, 2010: between 1/1/2003 and 12/31/2007.

Beginning in 2010, the City of Grover Beach’s estimated population increase (see Table 4 and Chart A) was used to calculate an average per capita usage of 140.7 gpcd or 2,136 AFY. By
2015, a 10% reduction in use would yield an estimated 127 gpcd or 1,979 AFY and by 2020, the 20% reduction would be approximately 113 gpcd or 1,816 AFY.

As illustrated in Chart A and Table 4, non-compliance with SB No.7 could result in demand that would exceed entitlement by year 2015. By trending toward the SB No.7 requirement of a 10% reduction in water use by 2015, demand would not exceed entitlement. Further reduction to 20% by year 2020 would result in additional water savings.
Table 4.
Past, Current, and Projected Water Use
5 Year Periods (acre-feet)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family residential</td>
<td>1,229 (2)</td>
<td>1,019 (8)</td>
<td>1,109 (75)</td>
<td>1,009 (75)</td>
<td>1,062 (75)</td>
<td>1,067 (75)</td>
</tr>
<tr>
<td>Low Income Units (n)* water use included in total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-family residential</td>
<td>302 (0)</td>
<td>296 (0)</td>
<td>350 (0)</td>
<td>315 (0)</td>
<td>300 (0)</td>
<td>320 (0)</td>
</tr>
<tr>
<td>Low Income Units (n) water use included in total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial/Institutional</td>
<td>207</td>
<td>160</td>
<td>180</td>
<td>165</td>
<td>162</td>
<td>165</td>
</tr>
<tr>
<td>Industrial</td>
<td>16</td>
<td>17</td>
<td>20</td>
<td>20</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>Commercial/Residential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mixed Use</td>
<td>58 (0)</td>
<td>51 (0)</td>
<td>60 (0)</td>
<td>65 (0)</td>
<td>65 (0)</td>
<td>70 (0)</td>
</tr>
<tr>
<td>Low Income Units (n) water use included in total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscape</td>
<td>73</td>
<td>62</td>
<td>62</td>
<td>60</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td>Sales to other agencies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saline barriers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Groundwater recharge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conjunctive use</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Projection based on Land Use Element

<table>
<thead>
<tr>
<th>Metered Consumption (Low Income Consumption (n) included in total)</th>
<th>1,885 (2)</th>
<th>1,605 (8)</th>
<th>1,781 (75)</th>
<th>1,634 (75)</th>
<th>1,669 (75)</th>
<th>1,703 (75)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Production</td>
<td>2,036</td>
<td>1,788</td>
<td>1,980</td>
<td>1,816</td>
<td>1,854</td>
<td>1,892</td>
</tr>
<tr>
<td>Unaccounted for Loss</td>
<td>7.4%</td>
<td>10.2%</td>
<td>10.0%</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Population</td>
<td>13,248</td>
<td>13,550</td>
<td>13,950</td>
<td>14,400</td>
<td>14,700</td>
<td>15,000</td>
</tr>
<tr>
<td>Acre-feet/capita/year **</td>
<td>0.1537</td>
<td>0.1185</td>
<td>0.1419</td>
<td>0.1261</td>
<td>0.1261</td>
<td>0.1261</td>
</tr>
<tr>
<td>Water Available</td>
<td>2,328</td>
<td>2,207</td>
<td>2,207</td>
<td>2,607</td>
<td>2,607</td>
<td>2,607</td>
</tr>
</tbody>
</table>

* (n) Number of dwelling units.
** Acre-feet/capita/year includes all water use. Year 2010 decrease represents results from good water management practices and from the Declaration of a Water Shortage and implementation of Stages of Action during water years 2007, 2008, 2009 and 2010. Also reflects mandated 10% reduction of average (base line) consumption by 2015 followed by an additional 20% reduction by 2020 per California State Senate Bill No. 7 (SB 7).
Residential Sector

Currently (2010-2011) total system per capita water use is lower than the City’s historical average. This is attributed to the ongoing Stage 1 and Stage 2 Water Shortage declarations made by the City Council during 2008 through 2010. Stage 1 Water Shortage continues and voluntary consumption reduction methods have been in effect since 2008.

The City of Grover Beach Land Use Element projections anticipate a buildout population of approximately 15,000 persons in 2030. The average household size (number of persons per house) is approximately 2.58. The Regional Housing Needs Allocation of 75 affordable dwelling units will represent a population of approximately 194 persons. At .1261 acre-feet per capita per year, low-income consumption would be approximately 24.5 AFY or .94% of the total.

A new program was established by City ordinance in 1990, where new development pays additional fees to help offset their water demand by increasing the water use efficiencies of existing customers. The in-lieu fee generated by each new dwelling unit is sufficient to retrofit five existing dwelling units. See DMM 2 later in this report.

Commercial Sector

Commercial customers in the City range in type from multi-story office buildings, beauty shops, gas stations, insurance offices, and banks to high volume restaurants, antiques stores, gift shops and miscellaneous businesses serving the visitor population. Water use in the commercial sector is currently stable; redevelopment of existing commercial properties into mixed-use projects has resulted in additional demand in the mixed use residential category. This trend is expected to continue through the year 2030.

Industrial Sector

The City has a small industrial sector, primarily centered on commercial service oriented businesses and light manufacturing. The growth trend in the industrial sector has been minimal over the last decade, but is still expected to increase over the next eight to ten years because of existing vacant and under-utilized industrial properties.

Institutional/Governmental Sector

The City has a stable institutional/governmental sector, primarily local government, schools, and visitor serving public facilities. This sector is not expected to expand significantly over the next decade.
Landscape/Recreational Sector

Two large landscape areas within the City (Mentone Basin and 16th Street Park) are irrigated with non-potable water pumped from irrigation wells. Smaller locations are irrigated with potable water from the City water system. The non-potable segment is estimated at 65% and the potable segment is estimated at 35% of the total City landscape irrigation requirement.

Agricultural Sector

There is no City water designated for agricultural use. The agricultural water users within the City limits use private wells for irrigation. When Agricultural land is converted to other use, a reduction in water use per acre generally occurs. The City credits this reduction in use in accordance with the 2002 Settlement Agreement. The credit to date is 209 AFY.

<table>
<thead>
<tr>
<th>Customer Type (Sector)</th>
<th>2005</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family residential</td>
<td>4,276</td>
<td>4,307</td>
<td>4,456</td>
<td>4,605</td>
<td>4,754</td>
<td>4,903</td>
</tr>
<tr>
<td>Low Income Included (n)*</td>
<td>0</td>
<td>8</td>
<td>75</td>
<td>75</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Multi-family residential</td>
<td>444</td>
<td>422</td>
<td>436</td>
<td>451</td>
<td>466</td>
<td>480</td>
</tr>
<tr>
<td>Low Income Included (n)*</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Commercial/Institutional</td>
<td>288</td>
<td>281</td>
<td>291</td>
<td>300</td>
<td>310</td>
<td>320</td>
</tr>
<tr>
<td>Industrial</td>
<td>36</td>
<td>37</td>
<td>38</td>
<td>39</td>
<td>41</td>
<td>42</td>
</tr>
<tr>
<td>Commercial/Residential Mixed Use</td>
<td>86</td>
<td>84</td>
<td>87</td>
<td>90</td>
<td>93</td>
<td>96</td>
</tr>
<tr>
<td>Low Income included (n)*</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Landscape/recreation</td>
<td>73</td>
<td>71</td>
<td>72</td>
<td>73</td>
<td>74</td>
<td>75</td>
</tr>
<tr>
<td>Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5,203</strong></td>
<td><strong>5,202</strong></td>
<td><strong>5,380</strong></td>
<td><strong>5,559</strong></td>
<td><strong>5,378</strong></td>
<td><strong>5,916</strong></td>
</tr>
</tbody>
</table>

* (n) Number of dwelling units and estimated number of units per City of Grover Beach General Plan Housing Element table 4-1.

Table 5 represents the number of metered water connections by sector, both existing and projected, to year 2030. Starting in 2010 the number of connections in Table 5 includes those identified in Table 4 as low-income. Accurate reading and management of these connections is critical to ongoing water management.
In 2006 the City replaced all water meters with state-of-the-art meters and a radio-read meter reading system. The City now is able to read meters and bill customers without the help of third parties. This has resulted in an adjusted number of water connections as water records were updated.

**Reliability Comparison**

**Law**

_10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:_

_10631 (c) Provide data for each of the following:_

(1) An average water year, (2) A single dry water year, (3) Multiple dry water years

The City maintains daily rainfall records and the City Engineer reports yearly to the City Council. The county maintains rainfall monitoring stations at the Lopez Reservoir area and results are available in real-time. This information is used in the determination of whether the season is normal or dry.

An average water year beginning July 1 and ending June 30 would consist of 24” of rainfall at the Lopez Recreation Area and 16” of rainfall at the City Corporation Yard. A single dry year would consist of less that 65% of a blended average of these amounts. Multiple dry years would consist of less than 65% of a blended average of these amounts persisting for two or more successive years.

The City’s right to produce groundwater has been adjudicated and set at 1,198 acre-feet per year plus Agricultural Conversion Credit\(^1\). In 2005 the City adopted a Water Shortage Contingency Plan that describes in detail the definition of a water shortage and which provides for the implementation of certain voluntary or mandatory prohibitions of water use during a water shortage. Voluntary prohibitions were implemented in 2007 and have continued through 2010.

The result of this action during these dry years has resulted in lower water consumption (See Chart A on page 12). No adverse effects are known to have resulted from water production by the City of Grover Beach. An ongoing monitoring program and annual reports by the NCMA are designed to detect any change in groundwater quality\(^3\).

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\(^1\) 2009 Annual Monitoring Report (NCMA) by Todd Engineers, April, 2010
Inconsistent Water Sources

Law

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (c) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to replace that source with alternative sources or water demand management measures, to the extent practicable.

The California Sport Fishing Alliance filed a complaint regarding the operation of the County of San Luis Obispo Flood Control Zone 3 Wholesale Agency, Lopez Lake Water Treatment Plant and Distribution System. This action could ultimately reduce the safe yield of the Lopez supply. A potential replacement source would be an allocation of State water or reclaimed water from the South San Luis Obispo County Sanitation District Wastewater Treatment Plant effluent.
Three-Year Minimum Water Supply

Law

10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

10632 (2) 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's water supply.

Table 6.
THREE YEAR MINIMUM WATER SUPPLY PROJECTIONS
(acre-feet per year)

<table>
<thead>
<tr>
<th>Sources of Supply</th>
<th>ENTITLEMENT</th>
<th>DIMINISHED WATER SUPPLY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year &quot;A&quot;</td>
<td>Year &quot;B&quot;</td>
</tr>
<tr>
<td>Ground Water</td>
<td>1,407 **</td>
<td>1,407 **</td>
</tr>
<tr>
<td>Lopez Lake</td>
<td>800</td>
<td>600#</td>
</tr>
<tr>
<td>Water Storage</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Actual Water Required</td>
<td>1788*</td>
<td>1788 *</td>
</tr>
<tr>
<td>Total Water Available</td>
<td>2207</td>
<td>2007</td>
</tr>
<tr>
<td>Percent Shortage</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

*Actual production during drought years of 2009-2010.
**Includes agricultural land conversion water credit of 209 AFY
# Hypothetical reduction in Lopez Reservoir capacity due to continued drought.

Note that in Years “B” & “C” in Table 6, City residents used less than the total water available, even with a hypothetical 50% reduction in Lopez Supply “Diminished Water Supply”. This level of usage was actually achieved during a Stage II Water Shortage alert using recommended voluntary consumption reduction methods.
Water Supply Reliability

Law

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable.

Extraction of potable water from the ground water basin pre-dates the incorporation of the City in 1959. It is used only on a “safe-yield” basis (usage each year does not exceed long term average inflow). This source has been 100% reliable and has shown only minimal vulnerability to the effects of prolonged drought conditions.

Lopez Reservoir is the sole source of water provided by Zone 3 of the San Luis Obispo County Flood Control and Water Conservation District, a wholesaler to the City. This water source has been 98% reliable. Zone 3 experienced prolonged drought conditions in the late 1980’s and early 1990’s and again during 2007-2009. Lopez contractors have never been shorted on their entitlement from Zone 3, even during these drought periods and have been able to purchase surplus water in many past years.

<table>
<thead>
<tr>
<th>Sources of Supply</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Water*</td>
<td>1,407</td>
<td>1,407</td>
<td>1,407</td>
<td>1,407</td>
<td>1,407</td>
</tr>
<tr>
<td>Lopez Lake**</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
<td>800</td>
</tr>
<tr>
<td>Other Supplemental Water (Future)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>400#</td>
<td>400#</td>
</tr>
<tr>
<td>Transfer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td>2,207</td>
<td>2,207</td>
<td>2,207</td>
<td>2,607</td>
<td>2,607</td>
</tr>
</tbody>
</table>

*1,198 AF per year per “Gentlemen’s Agreement” plus agricultural land conversion credit of 209 AF
** 800 AF per year entitlement
# Desalinization Plant, Raise Lopez Spillway, Obtain State Water, Recycled Wastewater, or other Supplemental Source

The Lopez Reservoir Spillway Project which would raise the level of the Lopez Spillway by three to five feet is envisioned as a possible and economic way to ensure additional water retention during wet years. The NCMA, with the City of Pismo Beach as lead agency requested and
received proposals for a feasibility study to accomplish this feat. Stetson Engineers Inc., in association with others has been awarded a contract to complete this study by the end of 2011.

Catastrophic Water Supply Interruption

Law

10632 The plan shall provide an urban water shortage contingency analysis that includes...

10632 (1) Stages of Action…including up to a 50% reduction in water supply…

In preparation for a water supply interruption, the City is required to prepare a Water Shortage Contingency Plan. This Plan recognizes that the City, although having two very dependable sources of water, have in place an operations contingency plan in the event of a water shortage emergency. This Plan focuses on long-term drought as the most likely reason for a water supply emergency. The Plan will also include planning measures to be taken by the City in case of other catastrophic water supply interruptions such as severe earthquake or terrorist attack.

Stages of Action:

Four stages of action are defined by annual rainfall amounts and reservoir storage levels. Each stage (minor, moderate, severe, critical) involves an increasingly prolonged or severe water shortage condition and requires an escalating level of City action and public water use restrictions. A fifth stage terminates the emergency response.

Recommended Preparation Actions:

Step 1 calls for the formation of a water shortage response team with a leader to spearhead the effort and involve the various units in the organization.

Step 2 calls for water suppliers to collect supply and demand data. These data are needed as a basis for planning and estimating how much water of acceptable quality will be available under various shortage conditions, including multiyear shortages. Pumping and pipeline capacity also are considered. Calculating projected demand, including increases because of growth and less precipitation, will be balanced against projected supply. The best time to initiate this process is before a shortage occurs.
Step 3 examines not only the quantity of water available from various supply augmentation and demand reduction options, but any problems or constraints resulting from the use of such sources.

Step 4 identifies trigger mechanisms to react to shortage severity.

Step 5 represents the synthesis of information from previous steps. Groups of water saving measures are associated with progressive levels of supply shortage. The key element of this step is involvement of customers in order to create a program that the community understands, contributes to, and supports.

Step 6 develops a budget and presents the draft plan to the public for review and revision. Formally establishing the ordinances and interagency agreements that underlay the plan happens before the plan is adopted.

Step 7 considers the nuts and bolts of how to implement the plan. Procedural issues, staffing needs, and budget and funding considerations must be resolved. The preparation and implementation of a plan requires many complicated actions and we recommend that the supplier begin planning at least six months before rationing might start.\(^1\)

Water Shortage Contingency Plan:

The Water Shortage Contingency Plan for the City of Grover Beach includes many of the elements required by the water code. Specifically, it defines stages of action, provides methods to reduce water consumption, lists mandatory prohibitions against specific water use practices, and presents penalties for excessive water use. Elements required in a Water Shortage Contingency Plan include: analysis of impacts of water conservation on City revenues and expenditures, presentation of measures to overcome those financial impacts, and a description of mechanisms to document actual reductions in water use resulting from implementation of the Water Shortage Contingency Plan.

The City of Grover Beach Land Use Element projections anticipate a buildout population of approximately 15,000 persons in 2030. The average household size (number of persons per house) is approximately 2.58. The Regional Housing Needs Allocation of 75 affordable dwelling units will represent a population of approximately 194 persons. At .1261 acre-feet per capita per year, low-income consumption would be approximately 24.5 AFY or 0.94% of the total.

Table 8 (page 24) represents the average water consumption of the City of Grover Beach water users by customer type. Over eighty-five percent (85%) of Grover Beach water is consumed by residential or mixed-use customers. Results shown in Table 4 and Table 8 reveal consumption reduction in all sectors between 2005 and 2010. The existing Water Shortage Contingency Plan and Consumption Reduction Methods adopted by the City Council of Grover Beach appear to be effective.

\(^1\) 7 Steps from Urban Drought Guidebook 2008 Updated Edition
Table 8.
Historical Consumption by Customer Type (acre-feet per year)

<table>
<thead>
<tr>
<th>Customer Type (Sector)</th>
<th>2000</th>
<th>% Total</th>
<th>2005</th>
<th>% Total</th>
<th>2010</th>
<th>% Total</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single family residential</td>
<td>1,137</td>
<td>63.3%</td>
<td>1209.06</td>
<td>65.9%</td>
<td>1,090</td>
<td>64.2%</td>
<td>64.30%</td>
</tr>
<tr>
<td>Low Income Included</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Multi-family residential</td>
<td>334</td>
<td>18.6%</td>
<td>295.69</td>
<td>16.1%</td>
<td>305.01</td>
<td>17.7%</td>
<td>17.72%</td>
</tr>
<tr>
<td>Low Income Included</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Commercial/Institutional</td>
<td>164</td>
<td>9.1%</td>
<td>190.92</td>
<td>10.4%</td>
<td>167.17</td>
<td>9.8%</td>
<td>9.84%</td>
</tr>
<tr>
<td>Industrial</td>
<td>15</td>
<td>0.8%</td>
<td>15.72</td>
<td>0.9%</td>
<td>20.34</td>
<td>1.2%</td>
<td>0.91%</td>
</tr>
<tr>
<td>Commercial/Residential Mixed Use</td>
<td>52</td>
<td>2.9%</td>
<td>60.52</td>
<td>3.3%</td>
<td>59.11</td>
<td>3.5%</td>
<td>3.13%</td>
</tr>
<tr>
<td>Low Income included</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Landscape/recreation</td>
<td>93</td>
<td>5.2%</td>
<td>62.43</td>
<td>3.4%</td>
<td>70.54</td>
<td>4.1%</td>
<td>4.14%</td>
</tr>
<tr>
<td>Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,795</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>1834.34</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>1,712</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>100.00%</strong></td>
</tr>
</tbody>
</table>

The Urban Water Management Planning Act requires an adopted or draft water shortage contingency resolution or ordinance.

The City of Grover Beach adopted Resolution 06-15 on March 06, 2006, establishing a Water Shortage Contingency Plan.

This resolution fulfilled the requirements of the Planning Act by including the following:

- Definition of stages of action
- Provision of consumption reduction methods
- Development of prohibitions and penalties
- Analysis of impacts of water conservation on revenues and expenditures, and presentation of measures to overcome those financial impacts
- Description of mechanisms to document actual reductions in water use resulting from implementation of the water shortage contingency plan

The Water Shortage Contingency Plan adopted by the City Council of the City of Grover Beach defines what constitutes a recommendation for a water shortage proclamation, providing specific triggers for action stages and charging the Public Works Director/City Engineer with responsibility for advising the City Council on enactment of the Water Shortage Contingency Plan and designation of an initial action stage. The Plan also anticipates obtaining additional water supplies through water transfers; and developing alternative water supplies through
conversion of inactive or agricultural wells into municipal production wells. The Plan includes communication and coordination with other local water agencies and utilities, and identifies the Public Works Director/City Engineer as the primary coordinator. Actions to be taken by the City in response to the various emergency stages focus primarily on communication with the public.

Overall, the Plan provides a detailed response to water shortage emergencies. However, it is recommended that the Plan be periodically reviewed in detail for updating and revision. Suggestions are provided in this Urban Water Management Plan. It is recommended that the City respond to a gradually developing water supply shortage in a measured, step by step process as indicated.

It is important to recognize that the following are guidelines. The City’s actual response to a water shortage requires specific action by the City Council. Nothing in this Plan is intended to limit the City Council’s available options in defining a specific response to a future water shortage.

**Water Shortage Stages of Action:**

Stages of action for many water agencies are defined by available storage in a surface water reservoir or by the annual allotment provided by a water wholesaler. In contrast, the City of Grover Beach overlies vast groundwater storage that has enabled the City to experience drought with no significant shortfall in supply.

The amount of rainfall in a given year or series of years is recommended as the basis for definition for stages of action. Rainfall, the ultimate source of recharge to the groundwater basin and surface water supplies, is readily monitored, and is recognized as the basis for defining drought. Rainfall is cumulated daily and summarized on an annual basis. City of Grover Beach rainfall averages approximately 16 inches per year. Rainfall at Lopez Recreation Area averages approximately 24 inches per year. A blended average of 20 inches during a rainfall season (July 1 through June 30) is the recommended benchmark amount used to consider what stage of action is justified.

The City response to drought depends on the magnitude of a perceived shortfall.

The first stage is defined by a reduction of rainfall to 65% (or less) of the benchmark amount in a rainfall season.

The second stage is defined by a reduction of rainfall to an average of 65% (or less) of the benchmark amount that persists over two rainfall seasons. The average computation would begin from the first year that recorded rainfall was 65% (or less) of the benchmark amount.

Stage three would invoke mandatory conservation measures and is characterized by a reduction of rainfall to an average of 65% (or less) of the benchmark that persists over three
rainfall seasons and if sufficient surplus water is not available from Lopez Reservoir. The average computation would begin from the first year that recorded rainfall was 65% (or less) of the benchmark amount.

The forth stage continues mandatory conservation measures and is characterized by a reduction of rainfall to an average of 65% (or less) of the benchmark that persists over four rainfall seasons and if sufficient surplus water is not available from Lopez Reservoir. The average computation would begin from the first year that recorded rainfall was 65% (or less) of the benchmark amount.

**Stage four (mandatory) conservation measures could be considered immediately** upon receiving information that the water supply of the City of Grover Beach could be reduced to 50% or less. If a fourth stage water shortage were declared by the City Council, a public hearing would be required to be held at least 30 days before any water rationing plan or other plan that would incur financial penalties to the public is adopted by the City Council.

The fifth stage would remove all mandatory conservation measures and could be declared by the City Council when rainfall had returned to normal, Lopez Reservoir had returned to normal levels, groundwater monitoring showed improvement of water quality or when the City Council concludes it is safe to do so.

**Consumption Reduction Measures:**

Once a water shortage stage has been declared, measures will be implemented to meet water conservation goals. This section describes consumption reduction methods that may be implemented by the City Council in response to water shortage. These measures range from public education to mandatory rationing. Given the City’s reliable water supply, only selected reduction measures are recommended.

Specific recommended measures to reduce water use in both Stage 1 and 2 are as follows:
- Notify all customers of the water shortage
- Mail information to all customers explaining the importance of water conservation
- Provide technical information to customers on means to promote water use efficiency
- Develop a media campaign to promote water conservation
- Develop or expand conservation programs such as low-flow toilet rebates
Prohibitions:

The Urban Water Management Planning Act requires provision of mandatory prohibitions against specific water use practices during water shortages. The prohibitions include:

- Use of potable water for street cleaning
- Unauthorized use of water from any fire hydrant
- Use of potable water to wash sidewalks or roadways where air-blowers or sweeping provides a reasonable alternative
- Use of potable water for construction purposes, such as consolidation of backfill unless no other source of water or method can be used
- Restaurant water service to patrons unless upon request
- Hydrant flushing except where required for public health and safety
- Refilling existing private pools except to maintain water levels
- Use of potable water for planting of turf and other new landscaping unless it consists of low water using, drought tolerant plants
- Use of water for washing cars, boats, sidewalks, driveways or other exterior surfaces without a quick-acting shut-off nozzle on the hose
- Operation of any ornamental fountain or car wash unless the water is re-circulated

Depending on the nature of the water shortage and at the discretion of the City Council, the above measures can be modified. Often-used variations include banning water use for planting any new landscaping, limiting landscape watering to specific days of the week, and discontinuing operation of all fountains.

Penalties:

The Water Shortage Contingency Plan proposes penalties at various shortage stages including house call warnings, installation of flow restrictors, penalties, fines, and disconnection. For the Water Shortage Contingency Plan, violators should be warned in writing, including time, date, and place of violation; general description of violation, means to correct violation, and date by which the correction is required. The first and subsequent warnings should specify a potential penalty, namely fine and disconnection, with fines increasing with each new violation. A fee also should be charged for restoring service.

Revenue and Expenditure Impacts:

Successful implementation of water conservation measures results in a decrease in water demand, with the unintended effect of reducing a water purveyor’s revenues. Accordingly, the water code requires analysis of fiscal impacts of the water shortage contingency plan on revenues and expenditures and discussion of measures to reduce impacts. For the City of Grover Beach, effective implementation of the Water Shortage Contingency Plan would result in a decline in potable water sales. Revenues derived from penalties for excessive water use or
water wasting during the water shortage would not effectively offset lost revenues. These presumably limited revenues should be applied toward administration of the Water Shortage Contingency Plan. Declining water demands would be offset to a small degree by a decline in operating expenses related to the amount of water provided, such as pumping (energy) and water treatment costs.

**Reduction Measuring Mechanisms:**

The Urban Water Management Planning Act requires a mechanism for determining if reductions in water use are actually being achieved in response to conservation measures. It is proposed that the Public Works Director/City Engineer be responsible for implementation of the ordinance and administration of any procedures, rules and regulations. Regular monitoring during a Stage 1 or Stage 2 shortage would include reporting of production figures by the Water Department to the Public Works Director/City Engineer. The Water Department compares the weekly production to the target weekly production to verify that the reduction goal is being met. Weekly reports are forwarded to the Public Works Director/City Engineer. In addition, water usage by customers from monthly billings would be reported to the Public Works Director/City Engineer. The Public Works Director/City Engineer provides a monthly report to the City Manager and City Council. If reduction goals are not met, the City Manager notifies the City Council and provides them with a Staff Report containing recommended corrective action alternatives for their consideration.

**Extreme Catastrophic Water Interruption:**

If City water supplies were suddenly and catastrophically interrupted such as in the case of a major earthquake or terrorist attack, the City has an obligation to do everything in its power to mitigate the effects on its citizens.

Water reservoir number 3 (Appendix C) has a valve capable of direct distribution. This will allow as much as 1.5 million gallons to be directly dispensed to authorized personnel as required. This will allow some relief to citizens until the magnitude and duration of the problem is determined.

Channel 20, Public Information Channel, will be used to urge citizens to store emergency supplies of water in their homes for preparedness as well as suggest places to recover some existing water such as draining hot water heaters and bathroom toilet tank reservoirs.
Water Recycling: Wastewater System Description

Law

10633 (a) A description of the wastewater collection and treatment systems in the supplier’s service area ...

Another agency, South San Luis Obispo County Sanitation District, is responsible for the treatment and disposal of wastewater for the City of Grover Beach. A complete description of their operation is included in this report (see Appendix D).

Water Demand Management Measures

Law

1000631 (f) Provide a description of the supplier’s water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following: .............

The City of Grover Beach is committed to implementing water conservation programs. These programs are discussed in this section.

The City of Grover Beach is not a signatory to the Memorandum of Understanding regarding Urban Water Conservation in California (MOU) and is therefore not a member of the California Urban Water Conservation Council (CUWCC). For the purpose of responding to the Urban Water Management Planning Act, the City addresses the 14 Demand Management Measures. Descriptions of the City’s water conservation programs are included below. The City has, in good faith, tried to address and comply with all of the Best Management Practice targets listed in the CUWCC MOU where applicable.

DMM 1 – Water Survey Programs

The City does not currently implement all components of this DMM. The City does effectively follow all high usage residential meters through its billing program (refer to DMM 3) and advises customers of any problems on their side of the meter. The City also has a very effective on-going retrofit program (see DMM 2 and DMM 14).
To implement the Water Survey Programs DMM: The top 20% (1,040 services) in usage of single family and multi-family residences would be surveyed over a 10-year period. At the current labor rates, the estimated cost in man hours required for completion of the following components of the DMM would be $54.34 per survey:

- Check meter, toilets and faucets for leaks.
- Check toilet flow rates and offer to install or recommend installation of displacement device.
- Replace leaking toilet flapper or direct customer to ULFT replacement program, as necessary.
- Check aerator flow rates, and showerhead flow rates and offer to replace or recommend replacement, as necessary.
- Check irrigation system and timers, and review or develop customer irrigation schedule.

Estimated “administrative costs” of $46.00 for each survey include:

- Customer notice/response for participation
- Written evaluation and recommendations for customer consideration
- Printing and distribution
- Scheduling of surveys
- Monitoring impact to determine any reduction in consumption

This would result in total costs of $100.34 to the City for each service surveyed and could total $104,394 or more over the ten year period.

<p>| Table 9. Residential &amp; Multi-family Residential including Mixed Use Projected Population/Meter Count |
|-------------------------------------------------|-------------------------------------------------|</p>
<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
<th>Meter Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>13,156</td>
<td>5,202</td>
</tr>
<tr>
<td>2015</td>
<td>13,950</td>
<td>5,380</td>
</tr>
<tr>
<td>2020</td>
<td>14,400</td>
<td>5,559</td>
</tr>
<tr>
<td>2025</td>
<td>14,700</td>
<td>5,738</td>
</tr>
<tr>
<td>2030</td>
<td>15,000</td>
<td>5,916</td>
</tr>
</tbody>
</table>

Population from US Census 2010 and projections are based on Land Use Element projection, (City of Grover Beach) 2010.
LEGAL AUTHORITY:

Implementation of this Demand Management Measure would require the adoption of a Resolution by the City Council of the City of Grover Beach.

IMPLEMENTATION SCHEDULE:

The City has not implemented this DMM. Demand Management Measures 2, 3 & 4 are effectively monitoring and reducing consumption. The new water meters and automated meter reading system deployed in 2006 are useful in datalogging any adverse customer usage. This information will be used to establish additional water usage monitoring.

DMM 2 – Plumbing Retrofit

IMPLEMENTATION DESCRIPTION: In 1990 the City passed an ordinance that required all existing toilets within the city limits to be replaced at no cost to the residents (see DMM 14). At the same time, a program was instituted to provide all existing residences with low flow showerheads and faucet aerators, again at no cost to residents.

IMPLEMENTATION SCHEDULE: At present, the City has retrofitted about 95% of the 5,252 qualifying residential units, with approximately 263 residences remaining to be retrofitted.

CONSERVATION SAVINGS: Implementation of this program has resulted in estimated water savings of 70+ AF per year through 2010, rising to approximately 80 AF per year at build-out.

DMM 3 – System Water Audits, Leak Detection and Repair

The City of Grover Beach replaced all the City’s water meters with “state of the art” water meters with radio reading devices that have the capability of datalogging 21 months of water usage. The datalogging feature allows the City to monitor for leak detection, high usage, and other information desired.

BUDGET: The City entered into a lease/purchase agreement in April 2006 for the purchase of the water meters with radio reading devices totaling $1,584,317. The lease payment of $358,800 is made annually and will terminate in April 2011.

DMM 4 – Metering With Commodity Rates

IMPLEMENTATION DESCRIPTION: The City is fully metered for all customer sectors, including separate meters for single-family residential, commercial and all institutional
and governmental facilities. Multi-family residential is set up with a single meter for multiple units. By ordinance, the City adopted a policy in 1996 that water funds shall be enterprise funds and shall pay their full costs of operation. As of August 1, 2010 water utility rates were set as follows as a first rate phase, with a second phase occurring on March 1, 2011:

<table>
<thead>
<tr>
<th>Meter Size</th>
<th>Existing Rates¹</th>
<th>Proposed Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inches</td>
<td>$/month</td>
<td>$/month</td>
</tr>
<tr>
<td>5/8</td>
<td>$6.75</td>
<td>$7.60</td>
</tr>
<tr>
<td>3/4</td>
<td>6.75</td>
<td>7.60</td>
</tr>
<tr>
<td>1</td>
<td>6.75</td>
<td>12.65</td>
</tr>
<tr>
<td>1 ½</td>
<td>6.75</td>
<td>25.35</td>
</tr>
<tr>
<td>2</td>
<td>6.75</td>
<td>40.55</td>
</tr>
<tr>
<td>3</td>
<td>6.75</td>
<td>76.05</td>
</tr>
<tr>
<td>4</td>
<td>$6.75</td>
<td>$126.75</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Classification</th>
<th>Existing Rates¹</th>
<th>Proposed Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>$/Ccf</td>
<td>$/Ccf</td>
</tr>
<tr>
<td>0 to 12 Ccf/bi-month</td>
<td>$2.28</td>
<td>$2.53</td>
</tr>
<tr>
<td>13 to 20 Ccf/bi-month</td>
<td>2.41</td>
<td>2.66</td>
</tr>
<tr>
<td>21 to 42 Ccf/bi-month</td>
<td>2.58</td>
<td>3.06</td>
</tr>
<tr>
<td>Over 42 Ccf/bi-month</td>
<td>$2.76</td>
<td>$3.46</td>
</tr>
<tr>
<td>Landscape</td>
<td>$2.41</td>
<td>$3.06</td>
</tr>
<tr>
<td>All Other</td>
<td>$2.41</td>
<td>$2.66</td>
</tr>
</tbody>
</table>

¹ Effective July 1, 2007.

The City installed one irrigation well that provides non-potable water to serve two City parks. The California Department of Parks and Beaches golf course is irrigated by a
second irrigation well owned by an independent contractor. The use of non-potable water from these two wells has resulted in substantial annual water savings for the City.

There are no un-metered connections within the City; billing is strictly by volume of use and size of the water meter providing the use.

**IMPLEMENTATION SCHEDULE:** The City has permanently incorporated this DMM into its policies.

**METHODS TO EVALUATE EFFECTIVENESS:** The City has completed installing new water meters on all existing services. Since completion, water use per capita has decreased.

**CONSERVATION SAVINGS:** Monitoring water use over time is essential in determining how much saving is due to accurate meters and market rates versus Stage 1 and Stage 2 Water Shortage Declarations in recent years. Water production is monitored daily and consumption is summarized monthly.

**DMM 5 – Large Landscapes Conservation Programs**

**IMPLEMENTATION DESCRIPTION:** The City passed a resolution in 1989 approving landscape standards for water conservation. Since 1989 all new projects developed within the City have been required to have attractive, water conserving landscaping and irrigation systems that incorporate water-conserving measures. The intent is to allow creative landscape designs while using water conservation techniques. A list of acceptable trees, shrubs and other plants is provided (see Appendix H). Landscape and irrigation development plans that meet the City’s guidelines are required for submission as part of the overall plan check and approval process. These plans are to be prepared by a licensed professional landscape architect or landscape contractor. They must include substantiation and verification of the water conserving nature of the landscaping design and irrigation systems chosen. The City continues to work with local nurseries, landscape designers and contractors to modify existing landscapes to be more water efficient. City personnel trained in turf management provide assistance to customers. Through the use of these guidelines, the City intends to reduce the amount of water used for outdoor purposes.

On September 8, 2009, the City Council passed a Resolution establishing Water Conservation Programs in Grover Beach as a part of the City’s Local Stimulus Initiative, including a “Cash for Grass” Rebate Program. This program provides rebates for replacing lawn/turf with drought-tolerant landscaping and more efficient irrigation systems. Council also approved a rebate program for smart irrigation controllers and sensors that reduce water usage and maximize water and energy efficiency.
IMPLEMENTATION SCHEDULE: The City has permanently incorporated this DMM into its policies.

METHOD TO EVALUATE EFFECTIVENESS: With the installation of the new water meters, the City is able to review pre and post water utility bills from when customers have replaced their lawn with drought-tolerant landscaping to determine the difference/savings in water usage.

DMM 6 – High Efficiency Washing Machine Rebate Programs

IMPLEMENTATION DESCRIPTION: On September 8, 2009, the City Council passed a Resolution establishing Water Conservation Programs in Grover Beach as a part of the City’s Local Stimulus Initiative, including a Water Efficient Washing Machine Rebate Program. This program provides a tiered schedule of rebates to water customers for the purchase of energy efficient washing machines, which would be in addition to energy rebates provided by PG&E.

IMPLEMENTATION SCHEDULE: The City will continue to implement this DMM indefinitely.

CONSERVATION SAVINGS: Implementation of this program has resulted in an estimated water savings of 900 gallons per two-month period, per household who converts to water efficient washing machines. Clothes washers are the second largest water user in homes, next to toilets. Energy Star™ rated washers that also have a Water Factor at or lower than 9.5, use 35-50% less water and 50% less energy per load.

DMM 7 – Public Information

IMPLEMENTATION DESCRIPTION: The City has various Public Information tools available, through the television, internet, and print. Television Channel 20, a Public Information Channel is available to the citizens of the City of Grover Beach. City Council meetings are broadcast over the channel and time slots can be made available to disseminate information to the Public including Stages of Action for a Water Shortage Emergency, Water Conservation Methods, Demand Management Methods and “How Are We Doing?” status reports.

The City of Grover Beach established by ordinance the Parks, Recreation and Beautification Commission in 2005 when the City Council combined the Parks and Recreation Commission and the Grover Beautiful Committee. This Commission is an advisory body to the City Council and Parks and Recreation Department. Part of the general scope of the duties and responsibilities of this Committee is to encourage low maintenance and drought tolerant planting.
Summer 2007, the City published a Water Conservation Bulletin that included information on the Water Alert at the time and various water conservation tips for the kitchen, laundry, bathroom, and outside. The Parks, Recreation and Beautification Commission held a Water Conservation and Landscaping Session, titled “Water Saving Tips for Your Landscaping” in September 2007.

The quarterly City newsletter, “The Sea Breeze”, has and will continue to serve as the primary communication vehicle for disseminating information to residents about water conservation, marketing the retrofit program to generate volunteers and for calling on public good will to use water resources with care.

In addition to press release materials, newspaper ads have been used. Fliers highlighting water conservation tips and techniques have been developed and distributed. Quarterly articles have appeared in “The Sea Breeze” which is sent to all addresses within City limits. In addition, conservation promotion inserts are sent with water bills as well as comparative use data. All new hookups and change of owner receive a pamphlet on water conservation from the City.

The most recent tool includes a Facebook page and City Website with information on water conservation and demand management.

**IMPLEMENTATION SCHEDULE:** The City has permanently incorporated this DMM into its policies.

**METHOD TO EVALUATE EFFECTIVENESS:** Taken as a whole, the Demand Management Measures in effect are insuring future water supply.

**BUDGET:** Costs associated with the implementation of this measure are incorporated into the Community Development Budget and Water Conservation Funds.

DMM 8 – School Education

**IMPLEMENTATION DESCRIPTION:** This DMM is implemented through the middle schools and high school that serve the City. At the high school level, grades 10 through 12, water conservation is taught as a part of the curriculum in the Environmental Science and Earth Science classes.
IMPLEMENTATION SCHEDULE: The school districts have incorporated water conservation education into its policies.

METHOD TO EVALUATE EFFECTIVENESS: There is no available method by which to evaluate the effectiveness of this measure.

BUDGET: Cost for the implementation of this DMM is built into the budget of the school districts.

DMM 9 – Water Conservation Coordinator

IMPLEMENTATION DESCRIPTION: This position was created and filled by the City in 1989. The full-time Water Conservation Coordinator directed the development of a very effective general education campaign and retrofit program. As of late 1995, the position became vacant and the duties of coordinator became part of the Public Works Superintendent’s department responsibilities. The Public Works Superintendent continues to act as Water Conservation Coordinator and implements the toilet retrofit program. The Building/Planning Technician has currently taken over some of the water conservation efforts, including implementation of the “Cash for Grass” and Water Efficient Washing Machine Rebate Programs.

IMPLEMENTATION SCHEDULE: The City has permanently incorporated this DMM into its policies.

METHOD TO EVALUATE EFFECTIVENESS: The monitoring of continued substantial consumption reduction is effectively managed by the coordinators.

BUDGET: The cost for this position has been incorporated into the budget of the Public Works Department and Water Conservation Funds.

DMM 10 – Water Waste Prohibitions

IMPLEMENTATION DESCRIPTION: The South County Sanitation District is the reported responsible agency for this item. The City of Grover Beach is a member of this District for the collection and treatment of wastewaters. (Refer to Appendix D)

IMPLEMENTATION SCHEDULE: Not applicable

METHOD TO EVALUATE EFFECTIVENESS: Not applicable

BUDGET: Not applicable
DMM 11 – Conservation Pricing

**IMPLEMENTATION DESCRIPTION:** The City has a conservation pricing measure in effect through its tiered water rates.

**IMPLEMENTATION SCHEDULE:** The City has permanently incorporated this DMM into its policies. (see attached Schedule of Water Service Rates)

DMM 12 – Conservation Programs for Commercial, Industrial and Institutional Customers

All new commercial and industrial development within the City is required to install ultra-low-flush toilets, faucet aerators, etc. In addition, they are required to meet the requirements of the City’s landscape standards for water conservation.

Due to the nature of commercial and industrial development in the City, there are no large water users. The City offers leak detection services for commercial and industrial water users.

**LEGAL AUTHORITY:**

Implementation of this Demand Management Measure would require the adoption of a Resolution by the City Council of the City of Grover Beach.

**IMPLEMENTATION SCHEDULE:** The City has determined that the implementation of this DMM would not be cost effective. The conservation requirements currently in place for these sectors is effectively managing consumption.

DMM 13 – Wholesale Agency Programs

**IMPLEMENTATION DESCRIPTION:** The Lopez Water System operates as a wholesaler of water to the South County including Arroyo Grande, Oceano, Grover Beach, Pismo Beach and County Service area (CSA) 12 (Avila Beach area). The Lopez Reservoir is operated by Flood Control Zone 3, part of the County’s Flood Control and Water Conservation District which is housed in the County’s Engineering Department.
The Lopez System has an estimated safe annual yield of 8,730 AF.\textsuperscript{13}

The safe annual yield is delivered in accordance with the water contracts which amount to a total entitlement of 4,530 AF for water supply. The remaining 4,200 acre-feet per year is reserved for downstream releases to maintain stream flows and groundwater recharge downstream. Management of the releases to avoid surface flow to the ocean has in the past resulted in an unreleased portion of the 4,200 AFY, which was periodically offered to the contractors as surplus water.

Surplus water had been unavailable for a number of years because of the dam remediation release water for habitat and drought. Starting with deliveries in 2010, surplus water has again been identified. 805 acre-feet was identified in 2009-2010 and including current estimates a total of 2,205 acre-feet is projected to be available through March 31, 2012.\textsuperscript{14}

\textbf{IMPLEMENTATION SCHEDULE:} The City has permanently incorporated this DMM into its policies and plans to continually renew its contract with this wholesaler.

\textbf{METHOD TO EVALUATE EFFECTIVENESS:} The City has an entitlement of 800 AF per year as a result of the contract with this agency. Therefore, 800 acre-feet of groundwater is effectively saved each year by the implementation of this measure.

\textbf{BUDGET:} The total annual cost per acre-foot for this wholesale program is $530.00, however, the price is expected to increase to $1,600.00 per acre-foot within 2 years.

\textbf{DMM 14 – Residential Ultra-Low-Flush Toilets Replacement Programs}

\textbf{IMPLEMENTATION DESCRIPTION:} By ordinance in 1990, the City required all existing toilets within the City limits to be replaced. Also by ordinance, effective March 1, 1990, all new construction within the City is required to include the use of 1.5 gallon ultra-low-flow toilets in bathroom facilities that are created as part of that construction. Also, to help offset any increases in water demand resulting from such new construction,


\textsuperscript{14} Information provided by San Luis Obispo Department of Public Works, January, 2011.
retrofit in-lieu fees in the amount of $1,936.00 per dwelling unit are required to be paid to install ultra-low-flush toilets, low flow shower heads and faucet aerators in a minimum of five existing building units. The in-lieu fee generated by each new dwelling unit is sufficient to retrofit five existing dwelling units. No fee is charged in those cases where existing, substandard housing is to be demolished and new construction erected in its place.

**IMPLEMENTATION SCHEDULE:** The City has permanently incorporated this DMM into its policies.

**METHOD TO EVALUATE EFFECTIVENESS:** Estimated water savings per unit installed is compared with actual consumption.

**CONSERVATION SAVINGS:** Water savings per year based on all available data and including DMM 2 is 70+ AF.

**BUDGET:** The unit cost per installation is $200.00. The cost breakdown is as follows:

1. Material cost $80.00
2. Installation cost 75.00
3. Administrative cost 45.00

Total per unit $200.00

This project will be ongoing until all units within the City are retrofitted.

**Global Warming**

The Northern Cities, consisting of the City of Arroyo Grande, City of Grover Beach, City of Pismo Beach and the Oceano Community Services District, County of San Luis Obispo, San Luis Obispo County Flood Control & Water Conservation District (Zone 3) and local landowners have actively and cooperatively managed surface water and groundwater resources for more than 30 years, with the goal of preserving the long-term integrity of water supplies in the Northern Cities Management Area (NCMA).

The Northern Cities Monitoring Program collects and analyzes data pertinent to water supply and demand, including:

- Land and water uses in the basin
• Sources of supply to meet those uses
• Groundwater conditions (including water levels and water quality).\textsuperscript{15}

The City of Grover Beach is a member of the San Luis Obispo County Integrated Regional Water Management Planning Committee which contributes to the countywide Water Master Plan.

These ongoing activities are expected to alert not only the City of Grover Beach but the entire NCMA if anomalies occur to our supply of groundwater without regard as to whether global warming or any other factors are involved. Regional action would be initiated to mitigate identified threats to the health of the groundwater supply.

\textsuperscript{15} 2009 Annual Monitoring Report (NCMA) by Todd Engineers, April, 2010
Appendices