

Final Report

2010 Urban Water Management Plan City of Morro Bay



Prepared for

City of Morro Bay
955 Shasta Ave
Morro Bay, CA 93442



Prepared by



June 2011

Final Report

2010 Urban Water Management Plan - City of Morro Bay

Prepared for
City of Morro Bay

955 Shasta Ave
Morro Bay, CA 93442

June 2011

CH2MHILL
325 E. Hillcrest Drive
Suite 125
Thousand Oaks, CA 91360

Content

Section	Page
NOTICE OF ADOPTION	VII
ABBREVIATIONS AND ACRONYMS	IX
DEFINITIONS	XI
SECTION 1. INTRODUCTION AND PLAN PREPARATION	1-1
BACKGROUND	1-1
2010 UWMP ORGANIZATION.....	1-3
SYSTEM OVERVIEW	1-4
COORDINATION	1-7
PLAN ADOPTION, SUBMITTAL, AND IMPLEMENTATION	1-8
UWMP PREPARATION.....	1-8
CONTENT OF THE UWMP	1-8
SECTION 2. SYSTEM DESCRIPTION	2-1
SERVICE AREA PHYSICAL DESCRIPTION.....	2-1
DEMOGRAPHICS.....	2-4
SERVICE AREA POPULATION	2-5
<i>Permanent Population</i>	2-5
<i>Seasonal Population</i>	2-5
<i>SLOCOG Population Projection Methodology</i>	2-5
<i>City of Morro Bay System Population Projections</i>	2-6
SERVICE AREA CLIMATE	2-8
SECTION 3. SYSTEM DEMANDS	3-1
BASELINE AND TARGETS	3-2
<i>Baseline Water Use of the City of Morro Bay</i>	3-2
<i>Water Use Targets</i>	3-3
<i>Minimum Water Use Reduction Requirements</i>	3-7
HISTORICAL AND PROJECTED WATER USE	3-8
<i>Water Demand by Water Use Sectors</i>	3-11
LOW INCOME PROJECTED WATER DEMANDS	3-15
SALES TO OTHER WATER AGENCIES	3-16
ADDITIONAL WATER USES AND LOSSES.....	3-16
TOTAL WATER USE	3-17
<i>City of Morro Bay’s Production Facilities</i>	3-18
DATA PROVIDED TO WHOLESALE AGENCY	3-18
WATER USE REDUCTION PLAN.....	3-19
SECTION 4. SYSTEM SUPPLIES	4-1
WATER SOURCES.....	4-2
WHOLESALE SUPPLIES.....	4-3
GROUNDWATER	4-4
TRANSFERS AND EXCHANGES.....	4-9
DESALINATED WATER OPPORTUNITIES	4-9
RECYCLED WATER OPPORTUNITIES	4-11
<i>Wastewater Quantity, Quality, and Current Uses</i>	4-11
<i>Potential Use</i>	4-12
<i>Optimization and Incentives for Recycled Water Use</i>	4-14
FUTURE WATER PROJECTS	4-14
<i>State Water Project</i>	4-15

SECTION 5. WATER SUPPLY RELIABILITY AND WATER SHORTAGE CONTINGENCY PLAN..... 5-1

 WATER SUPPLY RELIABILITY AND DROUGHT PLANNING5-2

City of Morro Bay’s Water Supply Reliability.....5-2

CCWA’s Water Supply Reliability5-5

City of Morro Bay’s Groundwater Supply Reliability5-6

City of Morro Bay’s Desalination Facility Water Supply Reliability5-7

 CURRENT WATER SOURCES ANALYSIS5-7

 NORMAL WATER YEAR ANALYSIS5-7

 SINGLE-DRY YEAR ANALYSIS5-8

 MULTIPLE-DRY YEAR ANALYSIS5-9

 RESOURCE OPTIMIZATION5-11

 FACTORS RESULTING IN INCONSISTENCY OF SUPPLY5-12

 WATER QUALITY5-12

Water Quality Issues.....5-12

 WATER SHORTAGE CONTINGENCY PLANNING5-16

 ACTION STAGES5-17

Stage 15-17

Stage 25-17

Stage 35-18

Stage 45-18

Stage 55-19

 CATASTROPHIC SUPPLY INTERRUPTION PLAN5-19

 PROHIBITIONS, PENALTIES, AND CONSUMPTION REDUCTION METHODS5-21

 REVENUE IMPACTS5-23

 MONITORING PLAN EFFECTIVENESS5-23

SECTION 6. DEMAND MANAGEMENT MEASURES 6-1

 DOCUMENTATION OF DMMS6-2

 COST BENEFIT ANALYSIS6-20

 RECOMMENDED CONSERVATION PROGRAM6-29

SECTION 7. REFERENCES..... 7-1

Tables

Table 1-1	Coordination with Appropriate Agencies.....	1-7
Table 1-2	Summary of UWMP Chapters and Corresponding Provisions of the California Water Code	1-9
Table 2-1	Population – Current and Projected.....	2-7
Table 2-2	Monthly Average Climate Data Summary for Morro Bay	2-10
Table 3-1	Summary of Base Period Ranges of the City of Morro Bay	3-2
Table 3-2	Base Daily Per Capita Water Use (10- to 15-year Range) of the City of Morro Bay.....	3-6
Table 3-3	Base Daily Per Capita Water Use (5-year Range) of the City of Morro Bay	3-7
Table 3-4	20x2020 Base and Target for the City of Morro Bay.....	3-8
Table 3-5	Water Deliveries – Actual, 2005	3-12
Table 3-6	Water Deliveries – Actual, 2010	3-12
Table 3-7	Water Deliveries – Projected, 2015.....	3-13
Table 3-8	Water Deliveries – Projected, 2020.....	3-13
Table 3-9	Water Deliveries – Projected 2025, 2030, and 2035	3-14
Table 3-10	Low-Income Projected Water Demands (Ac-ft) for City of Morro Bay	3-16
Table 3-11	Sales to Other Water Agencies.....	3-16
Table 3-12	Additional Water Uses and Losses.....	3-17
Table 3-13	Total Water Uses and Losses.....	3-18
Table 3-14	Retail Agency Demand Projections Provided to Wholesale Suppliers	3-19
Table 4-1	Current and Projected Water Supplies for the City of Morro Bay	4-3
Table 4-2	Wholesale Supplies – Existing and Planned Sources of Water	4-4
Table 4-3	Groundwater Pumping Rights	4-5
Table 4-4	Wells and Well Capacity in the City of Morro Bay System.....	4-5
Table 4-5	Groundwater Pumping History by the City of Morro Bay (2006 to 2010)	4-6
Table 4-6	Projected Groundwater Pumping Amounts by the City of Morro Bay from 2015 to 2035.....	4-7
Table 4-7	Transfer and Exchange Opportunities	4-9
Table 4-8	Recycled Water – Estimates of Existing and Projected Wastewater Collection and Treatment for the City.....	4-12
Table 4-9	Recycled Water – Estimates of Existing and Projected Disposal of Non-recycled Wastewater for the City of Morro Bay	4-12
Table 4-10	Potential Future Recycled Water Uses.....	4-14
Table 4-11	Comparison of Recycled Water Uses—Year 2005 Projections versus 2010 Actual.....	4-14
Table 4-12	Methods to Encourage Recycled Water Use	4-14
Table 4-13	Future Water Supply Projects	4-16
Table 5-1	Supply Reliability for the City of Morro Bay for Year 2035 (Based on Historic Conditions).....	5-3
Table 5-2	Basis of Water Year Data.....	5-4
Table 5-3	Three-Year Estimated Minimum Water Supply.....	5-8
Table 5-4	Comparison of Projected Normal Year Supply and Demand for Normal Water Year.....	5-8
Table 5-5	Comparison of Projected Supply and Demand for Single-Dry Year	5-9
Table 5-6	Projected Multiple-Dry Year Water Supply and Demand Assessment.....	5-10
Table 5-7	Factors Resulting in Inconsistency of Supply	5-12
Table 5-8	Water Quality – Current and Projected Water Supply Impacts.....	5-15
Table 5-9	Water Shortage Contingency – Rationing Stages to Address Water Supply Shortages	5-17
Table 5-10	Summary of Actions for Catastrophic Events	5-20
Table 5-11	Water Shortage Contingency – Mandatory Prohibition	5-21
Table 5-12	Water Shortage Contingency – Consumption Reduction Methods	5-22
Table 5-13	Water Shortage Contingency – Penalties and Charges	5-23
Table 6-1	Water Conservation Best Management Practices.....	6-2
Table 6-2	Summary of Status of DMM B	6-4
Table 6-3	Summary of Residential Plumbing Retrofits – Actual (1992 – 2010) and Planned (2011 – 2015).....	6-5
Table 6-4	Summary of Status of DMM C	6-6
Table 6-5	Summary of System Water Audits, Leak Detection, and Repairs.....	6-7
Table 6-6	Summary of Status of DMM D	6-8
Table 6-7	Summary of Metering with Commodity Rates	6-9

Table 6-8 Summary of Status of DMM F..... 6-10

Table 6-9 Summary of High-efficiency Washing Machine Rebate Program..... 6-11

Table 6-10 Summary of Status of DMM G..... 6-12

Table 6-11 Summary of Public Information Program..... 6-13

Table 6-12 Summary of Status of DMM K..... 6-14

Table 6-13 Summary of Status of DMM K..... 6-15

Table 6-14 Summary of Status of DMM L..... 6-16

Table 6-15 Summary of Water Conservation Coordinator Positions..... 6-17

Table 6-16 Summary of Status of DMM M..... 6-18

Table 6-17 Summary of Water Waste Prohibition..... 6-18

Table 6-18 Summary of Status of DMM N..... 6-19

Table 6-19 Summary of ULFT Rebate Program..... 6-20

Table 6-20 Summary of DMM General Assumptions used for the Economic Analysis..... 6-20

Table 6-21 Summary of DMM Specific Assumptions..... 6-22

Table 6-22 DMM A Analysis: Water Survey Programs for Single-family Residential and Multifamily
Residential Customers..... 6-23

Table 6-23 Analysis of DMM E(a): Large Landscape Conservation Programs and Incentives..... 6-24

Table 6-24 Analysis of DMM E(b): Large Landscape Conservation Programs and Incentives..... 6-25

Table 6-25 Analysis of DMM I: Conservation Programs for Commercial, Industrial, and Institutional
(CII) Accounts..... 6-26

Table 6-26 Definitions of Terms Used in the Economic Analysis..... 6-27

Table 6-27 Results of Economic Analysis for BMPs Currently not Meeting Coverage Requirements..... 6-29

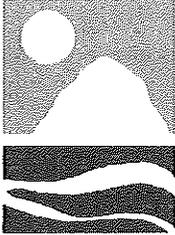
Figures

Figure 1-1	City of Morro Bay System Location Map.....	1-5
Figure 2-1	City of Morro Bay Service Area.....	2-2
Figure 2-2	Population Growth Projections.....	2-8
Figure 2-3	Monthly Average Temperature Range in Morro Bay based on Historical Data (1959-2010).....	2-9
Figure 2-4	Monthly Average Precipitation in Morro Bay based on Historical Data (1959-2010).....	2-9
Figure 3-1	California Hydrologic Regions and 2020 Water Conservation Goals (DWR F-2, DWR 2011).....	3-4
Figure 3-2	Method 3 Water Use Targets for California Hydrologic Regions (DWR D-3, DWR 2011).....	3-5
Figure 3-3	Historical and Projected Number of Metered Service Connections.....	3-9
Figure 3-4	Historical Water Use and Future Water Use Projections.....	3-10
Figure 3-5	Historical Water Use and Future Water Use Projections.....	3-11
Figure 3-6	Water Use by Customer Type.....	3-15
Figure 3-7	Population and Historical Water Use for the City of Morro Bay.....	3-20
Figure 3-8	Historical Water Use and Future Water Use Targets for the City of Morro Bay.....	3-21

Appendixes

Appendix A	2010 Urban Water Management Planning Act
Appendix B	Notification (60 Days Prior to Review)
Appendix C	Public Hearing Notice
Appendix D	Public Workshop/Hearing Materials
Appendix E	City of Morro Bay Ordinance No. 266
Appendix F	Groundwater Permits
Appendix G	Supply Reliability Data Provided by CCWA
Appendix H	City of Morro Bay 2010 Water Quality Report
Appendix I	City of Morro Bay Draft Water Shortage Contingency Plan and Draft Resolution
Appendix J	City of Morro Bay Retrofit upon Sale Ordinance
Appendix K	City of Morro Bay Utility Newsletter
Appendix L	Water Rate Structure
Appendix M	Waste Water Prohibition

Notice of Adoption

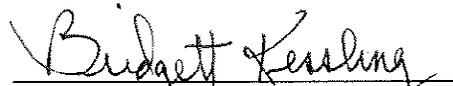


City of Morro Bay
Morro Bay, CA 93442
(805) 772-6200

CERTIFICATION

I, Bridgett Kessler, City Clerk for the City of Morro Bay, hereby certify that the attached Resolution No. 46-11 adopted by the Morro Bay City Council at its regular meeting held on June 28, 2011 is a true and correct copy of the original document.

DATED: July 12, 2011


Bridgett Kessler, City Clerk

RESOLUTION NO. 46-11

**A RESOLUTION OF THE CITY COUNCIL
OF THE CITY OF MORRO BAY, CALIFORNIA
ADOPTING THE 2010 URBAN WATER MANAGEMENT PLAN**

**THE CITY COUNCIL
City of Morro Bay, California**

WHEREAS, California Water Code Division 6 Part 2.6. Sections 10610-10656, known as the Urban Water Management Planning Act, require preparation of an Urban Water Management Plan; and,

WHEREAS, Senate Bill x 7_7 (Steinberg) passed in 2009 modifies the requirements of the Urban Water Management Plan to reduce the per capita usage by 20% in 2020; and,

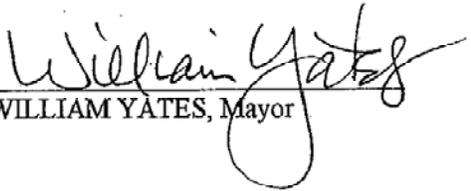
WHEREAS, Staff and its consultants have prepared the 2010 Urban Water Management Plan to meet the requirements of the Urban Water Management Planning Act; and,

WHEREAS, Staff and its consultants have prepared the 2010 Urban Water Management Plan to meet the requirements of Senate Bill x 7_7.

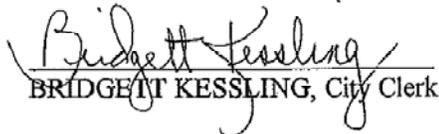
NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Morro Bay, California, that the City Council adopts the 2010 Urban Water Management Plan.

PASSED AND ADOPTED by the City Council of the City of Morro Bay at a regular meeting thereof held on the 28th day of June, 2011 on the following vote:

AYES: Borchard, Johnson, Leage, Yates
NOES: Smukler
ABSENT: None


WILLIAM YATES, Mayor

ATTEST:


BRIDGETT KESSLING, City Clerk

Abbreviations and Acronyms

µg/L	microgram per liter
#	number
ac-ft	acre-feet
ac-ft/yr	acre-feet per year
Act	Urban Water Management Planning Act
BMPs	best management practices
BRWO	Brackish Water Reverse Osmosis
CAGR	compound annual growth rates
CCWA	Central Coast Water Authority
CDPH	California Department of Public Health
cfs	cubic feet per second
CIMIS	California Irrigation Management Information System
City	City of Morro Bay
Council	California Urban Water Conservation Council
CMC	California Men's Colony
CSD	Cayucos Sanitary District
CWC	California Water Code
DAC	disadvantaged community
DMM	demand management measure
DOF	Department of Finance
DWR Guidebook	Guidebook to Assist Water Suppliers in the Preparation of 2010 Urban Water Management Plan
DWR	Department of Water Resources (California)
EPA	U.S. Environmental Protection Agency
ETo	evapotranspiration
gpcd	gallons per capita per day
gpd	gallons per day

gpm	gallons per minute
LCP	Local Coastal Plan
MCL	maximum contaminant level
mgd	million gallons per day
MTBE	methyl tertiary butyl ether
NAICS	North American Industry Classification System
No.	number
NPV	net present value
OEHHA	Office of Environmental Health Hazard Assessment
PPCPs	pharmaceuticals and personal care products
PPIC	Public Policy Institute of California
ppm	parts per million
RWQCB	Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition
SLOFCWCD	San Luis Obispo Flood Control and Water Conservation District
SWP	State Water Project
SWRCB	State Water Resources Control Board
SWRO	Seawater Reverse Osmosis
TBD	to be determined
TDS	total dissolved solids
ULF	ultra low flush
ULFT	ultra-low-flush-toilet
USC	University of Southern California
UWMP	Urban Water Management Plan
WRCC	Western Regional Climate Center
WWTP	Wastewater Treatment Plant

Definitions

Chapter 2, Part 2.6, Division 6 of the California Water Code (CWC) provides for definitions for the construction of the Urban Water Management Plans. Appendix A contains the full text of the Urban Water Management Planning Act.

CHAPTER 2. DEFINITIONS

10611. *Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.*

10611.5. *“Demand management” means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.*

10612. *“Customer” means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.*

10613. *“Efficient use” means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.*

10614. *“Person” means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.*

10615. *“Plan” means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.*

10616. *“Public agency” means any board, commission, county, city and county, city, regional agency, district, or other public entity.*

10616.5. *“Recycled water” means the reclamation and reuse of wastewater for beneficial use.*

10617. *“Urban water supplier” means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.*

Section 1. Introduction and Plan Preparation

Background

The Urban Water Management Plan (UWMP) for the City of Morro Bay (City) is prepared in compliance with Division 6, Part 2.6, of the CWC, Sections 10610 through 10657 as last amended by Senate Bill (SB) 318, the Urban Water Management Planning Act (Act). The original bill, requiring a UWMP, was initially enacted in 1983. SB 318, which became law in 2004, is the eighteenth amendment to the bill. Increased emphasis on drought contingency planning, water demand management, reclamation, and groundwater resources has been provided through the updates to the original bill. In addition to some changes in the Act since the last UWMPs were submitted in 2005, Governor Schwarzenegger in his 20x2020 Plan determined that for California to continue to have enough water to support its growing population, it needs to reduce the amount of water each person uses per day (Per Capita Daily Consumption). This reduction of 20 percent per capita use by the year 2020 is supported by legislation passed in November 2009 SBx7-7 (Steinberg). SBx7-7 has amended and repealed some sections of the Water Code and affected reporting requirements for 2010 UWMP under the Act and other government codes.

Under the current law, urban water suppliers with more than 3,000 service connections or water use of more than 3,000 acre-feet per year (ac-ft/yr) are required to submit a UWMP every 5 years to the California Department of Water Resources (DWR). The reports must be submitted by December 31. The deadline for adoption of a water supplier's 2010 UWMP is July 1, 2011 (CWC §10608.20 (j)). This date is extended from the normal requirement of December 31 in years ending in five and zero (CWC §10621 (a)) to allow additional time for water suppliers to address the UWMP requirements in the Water Conservation Bill of 2009.

The law, as it is now, finds and declares the following:

Section 10610.2.

(a) The Legislature finds and declares all of the following:

- (1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.*
- (2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.*
- (3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.*
- (4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.*

- (5) *Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.*
 - (6) *Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.*
 - (7) *Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.*
 - (8) *Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.*
 - (9) *The quality of source supplies can have a significant impact on water management strategies and supply reliability.*
- (b) *This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.*

Section 10610.4. The Legislature finds and declares that it is the policy of the state as follows:

- (a) *The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.*
- (b) *The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.*
- (c) *Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.*

The required elements for this Section (UWMP Plan Preparation) include the following (item numbers are from the 2010 UWMP guidebook outline checklist):

#4. 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)).

#6. Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision (10621(b)).

#54. The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan (10635(b)).

#55. Each urban water supplier shall encourage the 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 (10642).

#56. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area (10642).

#7. The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640) (10621(c)).

#57. After the hearing, the plan shall be adopted as prepared or as modified after the hearing (10642).

#58. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan (10643).

#59. An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption (10644(a)).

#60. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours. (10645).

This section includes specific information on how the UWMP for the City of Morro Bay was prepared, coordinated with other agencies and the public, and adopted. It includes background information and system overview as well.

The primary purpose of this UWMP is to provide information and recommendations necessary to develop a long-term plan for ensuring a reliable, environmentally sensitive, and economical water supply for the City of Morro Bay. This report has been created to meet the requirements of SBx7-7 and the associated State mandatory reductions in water usage targets for 2020. Planning on reductions in future years, to comply with the requirements of State law and to the extent that actual reductions in per capita water usage are not met, will reduce the accuracy and utility of this document for future water supply planning purposes. Readers of this document are advised to use this information judiciously.

2010 UWMP Organization

The City of Morro Bay has twice in the past (in 2002 and 2005) embarked on the process of developing an UWMP. While the 2002 plan was never submitted to DWR for review, it served as the foundational document for the 2005 update. In 2005, the City updated the 2002 version of the UWMP. This effort led to the adoption of the plan by the City Council and was submitted to DWR for review.

The 2005 UWMP was restructured following the DWR Final Guidebook (DWR, 2011) and new elements required for the 2010 UWMP have been included. Each section in this UWMP follows the 2010 UWMP guidebook outline. Required elements are presented in italicized text in the beginning of each section. The original checklist numbers are also retained and are included in front of the italicized text.

System Overview

The City of Morro Bay is located on the Central Coast in San Luis Obispo County about 250 miles north of Los Angeles. The City provides water distribution and wastewater collection, treatment, and disposal services.

The City derives its water supply from purchased water from the State Water Project (SWP) and local groundwater. A desalination plant also supplements the City's water supply.

The City's existing water supplies are currently provided almost entirely by the SWP. The City is contractually entitled to 1,313 ac-ft/yr of State Water from the County of San Luis Obispo plus an additional 174 percent drought buffer to ensure reliability when the SWP has to reduce overall deliveries during dry years.

Prior to the delivery of the SWP, the City relied on groundwater solely from the Morro and Chorro Groundwater Basins for its primary source of water supply. The Chorro and Morro Groundwater Basins are shallow alluvial basins that behave similar to an underground stream. Rainfall in the watershed percolates into the ground and flows underground to the ocean. Use of such water resources are controlled by the State Water Resources Control Board (SWRCB). The SWRCB in 1972 issued findings that the Chorro and Morro Basins are riparian underflow. The City of Morro Bay applied for appropriative water rights and, in 1995, the SWRCB approved water right permits for up to 1.2 cubic feet per second (cfs) and 581 ac-ft/yr from the Morro basin and up to 3.171 cfs and 1142.5 ac-ft/yr annually of Chorro Creek underflow. In accordance with water right permits, the City can pump up to 1,723.5 ac-ft/yr of groundwater in normal years, but only 1,150 ac-ft/yr in severe drought years.

In 1992, the City constructed a seawater desalination plant during a drought emergency, and in 2009 expanded the plant facility with the installation of Brackish Water Reverse Osmosis (BWRO) treatment trains. The City operates both a Seawater Reverse Osmosis (SWRO) and BWRO treatment systems at the same desalination facility. The existing desalination plant is capable of producing 645 ac-ft/yr, but is not currently in regular operation. The plant operated for several months after completion in 1993, but due to high operating costs, plant use was discontinued. In 1995, the California Coastal Commission approved a Local Coastal Plan (LCP) amendment that allows the City to use the plant as a regular non-emergency water source. The plant was briefly used as a supplemental source of water in 1995; however, raw water quality problems caused the plant to shut down.

Figure 1-1 illustrates the location of the City's system.



Image Source: ESRI, i-cubed, USDA FSA, USGS.

Figure 1-1 City of Morro Bay System Location Map

Coordination

The City initiated agency coordination with a mailing of letters to the County within its service area and the local wholesale water agency. The initial letters notified the agencies of the City's intent and requested data for the preparation of the UWMP. Follow up with staff from the agencies was conducted when appropriate.

Table 1-1 lists the agencies contacted during the preparation of this UWMP.

Table 1-1
Coordination with Appropriate Agencies

Coordinating Agencies	Participated in UWMP Development	Commented on the Draft	Attended Public Meetings	Was Contacted for Assistance	Was sent a Copy of the Draft Plan ²	Was sent a Notice of Intention to Adopt	Not Involved/No Information
County of San Luis Obispo				✓			
Central Coast Water Authority	✓			✓			
San Luis Obispo Council of Governments				✓			
General public		✓	✓			✓	

Notes:

1. Table format based on DWR Guidance Document Table 1
2. Plan was made available to the public at <http://morro-bay.ca.us/DocumentView.aspx?DID=1188>

Notification Requirement - 60 days prior to Review/Adoption Hearing

Pursuant to the new requirement (for the 2010 UWMP) in Section 10642 of the Act, the City of Morro Bay notified the County of San Luis Obispo (within which it provides water supplies) that the 2010 UWMP was being reviewed and changes were being considered. The notification was sent 60 days prior to the UWMP public hearing. Appendix B contains a copy of the notification.

In addition to making a public review copy of the plan available to the general public, the City placed a notice into its water bills advertising the upcoming hearing. The Public Works Advisory Board (PWAB) was used as an opportunity to solicit public participation from a diverse group stakeholder and receive comment on the draft plan.

This document was presented at a public hearing. A copy of the public notice for the public hearing is enclosed in Appendix C. The public meeting was noticed in accordance with Government Code 6066.

Appendix D contains a copy of the hearing notice from a local newspaper and the meeting minutes from the public pertaining to the UWMP. Appendix D also contains comments received, and comment resolution.

Plan Adoption, Submittal, and Implementation

Plan adoption requirements are detailed in Section 10642 of the Act.

For this update of the UWMP, a public hearing was held on June 28, 2011 at the Morro Bay Veterans Memorial Hall at 6 PM. This public session was held for review and comment on the draft Plan before the approval by the City. The 2010 UWMP was adopted at this public hearing meeting.

The final UWMP, as adopted by the City, will be submitted to DWR. Within 30 days of submittal to DWR, copies of this plan will be provided to the California State Library System, the City of Morro Bay Public Services Department, and posted on the City's website to make the information available to the public. Copies of this plan will also be provided to the County of San Luis Obispo no later than 60 days after its submission to DWR.

The final UWMP, as adopted by the City, will be submitted to the DWR, the California State Library, and any city or county within which the City supplies water within 30 days of adoption. This plan includes all information necessary to meet the requirements of CWC Division 6, Part 2.6 (Urban Water Management Planning). Adopted copies of this plan will be available to the public at the Public Services Department.

The City is committed to the implementation of this UWMP as required by Section 10643 of the Act.

UWMP Preparation

The City prepared this UWMP with the assistance of its consultant, CH2M HILL, as permitted by Section 10620 (e) of the Act.

During the preparation of the UWMP documents that have been prepared over the years by the City and other entities were reviewed and results of those documents incorporated, as applicable, into this UWMP. The list of the documents is provided in the reference section, Section 7.

The adopted plans will be made available for public review at the City of Morro Bay Office of the City Clerk and the Morro Bay Public Services Department. Copies of the plan will be submitted to DWR, cities and counties within the service area, the State Library, and other applicable institutions within 30 days as required by Section 10644 and 10645.

Content of the UWMP

This UWMP addresses all subjects required by Section 10631 of the Act as defined by Section 10630, which permits "levels of water management planning commensurate with the numbers of customers served and the volume of water supplied." All applicable sections

of the Act are discussed in this UWMP. Table 1-2 lists the sections of this UWMP and the corresponding provisions of the Act.

Table 1-2
Summary of UWMP Chapters and Corresponding Provisions of the California Water Code

Section		Corresponding Provisions of the Water Code	
1. Introduction and Plan Preparation	10642	Public Participation	
	10643	Plan Implementation	
	10644	Plan Filing	
	10645	Public Review Availability	
	10620 (a) – (e)	Coordination with Other Agencies; Document Preparation	
	10621 (a) – (c)	City and County Notification; Due Date; Review	
	10620 (f)	Resource Optimization	
	10630	Level of Planning	
	10641	Coordination	
	10644(a)	UWMP Distribution	
	10621(b)	Notification	
	2. System Description	10631 (a)	Demographics and Climate
	3. System Demands	10631 (e), (k)	Water Use, Data Sharing
10631.1		Lower Income Housing Water Use Projections	
4. System Supplies	10631 (b) – (d), (h), (k)	Water Sources, Reliability of Supply, Transfers and Exchanges, Supply Projects, Data Sharing	
	10633	Recycled Water	
	10633(d)	Potential Recycled Water Uses	
	10631 (i)	Desalination	
5. Water Supply Reliability and Water Shortage Contingency Plan	10632	Water Shortage Contingency Plan	
	10635	Water Service Reliability	
	10634	Water Quality Impacts on Reliability	
6. DMMs	10631 (f) – (g), (j)	DMMs	
	10631.5	DMM Implementation Status	
	10631.5(b)	DMM Compliance	

Note:

DMM = demand management measure

Section 2. System Description

A detailed description of the City's service area is requested by the Act. Section 10631 (a) of the Act requires that (item numbers are from the 2010 UWMP guidebook outline checklist):

#8. Describe the service area of the supplier (10631(a)).

#9. (Describe the service area) climate (10631(a)).

#10. (Describe the service area) current and projected population . . . 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 . . . (10631(a)).

#11. . . . (population projections) shall be in five-year increments to 20 years or as far as data is available (10631(a)).

#12. Describe . . . other demographic factors affecting the supplier's water management planning (10631(a)).

This section summarizes the City's system service area and presents an analysis of available demographics, population growth projections, and climate data to provide a basis for estimating future water requirements.

Service Area Physical Description

The City of Morro Bay is located 12 miles northwest of San Luis Obispo and is located on Highway 1. The City's Water service area is bounded by the City of Morro Bay's sphere of influence, which has changed since the City's 2005 UWMP was prepared. In 2007, the San Luis Obispo Local Agency Formation Commission (LAFCO) redefined the City's sphere of influence to the City limit boundary (see Figure 2-1). Excluding the 11 properties and the associated population served outside the City limits will cause a negligible increase to the City's per capita consumption, and so for the duration of this report the City limit will be assumed to be concurrent with the service area. The City has a total area of 10.2 square miles, of which, 5.2 square miles of it is land and 5.0 square miles of it (49.2 percent) is water (<http://factfinder.census.gov>). The service area is primarily characterized by residential and commercial land use.

The topography of service area is generally hilly to mountainous, with development and agriculture concentrated on the coastal plain and valleys. Slopes are steeper than 20 percent and up to 50 percent for much of the area, with the estuarine and valley areas exhibiting slopes less than 20 percent. The topography of the region limits development to the coastal plain and valleys. Surrounding mountains and the ocean ultimately restrict the expansion of the City.



Image Source: ESRI, i-cubed, USDA FSA, USGS.

Figure 2-1 City of Morro Bay Service Area

The Franciscan Formation, formed primarily of metamorphic rock, dominates the Coastal Range in the area of Morro Bay. The southern side of the area consists of the Islay Hill - Morro Rock complex, which is a 15-mile long series of Oligocene volcanic rocks that have intruded up through the Franciscan Formation. Overlaying the bedrock within much of Morro Bay are the bay muds and alluvium of Morro Creek and Estero Bay that are comprised of unconsolidated sedimentary deposits, which are comprised predominantly of fine grain sediments.

Soils in the area consist of loamy sands, sandy loam, clays, clay loam, and silty clay loam. The alluvial water bearing deposits are generally capped by 20 to 50 feet of clay. Soils in the valleys are suitable for agriculture, affecting the demands for groundwater. Alluvium in the Morro and Chorro Valleys contains sand and gravel deposits that make up the principal aquifer.

In 1994, the Governor established Morro Bay as California's first State Estuary. The Morro Bay National Estuary Program (MBNEP) is one of 28 national programs that combine governmental and private efforts to protect this important coastal area. The comprehensive conservation and management plan (CCMP) calls for actions in several areas, including water quality, habitat protection, and public education.

The economy of the City is primarily oriented toward tourism and recreational activities. In addition, it is a desirable place to retire. In accordance with the City's reliance on tourism, about 20 percent of the City's residences are vacant or used as seasonal second residences.

Morro Bay has a wide array of recreational opportunities, which include fishing, surfing, hiking, bird and sea life watching, sightseeing, boating, golf, and beach activities. There are facilities for boating and camping.

A number of coastal dependent industries such as commercial and recreational fishing and boating related services are present in the City. Coastal dependent industries have been decreasing over a number of years. However, the City has been taking active steps to ensure that a viable industrial base is maintained. The City recognizes that coastal-dependent industries are important to its character and to the tourism industry.

Part of the service area is utilized for agriculture. This area consists of irrigated and dry-land farm crops, predominantly in the valleys where slopes are flatter. Steeper farmland is used for grazing of cattle. In recent years, steeper lands have increasingly been planted as orchards and vineyards.

Agriculture also plays a significant role in the local economy. Agriculture and seasonal occupants which includes large numbers of visitors and owners of vacation or secondary homes in the City affect City's water demands seasonally.

Demographics

At the time of preparation of this UWMP, population data for the 2010 Census are available. However, demographics data for 2010 are not available. Therefore, for the description of the demographics 2000 Census data are used. This data while old should still be representative of the demographic mix of Morro Bay's population.

According to 2000 US census data, the median age of Morro Bay's residents is 45.7 years. Morro Bay has an average household size of 2.04 people and a median household income of approximately \$34,379.

The City of Morro Bay is estimated to a Disadvantaged Community (DAC). A DAC is defined as a community with an annual median household income that is less than 80 percent of the statewide annual median household income. The estimated median household income for Morro Bay from the 2000 Census was \$34,379 in 1999 dollars. The median Household income for California was \$47,493 in 1999 dollars (<http://factfinder.census.gov>). Therefore, the median household income for Morro Bay was 72 percent of the statewide annual median household income.

Per the 2000 Census, the City had 6,286 housing units. The City had approximately 37.5 percent of households in the low income group (less than \$24,999 per year).

Residential development and open space represent the predominant land use in Morro Bay with 26 percent and 41 percent of the City's total area, respectively. The remaining portion of the City's land use is divided among industrial and commercial uses. Of the residential developments, about 80 percent of existing housing falls into the single family category and 17 percent falls into the multi-family category (<http://factfinder.census.gov>). This preference for single family housing is expected to continue; however, in the future, new development of affordable multi-family housing units may potentially be implemented within the Morro Bay existing service area. The Morro Bay area experienced population growth of 7.1 percent between 1990 and 2000 (from 9,664 people in 1990 to 10,350 people in 2000). During the last decade, the City's population grew at a slow rate of 0.25 percent, from 10,350 in 2000 to 10,608 in 2010. It is expected to experience slow annual population growth of 0.6 percent from 2010 through 2030 (San Luis Obispo Council of Governments [SLOCOG], 2006).

According to the 2000 Census data, the population of the City in 2000 was 10,350. About 4,986 households and 2,612 families were residing in the City. The population density was 2,007 people per square mile. There were 6,251 housing units at an average density of 1,212.1 per square mile (<http://factfinder.census.gov>).

Service Area Population

“Occupancy” in Morro Bay includes two categories of population: permanent residents and seasonal occupants. Permanent residents include homeowners or renters who have their primary residence in the City and as such are counted by the census. Seasonal occupants include large numbers of visitors and owners of vacation or secondary homes in the City.

Permanent Population

The service area population was estimated following Technical Methodology 2 described in Section M of the Methodologies for Calculating Baseline and Compliance Urban per Capita Water Use document (DWR, 2011). The City is a retail water supplier that falls into the Category 1 supplier, the actual distribution area of the City is nearly the same as the City’s boundary during baseline and compliance years. The population data published by the California Department of Finance (DOF) and the U.S. Census Bureau serve as the foundational building block for population estimates for the City. The past population data (from 1990s to 2010) provided by DOF were used to calculate historic trends in population dynamics. Those data were also used for developing baseline and target water demands for the City’s water conservation plan. The SLOCOG data were used to develop estimates of future population within the City (SLOCOG, 2006). Water demand projections presented in Section 3 are based on population projections provided by SLOCOG.

Seasonal Population

Due to the importance of tourism and retirement lifestyles to Morro Bay, average annual occupancy rates for dwellings have been historically low, around 80 percent.

While seasonal fluctuations in population greatly affect water demand and trigger the need for additional water supply, this population is not included in the DOF or Census population or in future population estimates for the City’s service area. The guidelines for this plan do not allow for the inclusion of seasonal visitor populations. This omitted source of water demand significantly inflates the City’s per capita water use by distributing visitor and seasonal occupant water use into the City’s permanent population.

SLOCOG Population Projection Methodology

The 2000 population data are derived from the 2000 U.S. Census, which form a baseline for local data projections. Economics Research Associates (ERA) analyzed population projection for SLOCOG. These population projections are derived from all DOF statistical information from E-4 (Population Estimates) and E-6 (Revised County Population Estimates) data sets. The projected population is based on US Census Bureau and DOF reports by the University of Southern California (USC) and the Public Policy Institute of California (PPIC). PPIC assumed both a high and low growth rates for their population projections.

High, low and medium growth scenarios are estimated from compound annual growth rates (CAGR) provided by DOF, Census, USC, PPIC-High and PPIC-Low. The medium growth rate is an average projected implied growth for all studies by five-year time periods, while the low-growth scenario was taken from Census projections and the high-growth scenarios was taken from USC’s projections. Population growth is estimated based on

expected population growth in the service area. These growth estimates are presented in the section below.

The City of Morro Bay's approach on controlling development of new housing units but not the number of people living in them is described in Measure F. A key development assumption in the population projections places a limit on the rate at which new housing is developed and a ceiling on the "ultimate" buildout of each jurisdiction based on the land use plans.

Measure F

While some or all conditions of Measure F may have lapsed, the requirements are included herein for reference. The voters in Morro Bay approved Measure F, a resource management initiative, in 1984 to limit new construction. As a result, City Ordinance No. 266 (Appendix E) was adopted by the City Council to implement the measure, including provisions to administer and monitor the allocation system for all new development and construction. The major features of the ordinance are summarized below:

- The ordinance provides for a population growth from 9,600 up to 12,200 by the year 2000. As of 2000 the Morro Bay population reached 10,350 residents.
- Development is subject to availability of water resources both in quantity and quality, through the adoption of a Water Management Plan.
- If water and wastewater treatment capacities become available, the measure allows for population increases beyond 12,200. Changes to the growth management procedures require a majority vote.

For population projections, 2000 Census data were used to determine both the residential occupancy rate for Morro Bay (the fraction of occupied dwellings to total dwellings) and the average number of persons per *inhabited* dwelling. Using these values and the average number of dwelling units allocated each year by the City of Morro Bay for residential development, population increases were projected over the next 25 years. This population forecast is based on assumptions regarding future conformance with the City of Morro Bay General Plan, household size, the economy and numerous other short-term and long-term factors that can influence a community's rate of growth, including provisions described in Measure F.

Morro Bay is reaching build out within the City limits, and is limited in future growth by its current sphere of influence. The low population growth scenario, as described earlier with the SLOCOG's long-range population projection method, was chosen by the City to estimate population growth for the service area due to Morro Bay's limited population growth.

City of Morro Bay System Population Projections

The City of Morro Bay's population that is served within the City's boundaries was 10,608 people in 2010. This population served within the City's boundaries is expected to reach 12,255 by 2035. A summary of historic and projected population within the Morro Bay's service boundaries is presented in Table 2-1 and illustrated in Figure 2-2.

The future population projections between 2015 and 2035 are provided by SLOCOG, which are based on the 2000 census data (SLOCOG, 2006). These projections are based on the low population-growth scenario (following the Census projections). DOF and SLOCOG do not have population projections prepared for the service area for 2035. For the purposes of this plan, City staff projected the population using SLOCOG's low population projection CAGR of 0.58 percent. The CAGR when extended to a 5-year growth projection interval yields a compound 5 year interval growth rate of 2.9 percent. This corrected growth-rate interval was used to extend the population projections from 2030 to 2035.

Table 2-1
Population – Current and Projected

Year	Service Area Population ³	Data Source
2005	10,350	DOF
2010 ⁵	10,608	DOF
2015	10,910	SLOCOG
2020	11,210	SLOCOG
2025	11,560	SLOCOG
2030	11,910	SLOCOG
2035	12,255	SLOCOG

Notes:

1. This table is based on the DWR Guidebook Table 2.
2. Based on calendar year (January 1 – December 31).
3. Service area population is defined as the population served by the City of Morro Bay's distribution system. The population projected per Technical Methodology 2: Service Area Population (2010 UWMP Guidebook, Section M)
4. Historic service area population data are based on DOF
5. DOF E-4 data are reported for 2010
6. Service area population projections are based on low population growth projection scenario by SLOCOG for the city of Morro Bay (SLOCOG, 2006)

DWR Guidebook = Guidebook to Assist Water Suppliers in the Preparation of 2010 UWMP

The 2005 UWMP predicted population in 2010 to reach approximately 10,800 and 2020 population to reach 12,000 people. The population in 2010 and 2020, as presented in this report, are 10,608 and projected to be 11,210 people, respectively. The population for year 2010 and 2020 in the current study is less than the estimates in the previous 2005 report. 2005 UWMP population projections assumed average population growth rate of 1 percent between 2005 and 2010. However, actual average annual population growth rate was 0.10 percent between 2005 and 2010. A slight increase in population growth was observed between 2005 and 2010. Per this plan and based on the SLOCOG population data, average annual growth rates between 2010 to 2020 and 2020 to 2030 are assumed as 0.54 percent and 0.59 percent, respectively.

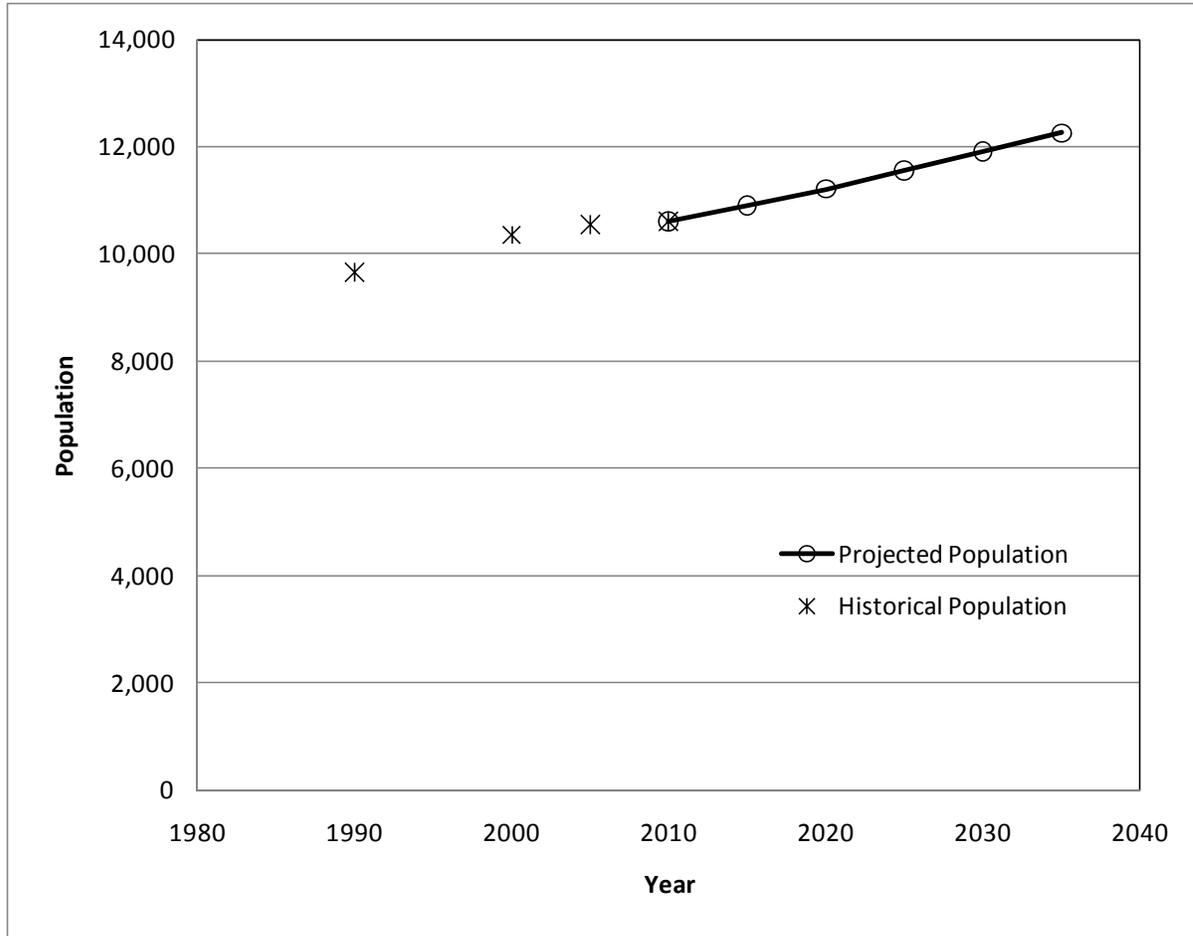


Figure 2-2 Population Growth Projections

Service Area Climate

The City of Morro Bay has a mild Mediterranean type of climate, influenced by its proximity to the ocean. Cool breezes from the ocean keep peak summer temperatures below levels typically seen in inland communities. As a result, irrigation water demands in the City exhibit less seasonal fluctuations than occur inland. Reduced seasonal fluctuations in water demands benefits the City's water planning.

The Western Regional Climate Center (WRCC) web site (www.wrcc.dri.edu) maintains historical climate records for the past 51 years (2/1/1959 to 12/31/2010) for Morro Bay. Table 2-2 presents the monthly average climate summary based on 51 years of historical data for Morro Bay. In winter, the lowest average monthly temperature is approximately 42.8 degrees Fahrenheit while the highest average monthly temperature reaches approximately 69 degrees Fahrenheit in the summer (Figure 2-3). Figure 2-4 presents the monthly average precipitation based on 51 years of historical data (2/1/1959 to 12/31/2010). The rainy season is from November through March. Monthly precipitation during the winter months ranges from 2 to 3 inches. Annual total rainfall is about 17 inches. Low humidity occurs in the summer months from May through October. The moderately

hot and dry weather during the summer months typically results in moderately high water demand.

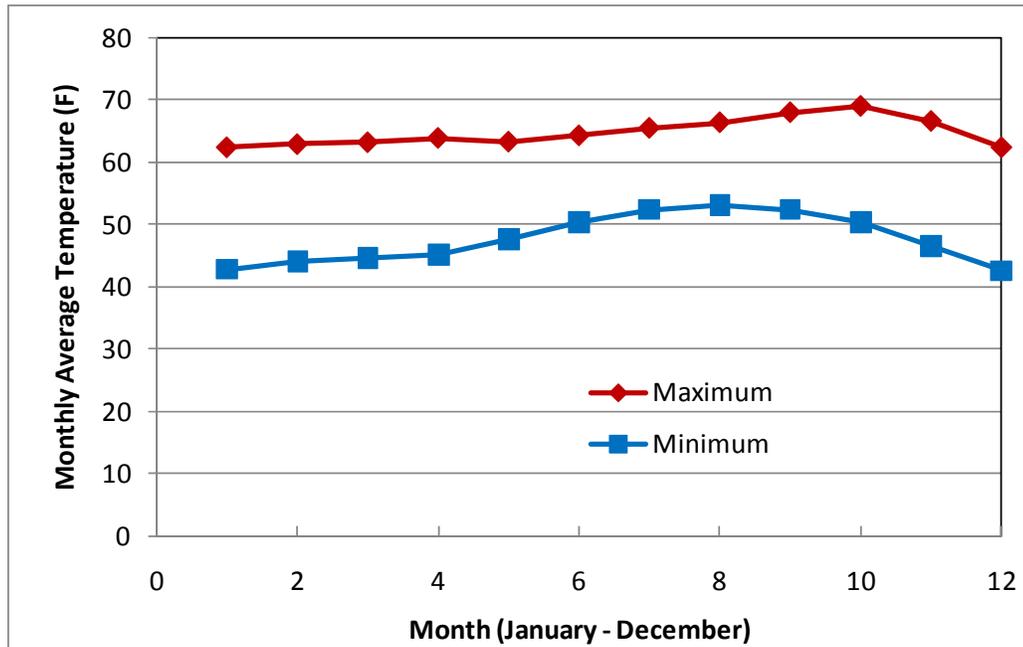


Figure 2-3 Monthly Average Temperature Range in Morro Bay based on Historical Data (1959-2010)

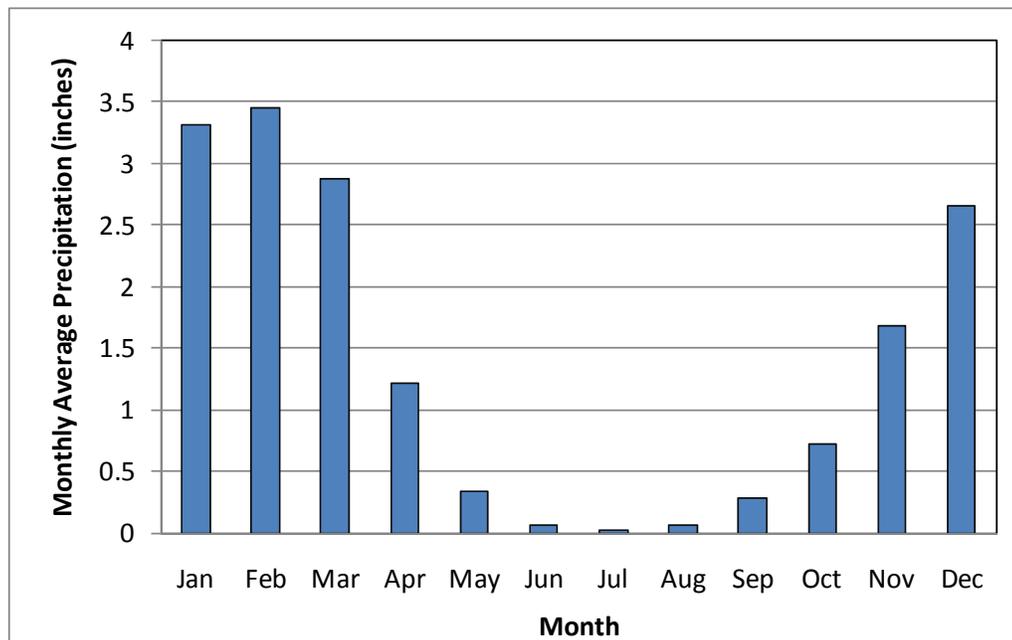


Figure 2-4 Monthly Average Precipitation in Morro Bay based on Historical Data (1959-2010)

Similar to the WRCC in the San Luis Obispo area, the California Irrigation Management Information System (CIMIS) web site (www.cimis.water.ca.gov) tracks and maintains records of evapotranspiration (ET_o) for few cities. ET_o statistics used for this system are

available from a San Louis Obispo (West) CIMIS station that was active from 1986-2010. ETo is a standard measurement of environmental parameters that affect the water use of plants. ETo is given in inches per day, month, or year and is an estimate of the ETo of a large field of well-watered, cool-season grass that is 4 to 7 inches tall. The monthly average ETo is presented in inches in Table 2-2. As the table indicates, a greater quantity of water evaporates from May through August, which may result in higher water demand than winter months.

Table 2-2
Monthly Average Climate Data Summary for Morro Bay

Month	Standard Monthly Average ETo ⁽¹⁾ (inches)	Average Total Rainfall ⁽²⁾ (inches)	Average Temperature ⁽²⁾ (degrees Fahrenheit)	
			Max	Min
January	2.21	3.32	62.4	42.8
February	2.5	3.45	62.9	44.1
March	3.8	2.88	63.2	44.6
April	5.08	1.21	63.9	45.2
May	5.7	0.34	63.3	47.7
June	6.19	0.06	64.3	50.3
July	6.43	0.03	65.5	52.4
August	6.09	0.06	66.4	53.1
September	4.87	0.29	68	52.4
October	4.09	0.72	69	50.3
November	2.89	1.68	66.6	46.6
December	2.28	2.66	62.4	42.6

Notes:

1. ETo Overview from <http://www.cimis.water.ca.gov/cimis/monthlyEToReport.do>
2. Rainfall and Temperature data from: <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5866>

Section 3. System Demands

The Act requires that an evaluation of baseline (base daily per capita) water use and interim and urban water use be performed for the City of Morro Bay. The Act states the following (item numbers are from the 2010 UWMP guidebook outline checklist):

#1. An urban retail water supplier shall include in its urban water management plan...due in 2010 the 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.

#2. Urban wholesale water suppliers shall include in the urban water management plans . . . an assessment of their present and proposed future measures, programs, and policies to help achieve the water use reductions required by this part (10608.36). Urban retail water suppliers are to prepare a plan for implementing the Water Conservation Bill of 2009 requirements and conduct a public meeting which includes consideration of economic impacts (CWC §10608.26).

#25. Quantify, to the extent records are available, past and current water use, and projected water use (over the same five-year increments described in subdivision (a)), identifying the uses among water use sectors, including, but not necessarily limited to, all of the following uses: (A) Single-family residential; (B) Multifamily; (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; (I) Agricultural (10631(e)(1) and (2)).

#33. Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c) (10631(k)).

#34. The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier (10631.1(a)).

As part of the UWMP, California regulation requires water suppliers to quantify past and current water use and to project the total water demand for the water system, including calculations of its baseline (base daily per capita) water use and interim and urban water use targets. Projections of future water demand allow a water supplier to analyze if future water supplies are adequate, as well as help the agency when sizing and staging future water facilities to meet water use targets. Projected water use, combined with population projections, provide the basis for estimating future water requirements.

Baseline and Targets

This section presents an analysis of water use data and resulting projections for future water needs for the City of Morro Bay, including a 2020 water use target and a 2015 interim target water use.

Baseline Water Use of the City of Morro Bay

DWR has developed methodologies and criteria for determining baseline water use and water use targets (Part II, Section M; Guidebook Part II, Section D per the Water Conservation Bill of 2009 (DWR, 2011). DWR documents provide guidance to water purveyors to prepare both a 10-year and 5-year water use baseline (DWR, 2011). The City has developed the baselines and targets for the City of Morro Bay individually, which covers the water usage within the City's service area. Following requirements provided in the guidebook, the City has calculated baseline per capita water use, an urban water use target for 2020, and an interim water use target for 2015.

The City's 2008 recycled water use is less than 10 percent of total annual water use; therefore, the base period is considered as a continuous 10-year period (DWR, 2011). Table 3-1 presents a summary of base period ranges for the City. The table also provides information on 2008 water deliveries. The 10-year baseline period used for estimating a gallon per capita per day (gpcd) value begins with January 1, 1995, and ends on December 31, 2004. A 5-year base period range starting from January 1, 2003, through December 31, 2007, was used to determine a minimum required reduction in water use by 2020.

Table 3-1
Summary of Base Period Ranges of the City of Morro Bay

Base	Parameter	Value	Units
10- to 15-year Base Period	2008 Total Water Deliveries	13,060	ac-ft
	2008 Total Volume of Delivered Recycled Water	0	
	2008 Recycled Water as a percent of Total Deliveries	0	
	Number of Years in Base Period ²	10	years
	Year beginning Base Period Range	1995	
	Year-ending Base Period Range ²	2004	
5-year Base Period	Number of Years in Base Period	5	years
	Year beginning Base Period Range	2003	
	Year ending Base Period Range ³	2007	

Notes:

1. Table format is based on DWR Guidance Document Table 13.
2. The 2008 recycled water percent is less than 10 percent; therefore, the first base period is a continuous 10-year period. The ending year is December 31, 2004.
3. The ending year is December 31, 2007.

Water Use Targets

The Water Conservation Act of 2009, Senate Bill SBx7-7 requires water agencies to reduce per capita water use by 20 percent by 2020 (20x2020). Per DWR's guideline (DWR, 2011) four methods are outlined for consideration by the water agencies to determine the urban water use target. These methods include:

- Method 1: 80 percent of Base Daily Per Capita Water Use
- Method 2: Performance Standards
- Method 3: 95 percent of Regional Target
- Method 4: Water Savings

Water suppliers are required to set a water use target for 2020 and an interim water use target for 2015 using one of four methods. The 2020 urban water use target may be updated in a supplier's 2015 UWMP.

The City adopted Method 3 described in the DWR guidance document (DWR, 2011) to set its 2015 interim and 2020 water use targets. Method 3 requires the City to identify the hydrologic region within which the service area resides, and uses 95 percent of the Regional Hydrologic Region's baseline per capita water use to calculate the 2020 water use target.

DWR has established interim and final targets for each of the State's 10 hydrologic regions based on population, climate, and water use. The hydrologic region targets were incorporated into the Water Conservation Bill of 2009. Per DWR (DWR, 2011) current water use and conservation targets vary among the regions due to many factors, such as land use patterns (lot sizes, square footage of irrigated landscape), the age and condition of the water distribution infrastructure (water losses), and industrial and socioeconomic characteristics (the cost of water and income level of residents). Figure 3-1 provides a map showing interim and final targets for each hydrologic region in California (DWR F-2, DWR 2011). Note that the City's service area resides fully within the Central Coast Hydrologic Region as shown in Figure 3-1. The 95 percent regional targets for each hydrologic region are shown in Figure 3-2 (DWR D-3, DWR 2011).

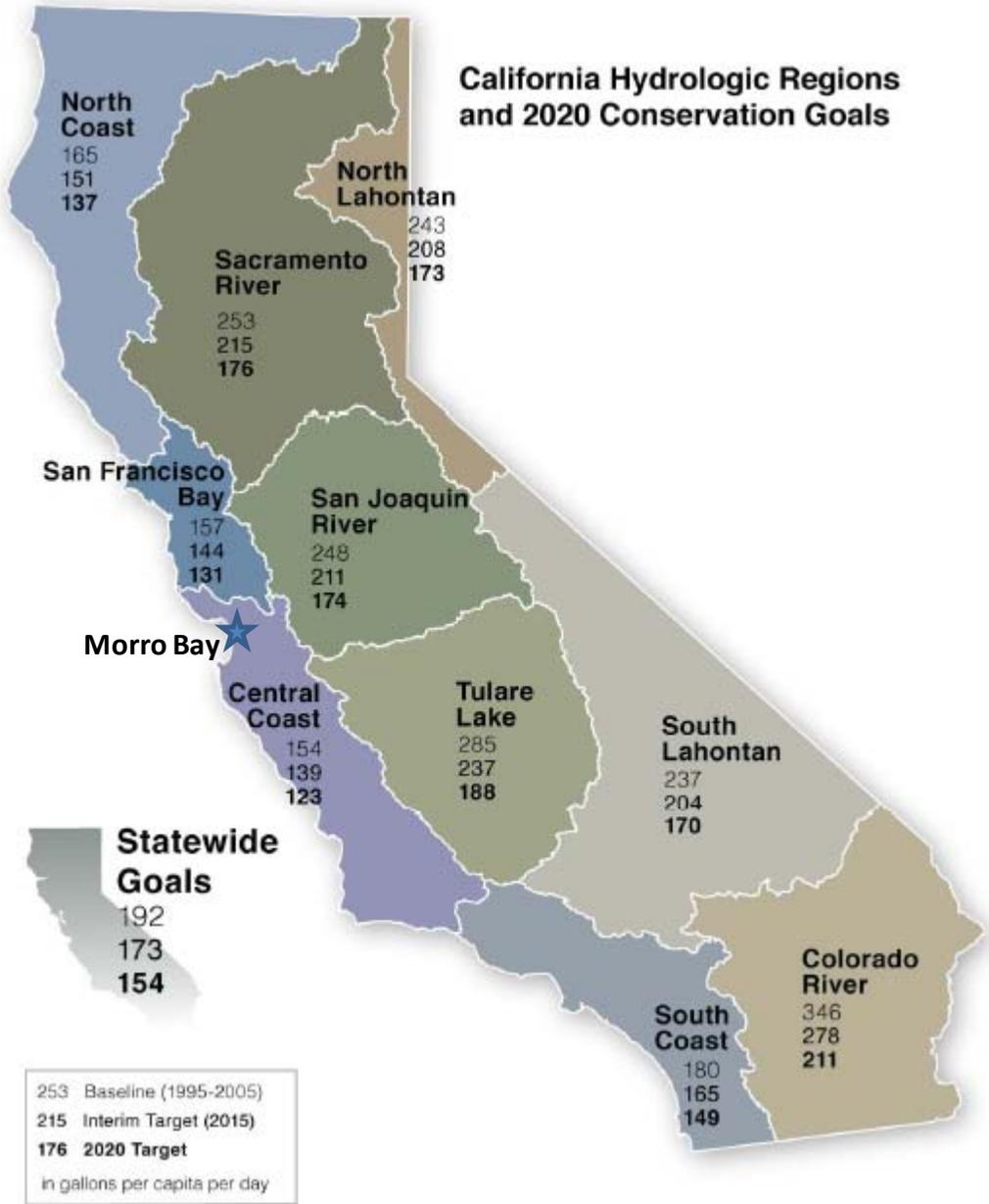


Figure 3-1 California Hydrologic Regions and 2020 Water Conservation Goals (DWR F-2, DWR 2011)



Figure 3-2 Method 3 Water Use Targets for California Hydrologic Regions (DWR D-3, DWR 2011)

The City analyzed per capita water use between 1995 and 2004 to set the 10-year base period for water use (Table 3-2). The base per capita water use estimated (as an average for 10 base years) is 125 gpcd.

Distribution system population for both the 10-year and 5-year water use baseline were obtained directly from DOF provided population data. Daily gross water use was calculated using the City's historical water production records from all water supply sources. These sources include:

- SWP Deliveries
- The Morro Well Field
- The Chorro Well Fields (Ashurst and Romero)
- The Morro Bay Desalination Facility

Total annual water production was converted to daily water production and is reported in Tables 3-2 and 3-3.

Table 3-2
Base Daily Per Capita Water Use (10- to 15-year Range) of the City of Morro Bay

Base Period Year		Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)
Sequence Year	Calendar Year			
Year 1	1995	9,749	1.28	131
Year 2	1996	9,843	1.34	136
Year 3	1997	9,975	1.40	140
Year 4	1998	10,097	1.18	117
Year 5	1999	10,168	1.24	122
Year 6	2000	10,350	1.25	121
Year 7	2001	10,428	1.26	121
Year 8	2002	10,523	1.26	119
Year 9	2003	10,518	1.26	120
Year 10	2004	10,552	1.31	124
Base daily per capita water use ²				125

Notes:

1. Table format is based on DWR Guidance Document Table 14.
 2. The 10-year average is based on the calendar year ending on December 31, 2004.
- mgd = million gallon(s) per day

Table 3-3 presents historic population and gpcd water use for the 5-year period (2003 to 2007). This table indicates the population served and water supplied for each of those years within the 5-year range and gross water use for each of the 5 years. The average base per capita water use estimated for 5 base years is 119 gpcd. Those data are used to determine whether the 2020 per capita water use target meets the legislation's minimum water reduction requirement per Section 10688.22.

Table 3-3
Base Daily Per Capita Water Use (5-year Range) of the City of Morro Bay

Base Period Year		Distribution System Population	Daily System Gross Water Use (mgd)	Annual Daily Per Capita Water Use (gpcd)
Sequence Year	Calendar Year			
Year 1	2003	10,518	1.26	120
Year 2	2004	10,552	1.31	124
Year 3	2005	10,553	1.21	115
Year 4	2006	10,521	1.20	114
Year 5	2007	10,485	1.27	122
Base daily per capita water use ²				119

Notes:

1. Table format is based on DWR Guidance Document Table 15.
2. The 5-year average is based on the calendar year ending on December 31, 2007.

Minimum Water Use Reduction Requirements

Since the 5-year baseline per capita water use per Section 10608.12 (b)(3) is greater than 100 gpcd, the following calculations are used to determine whether the City of Morro Bay's 2015 and 2020 per capita water use targets meet the legislation's minimum water use reduction requirement per Section 10608.22. Those calculations entail the following steps:

1. Calculated base daily per capita water use of 119 gpcd using a continuous 5-year period ending in December 31, 2007, as presented in Table 3-3.
2. Multiply the 119-gpcd value by 0.95. The resulting value is 113 gpcd. This is the maximum allowable gpcd target in 2020.
3. The 2020 target under Method 3 is 117 gpcd.
4. Because Method 3 target of 117 gpcd is greater than 113 gpcd (i.e., 95 percent of the 5-year base daily per capita water use), adjustment to 2020 target is required.
5. Set 2020 target of 113 gpcd and 2015 (interim) target as the midpoint of 125 (10-year average baseline) and 113 gpcd, which is 119 gpcd.

Table 3-4 presents a summary of base per capita water use and target for 2020 for the City of Morro Bay. The City's interim water use target in 2015 is 119 gpcd, which is halfway between the 10-year baseline water use and 2020 target. The 2020 water use target for the City is 113 gpcd.

The base period of 5-year continuous period is used to determine whether the 2020 per capita water use target meets the legislation's minimum water use reduction requirement per Section 10608.20. Based on the set 2020 target the City of Morro Bay meets the legislation's minimum water use reduction requirement.

Table 3-4
20x2020 Base and Target for the City of Morro Bay

20x2020 Data	Gallons per Capita per Day (gpcd)
Base per capita water use	
10-year Average ¹	125
5-year Average ²	119
20x2020 Target Using Method 3³	
95 percent of Hydrologic Region Target (123 gpcd)	117
95 percent of base Daily Capita Water Use 5-year Average (119 gpcd)	113
Actual 2020 Target	113
2015 Interim Target	119

Notes:

1. Per Table 3-2
2. Per Table 3-3
3. Methodology requires smaller of two results to be actual water use target to satisfy minimum water use target

Historical and Projected Water Use

Historical water use data from 2005 to 2010 were analyzed to estimate the City's future water demands. Projections for the number of service connections and future water use were calculated for the years 2015 through 2035 in 5-year increments. Future water demands were estimated using a population-based approach. Detailed descriptions of how the population-based projections were calculated are provided later in this section. Figure 3-3 shows the historical and projected number of metered service connections for the City's system from 2005 through 2035. Figure 3-4 shows the historical and projected water use for the City of Morro Bay from 2005 through 2035. As shown in this figure, the water demand varies from year to year and can be influenced by a number of factors such as population growth, weather, water conservation, drought, and economic activities.

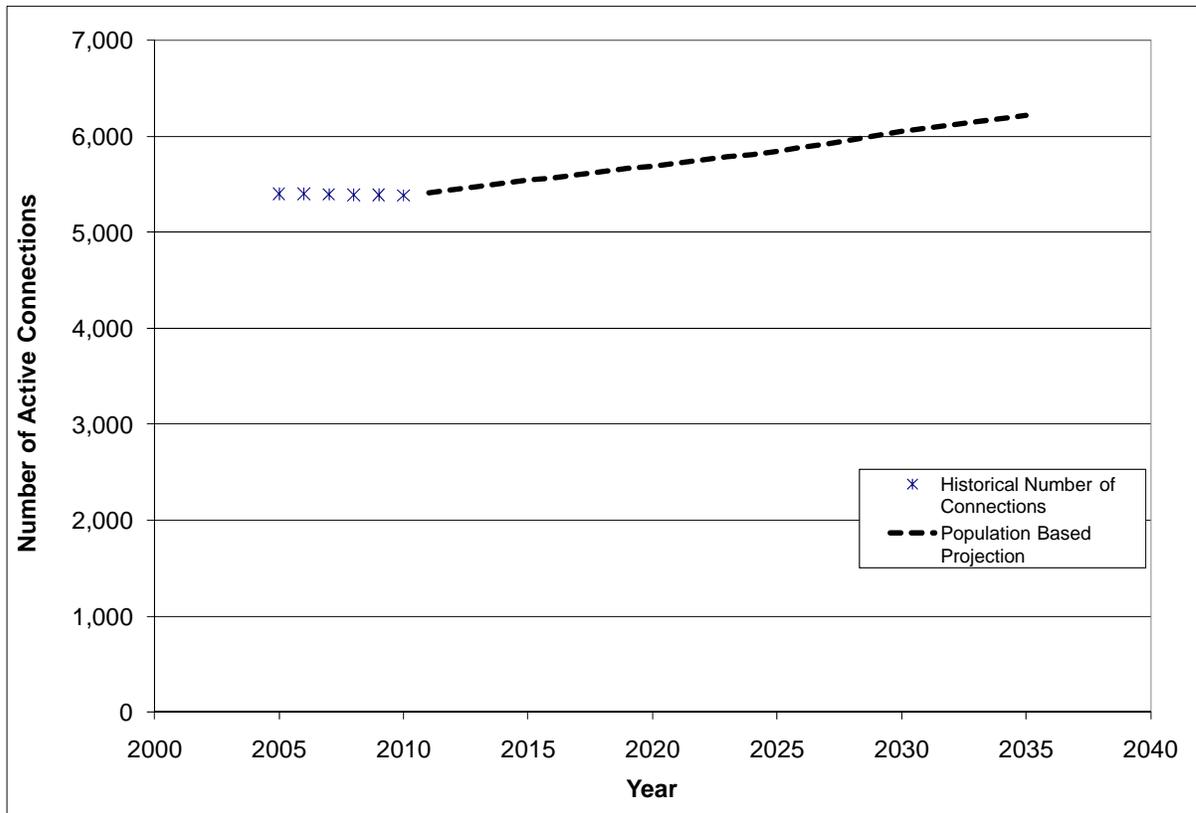


Figure 3-3 Historical and Projected Number of Metered Service Connections

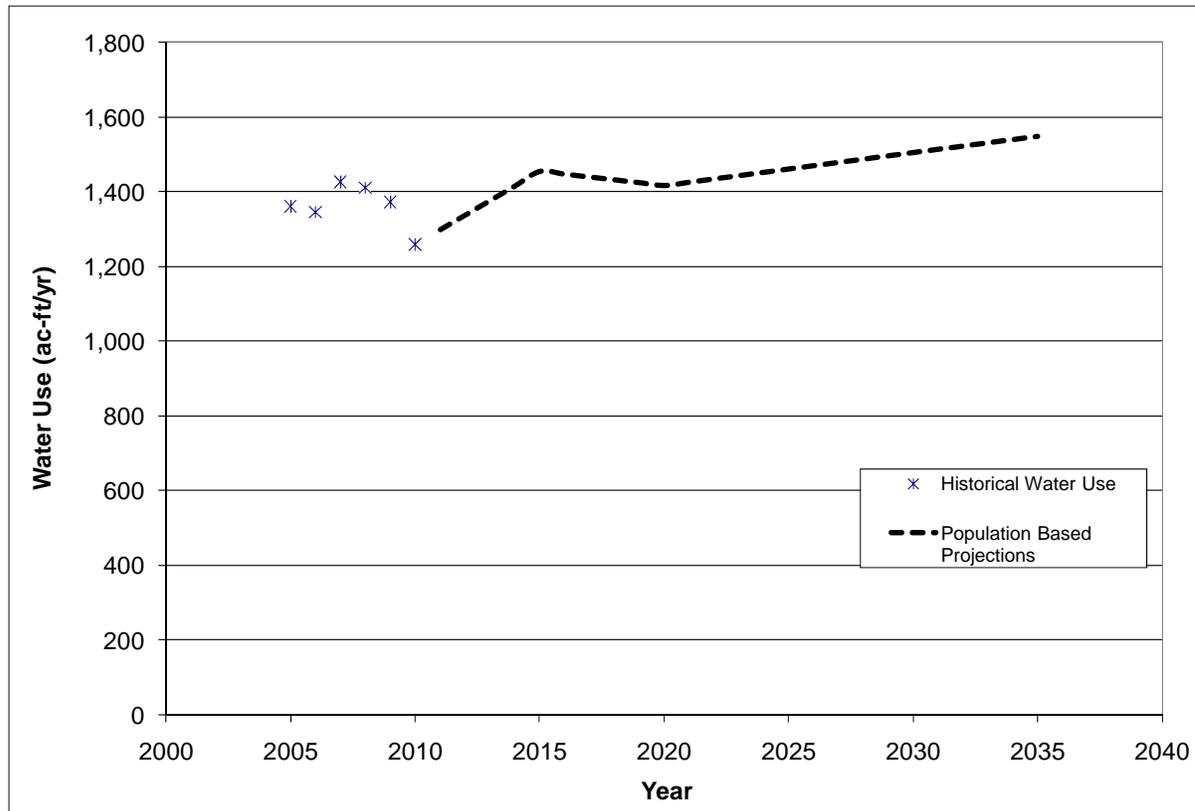


Figure 3-4 Historical Water Use and Future Water Use Projections

During the severe drought of the early 1990s, the City implemented a mandatory water conservation program. Low per capita water demand in 1990 demonstrates the effectiveness of the mandatory water conservation program. After the drought, the mandatory severe drought-level water conservation requirements were replaced by ongoing water conservation programs as described in Section 6 of this UWMP.

Figure 3-5 shows the historical and anticipated per capita water use. As seen from this figure, total water use varies from year to year and is affected by a number of factors such as drought, water conservation, weather, population growth, and economic conditions. Before the City's water conservation program was initiated in the early 1990s, water demand ranged between 132 and 193 gpcd. The average per capita demand during the 10-year period preceding the drought (1978 to 1987) was 154 gpcd. The per capita water use declines in wet years such as 1998 with high rainfall totals and increases in dry years such as 1997 when high irrigation rates were required to sustain crops and gardens. During the 1992 to 2005 period, after the City's water conservation program was implemented, the maximum water use was 141 gpcd. Since the major drought of the early 1990s ended, the maximum seven-year average water use has been 128 gpcd.

Water demand in the City of Morro Bay has gradually increased as population has increased. However, as a result of water conservation measures taken by the City, per capita water use has dropped considerably over time. Per capita water use dropped from over 140 gpcd before 1990 to under 106 gpcd in 2010.

As mentioned previously, the City's 2020 water conservation goals need to be adjusted as 95 percent of the 5-year base daily per capita water use value of 113 gpcd. The City's current (2010) urban water use of 106 gpcd is below the analyzed urban water use target of 113 gpcd in 2020.

One of the reasons that the City of Morro Bay has such low per capita water consumption is that many of the water conservation measures implemented during the drought, such as plumbing retrofits and prohibitions against wasting irrigation water, continue to benefit the community.

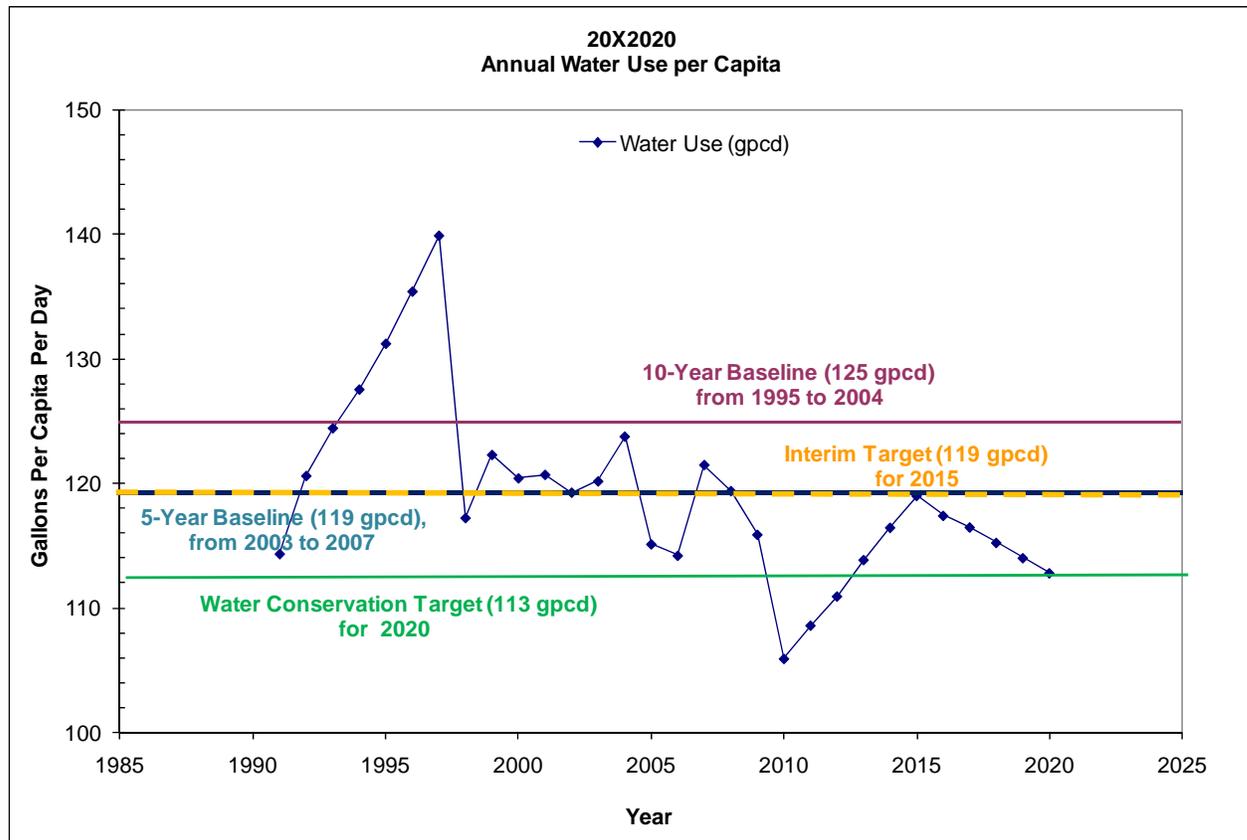


Figure 3-5 Historical Water Use and Future Water Use Projections

Water Demand by Water Use Sectors

Historical water use records from 2005 through 2010 were analyzed to estimate future water demands. These water use data were sorted by customer type using North American Industry Classification System (NAICS) codes into the following categories: single-family, multi-family, industrial, commercial, institutional, and others. Tables 3-5 and 3-6 show the historical (actual) water use data for the City for various categories (e.g., single-family, multi-family, industrial, institutional, and others) for 2005 and 2010, respectively. The water demand does not include losses in the City's system and unaccounted for water use. The categorical water demands in the following tables were prepared from the City's water meter reads and billing database. Tables 3-7 through 3-9 show projected water demands for years 2015 through 2035.

Table 3-5
Water Deliveries – Actual, 2005

Water Use Sectors	2005				Total Volume (ac- ft/yr)
	Metered		Not metered		
	# of Accounts	Volume (ac- ft/yr)	# of Accounts	Volume (ac-ft/yr)	
Single-family	4,489	706	0	0	706
Multi-family	330	105	0	0	105
Commercial	428	268	0	0	268
Industrial	7	7	0	0	7
Institutional/governmental	88	109	0	0	109
Landscape	60	19	0	0	19
Agriculture	0	0	0	0	0
Other	0	0	0	0	0
Total	5,402	1,214	0	0	1,214

Notes:

1. Table format is based on DWR Guidance Document Table 3.
2. Water use sector – Sales to other agencies/saline water intrusion barriers/groundwater recharge/conjunctive use/any combination thereof is provided in Table 3-12.
3. Additional water uses and losses are not included in this table. Refer to Table 3-13 for total water use volumes.

Table 3-6
Water Deliveries – Actual, 2010

Water use sectors	2010				Total Volume (ac-ft/yr)
	Metered		Not metered		
	# of Accounts	Deliveries (ac-ft/yr)	# of Accounts	Deliveries (ac-ft/yr)	
Single-family	4,481	653	0	0	653
Multi-family	355	99	0	0	99
Commercial	409	250	0	0	250
Industrial	5	3	0	0	3
Institutional/ governmental	83	236	0	0	236
Landscape	51	14	0	0	14
Agriculture	0	0	0	0	0
Other	0	0	0	0	0
Total	5,384	1,255	0	0	1,255

Notes:

1. Table format is based on DWR Guidance Document Table 4.
2. Water use sector - Sales to other agencies/saline water intrusion barriers/groundwater recharge/conjunctive use/any combination thereof is provided in Table 3-12.
3. Additional water uses and losses are not included in this table. Refer to Table 3-13 for total water use volumes.

Table 3-7
Water Deliveries – Projected, 2015

Water use sectors	2015				Total Volume (ac-ft/yr)
	Metered		Not metered		
	# of Accounts	Deliveries (ac-ft/yr)	# of Accounts	Deliveries (ac-ft/yr)	
Single-family	4,609	693	0	0	693
Multi-family	365	105	0	0	105
Commercial	421	265	0	0	265
Industrial	5	4	0	0	4
Institutional/ governmental	85	251	0	0	251
Landscape	52	15	0	0	15
Agriculture	0	0	0	0	0
Other	0	0	0	0	0
Total	5,537	1,334	0	0	1,334

Notes:

1. Table format is based on DWR Guidance Document Table 5.
2. Water use sector - Sales to other agencies/saline water intrusion barriers/groundwater recharge/conjunctive use/any combination thereof is provided in Table 3-12.
3. Additional water uses and losses are not included in this table. Refer to Table 3-13 for total water use volumes.

Table 3-8
Water Deliveries – Projected, 2020

Water use sectors	2020				Total Volume (ac-ft/yr)
	Metered		Not metered		
	# of Accounts	Deliveries (ac-ft/yr)	# of Accounts	Deliveries (ac-ft/yr)	
Single-family	4,735	695	0	0	695
Multi-family	375	106	0	0	106
Commercial	432	266	0	0	266
Industrial	5	4	0	0	4
Institutional/ governmental	88	251	0	0	251
Landscape	54	15	0	0	15
Agriculture	0	0	0	0	0
Other	0	0	0	0	0
Total	5,690	1,336	0	0	1,336

Notes:

1. Table format is based on DWR Guidance Document Table 6.
2. Water use sector - Sales to other agencies/saline water intrusion barriers/groundwater recharge/conjunctive use/any combination thereof is provided in Table 3-12.
3. Additional water uses and losses are not included in this table. Refer to Table 3-13 for total water use volumes.

Table 3-9
Water Deliveries – Projected 2025, 2030, and 2035

Water use sectors	2025		2030		2035	
	Metered		Metered		Metered	
	# of Accounts	Deliveries (ac-ft/yr)	# of Accounts	Deliveries (ac-ft/yr)	# of Accounts	Deliveries (ac-ft/yr)
Single-family	4,883	709	5,031	733	5,177	755
Multi-family	387	108	399	111	410	115
Commercial	446	271	459	280	473	289
Industrial	5	4	6	4	6	4
Institutional/ governmental	90	256	93	265	96	273
Landscape	56	15	57	16	59	16
Agriculture	0	0	0	0	0	0
Other	0	0	0	0	0	0
Total	5,867	1,364	6,045	1,409	6,220	1,452

Notes:

1. Table format is based on DWR Guidance Document Table 7.
2. Water use sector - Sales to other agencies/saline water intrusion barriers/groundwater recharge/conjunctive use/any combination thereof is provided in Table 3-12.
3. Additional water uses and losses are not included in this table. Refer to Table 3-13 for total water use volumes.

The annual water use by connection type was also projected for the years 2015 through 2035. Based on the 2010 data, percentages of water use for each category (connection type) were calculated. Those percentages were applied for calculating water use for each category in the future years (from 2015 through 2035).

The number of service connections for each category was also projected based on a scaling factor. The scaling factors are calculated based on the ratio of population of the current year divided by the previous year (in a 5-year interval). For example, a scale factor in 2015 is determined by dividing population in 2015 by population in 2010. The scale factors from 2015 through 2035 (in 5-year increments) ranged between 1.02 and 1.03. The total annual water use for each connection type was calculated by multiplying the scale factor to each connection type.

Figure 3-6 shows the population-based water use projections by customer type, unaccounted for water, and projected sales to other agencies. The population-based projections of the number of service connections, and the resulting water demand from 2015, 2020, and 2025 to 2035, are provided in Tables 3-7, 3-8, and 3-9, respectively.

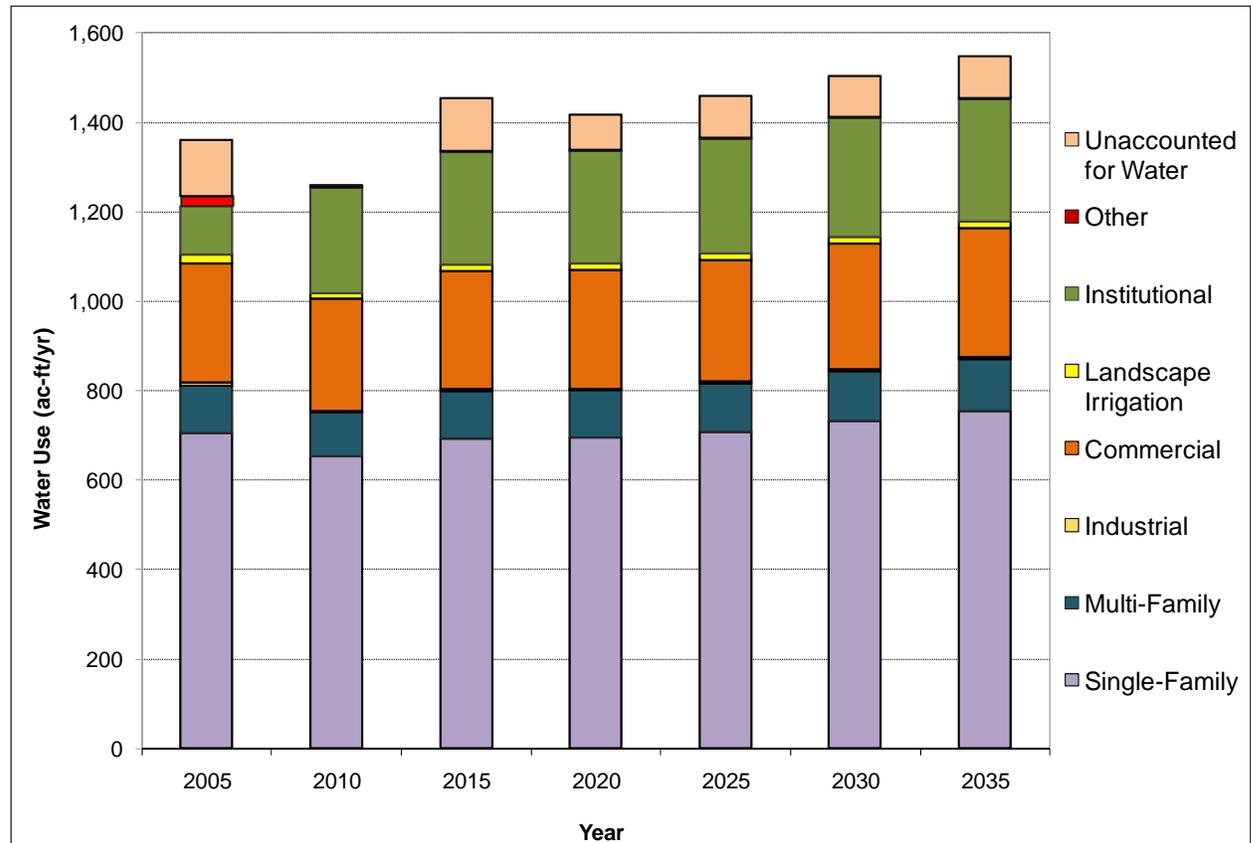


Figure 3-6 Water Use by Customer Type

The projected water demands were calculated using the population projection from Section 2 of this plan and the 2020 target of 113 gpcd. The annual average daily demand was used instead of the annual average daily water use because the demand number does not reflect system losses or unaccounted for water use, and is therefore a better indicator of future water deliveries. The actual and projected water loss and unaccounted for water use are shown later in Table 3-13.

Low Income Projected Water Demands

The requirements for the 2010 UWMP call for projections of water demands for low income customers. The estimated lower income water use projections for single-family and multi-family housing units are presented in Table 3-10. On average, the low income family water use is estimated based on about 19 percent of total water demand to low income single-family residential and about 3 percent of total water demand to low income multi-family residential. Per the 2000 Census data, about 37 percent of households belong to the low-income group (with annual income less than \$24,999, which is less than 80 percent of the household median income in 2000). To forecast low income single family water demand, the 37 percent of 52 percent total single family (which is equivalent to about 19 percent of total water demand) and 37 percent of 7.9 percent total multi-family household (which is equivalent to about 3 percent of total water demand) was applied to the total water use to determine water use by the low-income households in the future. The lower income water

use projections are included in the overall water use projections provided in Tables 3-5 through 3-9.

Table 3-10
Low-Income Projected Water Demands (Ac-ft) for City of Morro Bay

Low-Income Water Demands	2015	2020	2025	2030	2035
Single-family residential	264	271	280	288	297
Multi-family residential	40	41	42	44	45
Total	304	312	322	332	342

Notes:

1. Table format is based on DWR Guidance Document Table 8.

Sales to Other Water Agencies

The City does not provide or sell water to any other water agency; therefore, Table 3-11 has been intentionally left blank.

Table 3-11
Sales to Other Water Agencies

Water Distributed	Water Sales						
	2005	2010	2015	2020	2025	2030	2035
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

1. Table format is based on DWR Guidance Document Table 9.
2. Unit of measure: Ac-ft/yr
3. Based on calendar year

Additional Water Uses and Losses

To accurately predict total water demand, other water uses, as well as any water lost during conveyance, must be added to the customer demand. California regulation requires water suppliers to quantify any additional water uses not included as a part of water use by customer type. There are no other water uses in the City's system in addition to those already reported above.

Unaccounted-for water must be incorporated when projecting total water demand. Unaccounted-for water is defined as the difference between annual production and supply and annual sales. Included in the unaccounted-for water are system losses (due to leaks, reservoir overflows, or inaccurate meters) and water used in operations. In the City's potable water system, from 2005 through 2010, unaccounted-for water has averaged 9 percent of the total production varying from less than 1 percent to fourteen percent. Table 3-12 provides a summary of unaccounted-for water including hydrant flushing and street sweeping in the City's system.

The City had historically had high water losses resulting from pipeline leakage and unaccounted for use. The City's extensive pipeline replacement program has reduced pipeline losses. To further reduce water losses, the City continues the following actions:

- Continue to promptly repair identified water leaks.
- Monitor water consumption versus production so that the water loss can be identified.
- Calibrate water meters periodically.
- Replace less accurate gear-drive water meters.

Table 3-12
Additional Water Uses and Losses

Water Use Type	Water Uses and Losses						
	2005	2010 ⁽¹⁾	2015	2020	2025	2030	2035
Saline Barriers	0	0	0	0	0	0	0
Groundwater Recharge	0	0	0	0	0	0	0
Conjunctive Use	0	0	0	0	0	0	0
Raw Water	0	0	0	0	0	0	0
Recycled Water	0	0	0	0	0	0	0
System losses	143	4	120	80	97	96	96
Total	143	4	120	80	97	96	96

Notes:

1. Unaccounted-for water includes system losses due to leaks, reservoir overflows, and inaccurate meters, as well as water used in operations, hydrant flushing, street sweeping, line breaks etc. – an average value of 9 percent is used for making future projections based on data between 2005 and 2010.
2. Low water losses and uses could be due to multiple factors, such as replacement of some well production meters but meter error and other errors can combine to produce a range of losses (apparent) that do not necessarily occur
3. Based on calendar year
4. Unit of measure: ac-ft/yr
5. Table format is based on DWR Guidance Document Table 10.

Total Water Use

As mentioned previously, other water uses, as well as any water lost during conveyance, must be added to the customer demand to project the City's water demand. In addition to the City's sales to other agencies, unaccounted-for water must be incorporated to the total water demand (refer to the previous section for a definition of unaccounted-for water).

Table 3-13 summarizes the projections of water sales to other agencies, demand within the City, unaccounted-for water, and total water demand of the population-based projections through the year 2035.

Table 3-13
Total Water Uses and Loses

Water Use	Total Water Use						
	2005	2010	2015	2020	2025	2030	2035
Total water deliveries (from Table 3-5 to 3-9)	1,214	1,255	1,334	1,336	1,364	1,409	1,452
Sales to other water agencies (from Table 3-11)	-	-	-	-	-	-	-
Additional water uses and losses (from Table 3-12)	143	4	120	80	97	96	96
Total	1,357	1,259	1,454	1,416	1,461	1,505	1,548

Notes:

1. Table format is based on DWR Guidance Document Table 11.

2. Unit of measure: Ac-ft/yr

City of Morro Bay's Production Facilities

The City measures flow at each of its production facilities using volumetric water meters. The City field crew calibrates production meters to ensure reasonably reliable measurements. Flow from the SWP is measured continuously through the City's supervisory control and data acquisition (SCADA) system and stored in a database. The City began receiving SWP water from the County of San Luis Obispo via the Coastal Branch Aqueduct in 1997. The State Water Turnout production facility did not exist during the first few years of the 10-year base period. State Water Project production is calculated by averaging flow every five minutes. During the baseline period, the flow measurements were conducted using the similar instrumentation. However, the flow measuring methodologies were refined over time as the technologies have advanced and as new sources were brought online. During the baseline period the SWP was brought online. No changes have been made to the metering of other sources of production.

Data Provided to Wholesale Agency

The City provided the following water use projections data to the County of San Luis Obispo, its wholesale water supplier for the SWP. The requested amounts from the County of San Luis Obispo in Table 3-14 reflect the water needed to meet demands for the City of Morro Bay from 2010 through 2035.

Table 3-14
Retail Agency Demand Projections Provided to Wholesale Suppliers

Wholesaler	Contracted volume (ac-ft/yr)	Year					
		2010	2015	2020	2025	2030	2035
County of San Luis Obispo	1,313	1,313	1,313	1,313	1,313	1,313	1,313

Notes:

1. Table format is based on DWR Guidance Document Table 12.
2. Based on calendar year
3. Unit of measure: ac-ft/yr

Water Use Reduction Plan

The City of Morro Bay is in compliance with the Water Conservation Bill of 2009. As previously mentioned, the City's current water use is less than the interim and 2020 per capita water use target. The City is committed to the implementation of the conservation plan as required by the Act to ensure that the City meets the targets in the future years as well. The City will conduct a public hearing which will include a general discussion of the City's implementation plan for complying with the Water Conservation Bill of 2009.

One of the City's main water use reduction plan goals is to actively reduce water losses and unaccounted for water through aggressive leak detection, main line replacement, meter replacements, and more accurately metering temporary water connections. In addition, the City has successfully implemented a rigorous and effective water conservation program as a part of the water reduction plan. A series of water conservation measures were adopted during the height of the drought in the early 90s, when the City's water supplies were taxed to their limit. The water conservation program, as implemented by the City, is intended to protect the public health and safety as well as minimize adverse impacts to commerce, industry and recreation associated with drought conditions.

The City has long recognized water conservation as major goal toward achieving independence in managing its water portfolio. In response to the drought of 1987-1992, the City expanded a voluntary water conservation program in 1990. Prompted by an extensive public awareness program and education campaign, the City customers responded not only with water saving practices but also by installing conservation measures in their homes and businesses. Devices such as low-flow showerheads and ultra-low-flush toilets (ULFT) replaced existing non-water saving devices. These hardware changes, coupled with more responsible use habits, have significantly reduced the amount of imported water that the City would have to otherwise buy as the City's population and commerce has continued to grow. In response to the current water shortage conditions the City has reinitiated its extensive public awareness campaigns to encourage water saving practices and installation of conservation devices in homes and businesses. Conserving customers see a tangible benefit as well through monetary savings on their water bill.

The City's water conservation policies promote the more efficient use of the existing water resources. Conservation has shown a positive impact on the City's water use patterns and

has become a permanent element of the City's water management approach. Since the City adopted its water conservation program in the late 1980s, water demand in the City has declined substantially such that Morro Bay per capita water demand is currently one of the lowest in the State.

Water usage in the City in 2010 was less than the water use in 1990 despite an increase in population of about 1,000 people, which is about 10 percent increase of population (see Figure 3-7). Between 1990 and 2010, water use decreased by approximately 270 ac-ft which is about 18 percent water savings. Per capita water use decreased from 141 gpcd in 1990 to 106 gpcd in 2010.

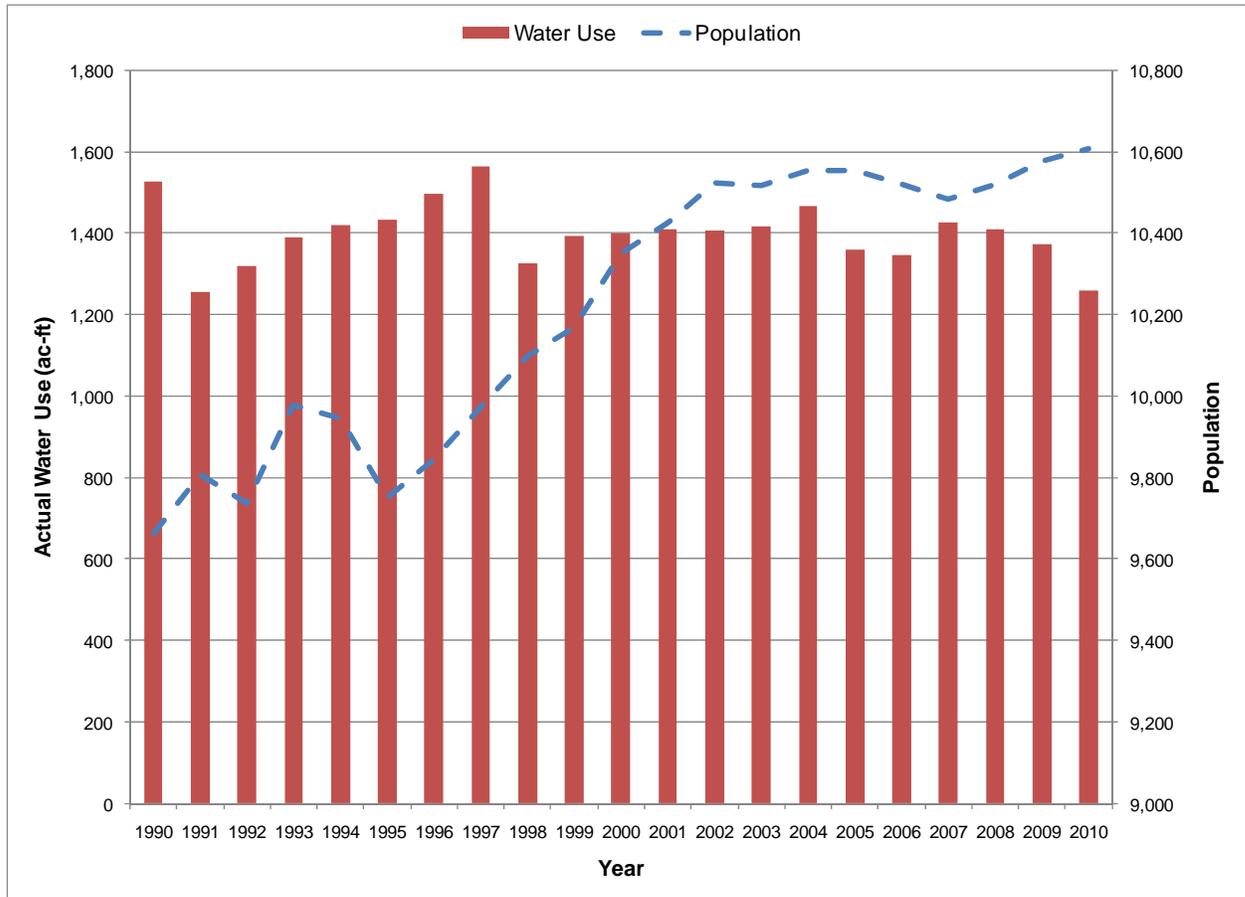


Figure 3-7 Population and Historical Water Use for the City of Morro Bay

Figure 3-8 indicates that the water demand or the per capita use for the City has decreased over the last few years. The reduction in demand could be due to a combination of factors such as weather, water conservation, drought, and economic activities. From 1998 through 2009, per capita water use varied between 124 and 114 gpcd. In 2009 and 2010, per capita water use further declined, which is attributed to conservation and a severe economic recession. Due to recent water use reduction plans, per capita water demand dropped dramatically between 2008 and 2010 from 119 gpcd to 106 gpcd. Future water demand is expected to increase due to an increase in population and a slight increase in per capita use, but demands are projected to remain below the 2020 target, as the economy recovers.

Continued conservation measures will be implemented by the City in an effort to control water demand.

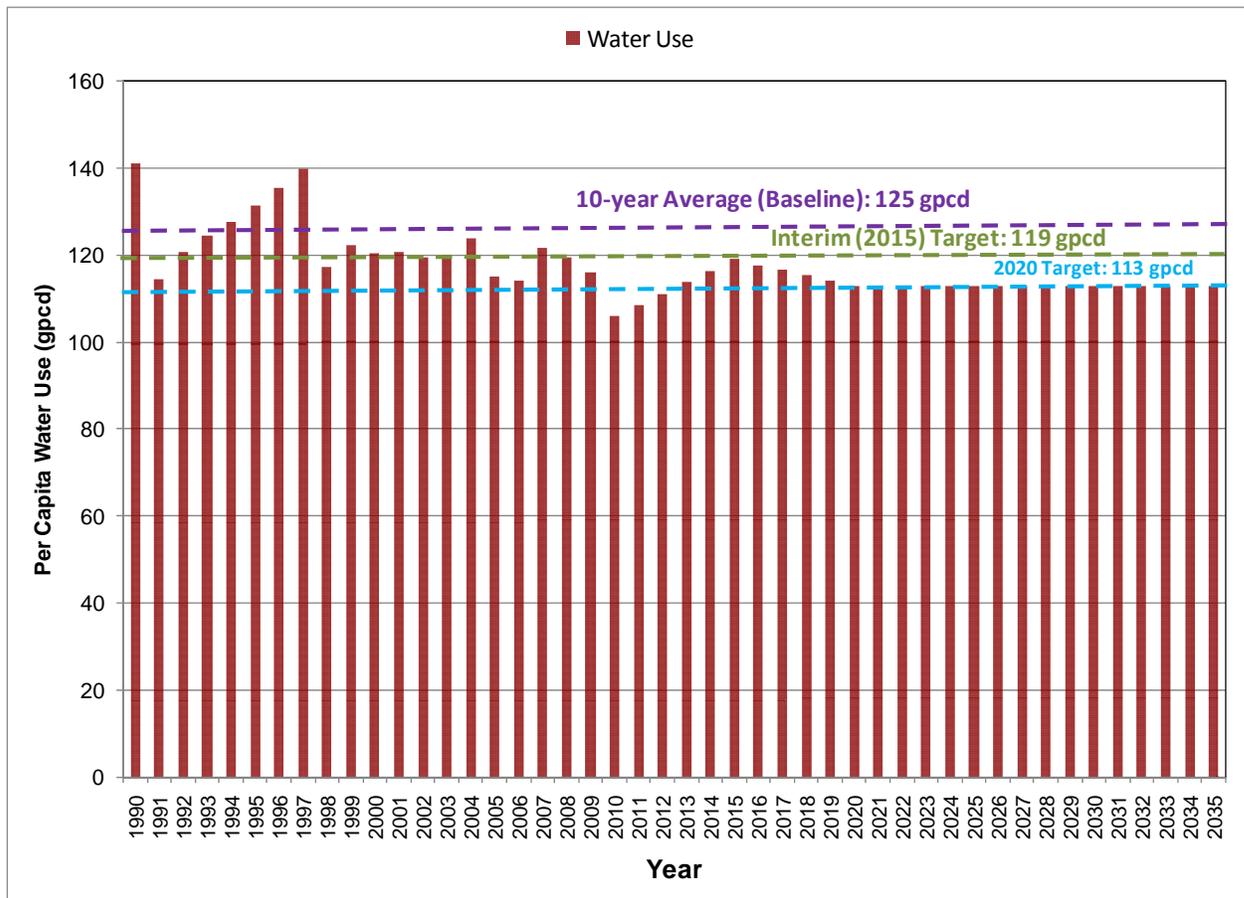


Figure 3-8 Historical Water Use and Future Water Use Targets for the City of Morro Bay

Some of the recent actions the City has taken toward achieving reduction of water use include the following:

- Continue to implement and invest in water conservation programs and measures targeting cost-effective reductions in water use
- Continue regional partnerships with the San Luis Obispo County Partners in Water Conservation Group
- Enforce the uniform plumbing code for new development
- Promote efficient use of local and state water supplies through information and assistance to residential, commercial, and institutional customers
- Regular monitoring and analysis of demand through updates of the City's water conservation plan
- Continue efforts in providing the public with general information regarding water conservation issues

- Continue protecting water resources, along with maintenance of the City's water supply system, to help sustain the City's water distribution system so that the residents can continue to have clean and reliable water supplies.

City residents currently conserve water at a level greater than in most other municipalities. Water conservation measures have included plumbing retrofit requirements that have been in place for more than a decade. The City's high water rates and tiered rate structure have also encouraged residents to conserve water. In order to continue investing in the water conservation program and to remedy the impact of reduced water sales on revenues, the City may need to apply an adjustment billing factor in the near future.

With continued implementation of conservation efforts, the City has emphasized the policies/programs that avoid placing a disproportionate burden on any customer sector. The City has actively been pursuing outside sources of grant funding to complement the City's resources.

As an example, the City of Morro Bay applied for Proposition 84 grant funding through the California Department of Public Health (CDPH) for the Desalination Plant Energy Recovery Project. The goal of the project is to assist in the remediation of anthropogenic nitrate contamination of the Morro Groundwater Basin. The City received \$600,000 from the grant to administer and construct the project. The project consists of installing two new BWRO trains to treat water from freshwater wells, which operate under less pressure, and require less energy than the SWRO trains currently at the plant, installing an additional transformer for power supply, replacing mechanical pumping equipment, and conducting a SCADA upgrade. The new BWRO treatment trains will lower the energy needed to treat the freshwater supply wells during periods of SWP reduced deliveries or shut-downs. The modifications to the plant will allow for full utilization of the treatment capacity of the facility, by allowing the BWRO trains and SWRO trains to operate simultaneously. The Desalination Plant Energy Recovery Project will reduce the operation costs and energy use per unit of production. This will allow the City of Morro Bay to utilize the Morro Basin groundwater, which will help to flush the high nitrate concentrations out of the Morro Valley Groundwater Basin.

Also, the City is a partner agency in the San Luis Obispo Integrated Regional Water Management Plan which has pursued both Proposition 84 and Proposition 50 grant monies.

Section 4. System Supplies

A detailed evaluation of water supplies is requested by the Act. Sections 10631 (a) through (d) require that (item numbers are from the 2010 UWMP guidebook outline checklist):

#13. 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) (10631(b)).

#14. (Is) groundwater . . . identified as an existing or planned source of water available to the supplier . . . (10631(b))?

#15. (Provide a) copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management (10631(b)(1)).

#16. (Provide a) description of any groundwater basin or basins from which the urban water supplier pumps groundwater (10631(b)(2)).

#17. For those basins for which a court or the board has adjudicated the rights to pump groundwater, (provide) a copy of the order or decree adopted by the court or the board (10631(b)(2)).

#18. (Provide) a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree (10631(b)(2)).

#19. For basins that have not been adjudicated, (provide) information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition (10631(b)(2)).

#20. (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. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records (10631(b)(3)).

#21. (Provide a) detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records (10631(b)(4)).

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

#31. Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply (10631(i)).

#44. Provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area (10633).

#45. (Describe) the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal (10633(a)).

#46. (Describe) the quantity of treated wastewater that meets recycled water standards, being discharged, and is otherwise available for use in a recycled water project (10633(b)).

#47. (Describe) the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use (10633(c)).

#48. (Describe and quantify) the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses (10633(d)).

#49. (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 pursuant to this subdivision (10633(e)).

#50. (Describe the) actions, including financial incentives, 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 (10633(f)).

#51. (Provide a) plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use (10633(g)).

#30. (Describe) all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program (10631(h)).

This section addresses water supply sources available to the City of Morro Bay. It includes a description of each water source, source limitations (physical or political), water quality, and water exchange opportunities. The section presents a complete water portfolio for the City of Morro Bay. The following sections provide details in response to those requirements of this portion of the Act.

Water Sources

The City's water portfolio is comprised of the following available water supply sources: local groundwater, purchased water from the SWP, and the Morro Bay desalination facility. The imported water supplies for the City are obtained from the SWP via a contract with the County of San Luis Obispo.

Table 4-1 summarizes current and planned water supplies available to the City from 2010 through 2035. It should be noted that the water supply available to the City is much greater

than the supply needed to meet projected demand. A detailed description of available supply and demand is presented in Section 5 of this UWMP.

Table 4-1
Current and Projected Water Supplies for the City of Morro Bay

Source		2010	2015	2020	2025	2030	2035
Water Purchased from	Wholesaler supplied volume (yes/no)						
Purchased Water from County of San Luis Obispo ⁽²⁾	yes	873	1,313	1,313	1,313	1,313	1,313
Groundwater ⁽³⁾		128	1,724	1,724	1,724	1,724	1,724
Transfers In		0	0	0	0	0	0
Exchange In		0	0	0	0	0	0
Recycled Water		0	0				
Desalination Water		258	645	645	645	645	645
Other		0	0	0	0	0	0
Total		1,259	3,682	3,682	3,682	3,682	3,682

Notes:

1. Unit of measure: ac-ft/yr
2. The City anticipates to receive its full contracted SWP water due to the City's drought buffer.
3. Groundwater supplies are based on appropriative rights in the Chorro and Morro Groundwater Basins as defined in the water rights permits. Pursuant to the permits, the City has been assigned 581 ac-ft/yr in Morro and 1,143 ac-ft/yr in Chorro of appropriative rights, which are included in this data. Further details can be found in the Groundwater Permits (Appendix F).
4. See Reliability section for details on these supplies.
5. Table format based on DWR Guidance Document Table 16

The City's water supply is projected to remain relatively constant from 2015 to 2035 to meet associated projected water demands, with the majority of this demand being met by imported surface water and the remaining supplies serving as a backup for reliability. The City is expected to have an available supply in excess of the projected demands through 2035 (presented in Section 3). Details of the imported water, native groundwater, and desalination facility supplies are presented in the following section.

Wholesale Supplies

The City's primary source of water is the SWP. California's Department of Water Resources (DWR) is responsible for the construction, operation and maintenance of the SWP. SWP water originates within the Feather River watershed, is captured in Lake Oroville, and flows via the Sacramento-San Joaquin Delta, the California Aqueduct and the Coastal Branch Extension into CCWA's treatment and conveyance facilities.

The City has entered into two contracts with the San Luis Obispo County Flood Control and Water Conservation District (SLOCFCWCD) for receipt of the SWP water. The first contract,

the *Water Treatment and Local Facility Agreement*, dated March 1, 1992, covers the CCWA treatment plant and local facilities such as the Chorro Valley Pipeline. The second contract, *Water Supply Agreement between San Luis Obispo County Flood Control and Water Conservation District and the City of Morro Bay*, dated May 11, 1992, covers receipt of State Water and payment for State facilities. Both contracts require the City to make certain payments whether or not water is received.

The City has an entitlement to receive 1,313 ac-ft/yr of State Water. The City also has entitlement to an additional drought buffer of 174 percent which allows the City to receive deliveries up to its full allocation of 1,313 ac-ft/yr when SWP water deliveries are reduced due to drought conditions. Table 4-2 presents the contracted volumes available from CCWA to the City per Table A SWP water and the amount needed by the City to meet the demands from 2015 through 2035. Appendix G contains the CCWA provided future projections of the volume of water to be delivered to the City of Morro Bay.

Table 4-2
Wholesale Supplies – Existing and Planned Sources of Water

Wholesale Sources ^{2,3}	Contracted Volume ³	2015	2020	2025	2030	2035
Purchased Water from SWP ⁽²⁾	1,313	1,313	1,313	1,313	1,313	1,313

Notes:

1. Unit of measure: ac-ft/yr
2. Water volumes are accounted for in Table 4-1
3. Indicate the full contracted amount of water
4. Table format based on DWR Guidance Document Table 17.

On average, the SWP can deliver only part of the entitlements held by SWP contractors and subcontractors with the SWP facilities currently in service. This is because not all of the water delivery facilities originally included in the SWP plan have been constructed. Some originally planned facilities may never be constructed. In addition, environmental concerns and the outcome of the California-Federal (CalFed) Water negotiations reduced the actual diversions below original forecasts. The long-term reliability of this source is discussed in Section 5 of this UWMP.

Groundwater

Prior to construction of the City's SWP connection, the City received its entire water supply from two local groundwater basins: the Morro and Chorro Basins. These basins are shallow alluvial aquifers located in the Morro and Chorro Valleys. Past experience indicates that the basins have a limited storage capacity, with groundwater flowing to the ocean by gravity. The basins can be drained after a short drought. Annual recharge from rainfall is important to maintain continuous extractions.

The Chorro and Morro Basins are shallow alluvial basins that behave similar to an underground stream. Rainfall in the watershed percolates into the ground and flows underground to the ocean. Use of such water resources are controlled by the SWRCB. In 1972, the SWRCB issued findings that the Chorro and Morro Basins are riparian underflow.

In response to these findings the City of Morro Bay applied for appropriative water rights. In 1995, the SWRCB approved water right permits for up to 1.2 cubic feet per second (cfs) and 581 ac-ft/yr from the Morro Creek subterranean stream underflow, and up to 3.171 cfs and 1142.5 ac-ft/yr annually of Chorro Creek subterranean stream underflow. The Chorro Creek water right includes a condition that the City can only pump its wells when the Chorro Creek flow exceeds 1.4 cfs. This condition can limit the availability of the resource for use as a water supply. Table 4-3 lists groundwater pumping rights for the City.

Table 4-3
Groundwater Pumping Rights

Basin Name	Pumping Rights
Morro Groundwater Basin	581
Chorro Groundwater Basin	1,142.5
Total	1,723.5

Note:

1. Unit of measure: ac-ft/yr

Table 4-4 presents the City's wells and current well capacities. The City's current well system has a total production capability of 2,032 gallons per minute (gpm) (3,277 ac-ft/yr).

Table 4-4
Wells and Well Capacity in the City of Morro Bay System

Well Name	Well Field	Nominal Well Capacity (gpm)	Nominal Well Capacity (ac-ft/yr)	Status ⁽¹⁾
1	Morro	-	-	Abandoned
2	Morro	-	-	Abandoned
3	Morro	140	226	Active
4	Morro	300	484	Active
13	Morro	-	-	Abandoned
14	Morro	125	201	Active
15	Morro	113	182	Active
8	Chorro	-	-	Abandoned
9	Chorro	223	360	Inactive
9A	Chorro	140	226	Inactive
10	Chorro	220	355	Inactive
10A	Chorro	140	226	Inactive
11A	Chorro	225	363	Active
12	Chorro	216	348	Inactive
16	Chorro	190	306	Inactive
Total Capacity		2,032	3,277	

Notes:

1. Reported well status is from December 2010.

The Morro Groundwater Basin was previously unavailable to the City due to nearby methyl tertiary butyl ether (MTBE) contamination in the groundwater basin. Treatment The City began treatment for MTBE in 2002 and continued this treatment until MTBE contamination levels fell below the Regional Water Quality Control Board's (RWQCB) monitoring threshold in 2008. Since then the MTBE levels continue to remain below the RWQCB's monitoring threshold. One of the Chorro Basin wells (Well No. 8) has been abandoned and a second Chorro Basin well (Well No. 12) is out of service due to proximity to surface water and the associated water quality concerns. The City's Ashurst well field in the Chorro Groundwater Basin (consisting of wells 9, 9A, 10, 10A, and 16) was taken out of service (per direction from the California Department of Public Health) in 2009 due to nitrate contamination in the basin. Historic groundwater water production is summarized in Table 4-5.

Table 4-5
Groundwater Pumping History by the City of Morro Bay (2006 to 2010)

Basin Name	Metered or Unmetered ⁴	2006	2007	2008	2009	2010
Morro Groundwater Basin ⁽¹⁾	Volumetric Meter	105	54	80	144	312
Chorro Groundwater Basin	Volumetric Meter	257	276	184	235	74
Total Groundwater Pumped		362	330	264	379	386
Groundwater as Percent of Total Water Supply ⁽²⁾		26	23	18	26	31

Notes:

1. Morro Groundwater Basin consists of water supplied from the Morro well field directly and Morro groundwater that is treated at the Desalination Facility.
2. Percentage of annual groundwater production as a percentage of total annual potable water production
3. Table format based on DWR Guidance Document Table 18
4. All values are in ac-ft
5. Years are reported in calendar years (January 1 – December 31)

Table 4-6 shows the projected groundwater pumping supply amounts for the City. Projections of groundwater supply are based on the full beneficial use of groundwater allocations from the City's water rights permits (Appendix F). The City has the ability to extract up to 1723.5 ac-ft/year of groundwater as needed to meet annual water demands. The City offsets its appropriative groundwater supply with ongoing conservation efforts and the conjunctive use of surface water supply sources. Water Code Sections 1011 and 1011.5 allow the City to claim beneficial use of water conserved and water used conjunctively. The City plans to make full beneficial use of its appropriative rights in both the Morro and Chorro Groundwater Basins while implementing conservation and using surface water conjunctively.

The water will be supplied from the City's active wells or from new replacement wells as may be required in the future to meet existing and projected demands. The City's projected total water demands are presented in Section 3.

Table 4-6
Projected Groundwater Pumping Amounts by the City of Morro Bay from 2015 to 2035

Basin Name	2015	2020	2025	2030	2035
Morro Groundwater Basin ⁽¹⁾	581	581	581	581	581
Chorro Groundwater Basin	1142.5	1142.5	1142.5	1142.5	1142.5
Total Groundwater Pumped ⁽²⁾	1723.5	1723.5	1723.5	1723.5	1723.5
Groundwater as Percent of Total Water Supply	47	47	47	47	47

Notes:

1. Morro Groundwater Basin consists of water supplied from the Morro well field directly and Morro groundwater that is treated at the Desalination Facility.
2. Projections of groundwater supply are based on the full beneficial use of groundwater allocations from the City's water rights permits (Appendix F).
3. Table format based on DWR Guidance Document Table 19
4. All values are in ac-ft
5. Years are reported in calendar years (January 1 – December 31)

Morro Basin Wells

The City has historically operated seven drinking water wells in the Morro Groundwater Basin. Four of these wells are currently active while the other three permitted diversions have been physically disconnected from the system. The City can extract its full entitlement from the basin using the currently active wells. The City will work on replacing the abandoned points of diversion to allow for redundant access to the City's permitted water rights in the basin.

The Morro Groundwater Basin is susceptible to nitrate contamination. The City conducted an analysis to determine the source of the nitrate contamination throughout the basin. The *2007 Morro Valley Nitrate Analysis*, identified nitrate based agricultural fertilizers as the primary source of nitrate contamination in the Morro Groundwater Basin (Cleath and Associates, 2007). The City has installed reverse osmosis treatment to allow continued extractions in light of the degraded water quality and nitrate levels in the Morro Basin. Details of the groundwater quality of the basin can be found in Section 5.

The Morro Wells were taken out of service in 2000 after the SWRCB issued an order forbidding the City to use the wells because an underground fuel storage tank leaked and contaminated with MTBE the Morro Groundwater Basin in the vicinity of the Morro Wells.

In 2002, treatment of the Morro Wells for MTBE contamination and a November outage of the SWP pipeline resulted in a short-term need for water. This demand was partially met by the renovated desalination plant and temporary pretreatment facilities (see details of this source later in this section). The MTBE issue was resolved in 2008 when MTBE concentrations were no longer detected above the monitoring threshold, and the Central Coast RWQCB closed the case on behalf of the responsible service station owner, Shell Oil.

In the past, the Morro Groundwater Basin has experienced intermittent periods of seawater intrusion during long-term droughts. A study of the condition of the Morro Groundwater Basin was conducted (Cleath and Associates, 1994). Based on the study findings, with the City's 581 ac-ft/yr (189 million gallons/year) annual limit on pumping from the Morro Basin, seawater intrusion is less likely to occur in the future. In addition, the Morro wells should be able to produce year round at the maximum 1.2 cfs rate allowed in the City's water right permit (Cleath and Associates, 1994).

Chorro Basin Wells

The City has historically operated 8 drinking water wells in the Chorro Groundwater Basin. Only one of these wells is currently active. The CDPH inactivated five of the Chorro Wells (the Ashurst Well Field) in 2009 due to the detection of high nitrate levels. The other two diversions in the basin are under the influence of surface water, one well is currently inactive and the other well has been physically abandoned.

The City will work on replacing or providing treatment for the abandoned points of diversion to allow for redundant access to the City's permitted water rights in the basin.

Like the Morro Basin, the Chorro Groundwater Basin is susceptible to nitrate contamination. In a study (Cleath Harris, 2009), it was found that nitrate based agricultural fertilizers are the primary source of nitrate contamination in the Ashurst Well Field. Per the direction of CDPH, the City cannot use the Ashurst wells as a potable drinking water supply until the City provides blending, treatment, or nitrate levels in the basin subside. The City is working on solutions to the degraded water quality in regards to nitrate levels in the Chorro Basin.

As a condition of the Chorro Basin water right, the City was required to install permanent inflow stream monitoring equipment to ensure a minimum stream flow of 1.4 cfs in Chorro Creek. In the fall of 2000 a monitoring station located at the South Bay Boulevard Bridge was washed out in a storm. Currently, the City conducts biweekly monitoring of stream flows and is correlating them with an existing county staff gauge. These measurements permit the City to operate its Chorro wells whenever stream flow exceeds 1.4 cfs. A permanent flow monitoring station will be located and installed in the near future once direction has been provided by the SWRCB and approval from the Army Corps of Engineers, California Fish and Game Department, and other permitting agencies.

In 2001 CDPH, identified two of the Chorro Basin wells as being under the influence of Chorro Creek surface water (Wells No. 8 and 12). Subsequently CDPH issued a compliance order to the City, requiring filtration to meet the Surface Water Treatment Rule (SWTR) requirements. The City has taken both of the wells cited by CDPH out of service. Well No. 8 was abandoned when the City terminated its lease agreement with the property owner of the well site.

In order to continue using Well No. 12, the City would need to construct a filtration plant meeting the requirements of the Surface Water Treatment Rule. For the purpose of this study, it is assumed that future use of Well No. 12 and a replacement well near the original Well No. 8 location would require a treatment solution to be developed. Alternatively, replacement wells for Wells No. 8 and 12 could be constructed in locations not under the influence of surface water. These replacement wells are not included in supply calculations because the existing wells can extract the City's full entitlement.

Transfers and Exchanges

The City has water transfer and exchange opportunities with adjacent purveyors as discussed below. The exchanges under these options may occur on an as needed basis (Table 4-7).

- California Men’s Colony (CMC) Water Treatment Plant:** The CMC has a water filtration plant with a rated capacity of 3 mgd that operates approximately 8 hours per day to treat water from the Whale Rock, Chorro and Salinas Reservoirs and other water sources. By operating the plant on a 24-hour basis, the CMC plant could provide up to 1.7 mgd to the City of Morro Bay.

The City and CMC have signed a mutual aid agreement that allows the two water purveyors to provide water to each other during water shortages. The mutual aid agreement calls for each purveyor to repay the borrowed water at a later, mutually agreeable time. The City has received water from these agreements in the past several years during State Water system shutdowns.

- Whale Rock:** The City of Morro Bay entered into an emergency supply agreement with the purveyors of the Whale Rock system. Because the water from Whale Rock is raw water requiring surface water treatment, and the connection to the Whale Rock system is with a potable pipeline, this is an emergency only agreement. For planning purposes, this report assumes that CMC water treatment plant water will only be borrowed temporarily should emergency shortages occur. Repayment of borrowed water would be required soon after any water shortage emergency ended.
- Morro Bay Power Plant:** The City has previously had and may have the opportunity in an emergency to receive water from the Morro Bay Power Plant. There is no formal agreement with this agency at this time but in a short-term emergency water may be available for the City to exchange.

Table 4-7
Transfer and Exchange Opportunities

Transfer Agency	Transfer or Exchange	Short Term or Long term	Proposed Volume
CMC	Exchange	Short-Term	TBD ⁽¹⁾
Whale Rock	Exchange	Short-Term	TBD ⁽¹⁾
Morro Bay Power Plant	Exchange	Short-Term	TBD ⁽¹⁾

Notes:

1. Exchanges under these programs will occur on an as needed basis.

2. Table format based on DWR Guidance Document Table 20.

TBD = to be determined

Desalinated Water Opportunities

This sub-section presents opportunities to use desalinated water as a current and future water supply source for the City per requirements of CWC Section 10631(i).

In 1992, the City constructed a seawater desalination plant during a drought emergency, and in 2009 expanded the facility with the installation of BWRO treatment trains. Permits to construct and operate the original plant were expedited with the provision that the plant would be used only during a declared emergency. The City adopted a final EIR for the Morro Bay Desalination Facilities in April 1993. The EIR covers both emergency and normal use of the plant, and also considers a plant expansion of up to 960 gpm. In 1995 the California Coastal Commission approved Morro Bay LCP Amendment LCP 1-94 allowing the desalination plant to operate "as needed to ensure that the City's minimum water quality standards are met, as routine replacement, and to offset drought conditions." The LCP requirement that the City update its Water Management Plan every 5 years is met through the update and review of the City's Water Management Plan.

The City's desalination plant utilizes a SWRO system to desalinate seawater produced from five seawater wells located along the Morro Bay harbor. In its original configuration, the City's desalination plant had the ability to supply 400 gpm of treated water to the City's distribution system.

The City completed construction of the SWRO desalination plant in 1992. After completion, the plant operated for several months and was shut down due to excessive operating costs. The plant remained unused until 1995 when the City again operated the plant as a reliable water source during a drought. Operation of the facility ceased after increasing iron concentrations in the raw water caused rapid fouling of the desalination plant's pretreatment system. Between 1995 and 2002, the desalination plant was not operated. Limited pilot testing was conducted during June/July of 2001 to evaluate potential methods to minimize the impact of the raw water's high iron concentrations. Filtration was selected as an option for improving pretreatment, and a filter was installed in 2002 to improve plant performance. The plant was operated for approximately one month during fall 2002. The existing iron pretreatment system does not provide adequate flocculation for the specific type of iron in the raw water supply. The seawater system's reliability is currently limited due to continuous pretreatment clogging from iron. Currently, the desalination plant is operated to offset seasonal peaking and for routine supply replacement, such as SWP outages. In the future the desalination plant may be utilized more regularly once the iron fouling issues have been resolved.

In 2008, the City chose to expand the capabilities of the existing desalination facility to reclaim the nitrate contaminated groundwater in the Morro Groundwater Basin. The City installed two BWRO trains to treat the contaminated groundwater. The BWRO trains require less pressure to treat the brackish groundwater than the SWRO trains require desalinating seawater. Due to the lower pressure requirements the BWRO system consumes less energy and is more cost effective than the SWRO system. The City obtained a revised Drinking Water Supply Permit from CDPH, allowing the City to operate the BWRO system prior to its use during the 2009 SWP shutdown. The BWRO system acted as the primary water supply source for the City during the first 3 months of 2010 when SWP deliveries were at 5 percent. The City currently relies on the BWRO facility to manage peaking demands during SWP deliveries, and as the City's main water supply source during SWP shutdowns and interruptions in deliveries.

Originally, brine discharge was to have been released through an existing outfall from the adjacent Morro Bay-Cayucos Wastewater Treatment Plant (WWTP), jointly owned by the

City and the Cayucos Sanitary District (CSD). The wastewater plant has a 4,400-foot long outfall with a discharge depth of 50 feet. However, the CSD did not want Morro Bay to discharge brine from the desalination plant through the outfall. As a result, Morro Bay and CSD signed an agreement that Morro Bay would not use the wastewater outfall. Should the City desire to use the CSD outfall line, prior consent of the CSD would be required. Brine is now discharged through the Dynegy power plant outfall, which has a capacity of 720 mgd. The City has an agreement in place to allow Dynegy's continued use of the outfall. The City's permitted discharge does not require concurrent discharge from Dynegy plant however, when concurrent discharges do occur, it aids in dilution and blending of the BWRO brine.

Recycled Water Opportunities

The Morro Bay-Cayucos WWTP Facility discharges about 1.1 mgd of mixed primary and secondary treated effluent and does not currently have the ability to supply Title 22 recycled water. A *Comprehensive Recycled Water Study* was conducted jointly by the City and CSD in 1999 (Carollo, 1999). The following conclusions were made from the study:

- The WWTP's effluent quality consistently meets existing permit limits.
- Ocean monitoring over the last decade has shown no negative environmental impacts associated with the discharge.
- Current operation of the WWTP maximizes overall treatment performance and ensures highest quality effluent possible is being discharged.
- WWTP capacity is adequate for future planned growth at existing level of treatment.
- Implementation of reuse project will require upgrading entire wastewater flow to secondary treatment.
- Implementation of reuse project will require portion of the wastewater flow going to reuse be upgraded to tertiary treatment.
- Addition of full secondary treatment and tertiary treatment will increase the amount of biosolids to be disposed.

The study recommended that a reuse project should not be implemented at that time, due to the costs of implementation. The City has more cost effective sources of water for its current and future water needs.

The City and CSD are currently in the process of upgrading the WWTP to provide tertiary treatment. Once the facility has been upgraded, there may be increased opportunities for the use of recycled water. The cost of a recycled water distribution system and water quality parameters may ultimately limit reuse.

Wastewater Quantity, Quality, and Current Uses

A per capita wastewater generation factor was used to calculate the volume of wastewater generated by the customers in the City's wastewater system. Historical wastewater volumes were obtained from the WWTP. The per capita wastewater generation for the City service area is assumed approximately 0.09 ac-ft/yr per capita (or 81.68 gpcd) based on the average

wastewater generated for the period of 2005 through 2010. This per capita wastewater generation factor was used to estimate the projected volumes of wastewater collected and treated in the City (Table 4-8). Currently, the City does not directly supply recycled water to its customers.

Table 4-8
Recycled Water – Estimates of Existing and Projected Wastewater Collection and Treatment for the City

Type of Wastewater	Volume (ac-ft/yr)						
	2005	2010	2015	2020	2025	2030	2035
Population in service area	10,553	10,608	10,910	11,210	11,560	11,910	12,255
Wastewater collected & treated in service area ²	966 (0.86 mgd)	971 (0.87 mgd)	998 (0.89 mgd)	1,026 (0.91 mgd)	1,058 (0.94 mgd)	1,090 (0.97 mgd)	1,121 (1.00 mgd)
Volume that meets recycled water standard	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

1. Table format based on DWR Guidance Document Table 21
2. This is the City's portion (which is 78 percent) of the combined volume of wastewater collected from the City of Morro Bay and CSD.

Currently, the City disposes of all of its treated wastewater through an ocean outfall under a NPDES permit. Table 4-9 has been completed with projected wastewater treatment amounts through 2035. The City and the CSD, with whom the City shares the plant, plan to provide tertiary treatment for a portion of wastewater flows in the future. Although the City and CSD do not currently have potential recycled water customers and delivery of recycled water is not currently cost effective, the City and CSD are providing the capacity for future recycled water use by providing tertiary treatment processes in their WWTP Upgrade Project.

Table 4-9
Recycled Water – Estimates of Existing and Projected Disposal of Non-recycled Wastewater for the City of Morro Bay

Method of disposal	Treatment level	Volume (ac-ft/yr)					
		2010	2015	2020	2025	2030	2035
Ocean Outfall	Secondary/ Subsecondary/ Tertiary	971	998	1,026	1,058	1,090	1,121

Notes:

1. Table format based on DWR Guidance Document Table 22

Potential Use

The Morro Bay - Cayucos WWTP discharges about 1.1 mgd of mixed primary and secondary effluent into the Pacific Ocean through an outfall. According to City staff, total dissolved solids (TDS) measurements have exceeded 1,000 mg/L when wastewater from Morro Bay and Cayucos are blended. With higher levels of treatment and TDS removal, this water could be used for a variety of non potable uses. The recycled water could represent a

valuable resource for use by the City to increase the reliability of its water supply portfolio. The feasibility of using recycled water was evaluated in the 1994 City of Morro Bay Analysis and Recommendations/or a Water Management Plan and in the more recent Cayucos/Morro Bay Comprehensive Recycled Water Study prepared for the City of Morro Bay and the CSD in 1999.

Some of the potential recycled water projects evaluated included: irrigating public parks, school yards and the Morro Bay Golf Course; agricultural irrigation in Morro Valley; enhancement of the stream flow in Morro Creek, Chorro Creek and/or the Morro Bay National Estuary and groundwater recharge.

In the two earlier recycled water evaluations, irrigating public parks and school grounds was eliminated from further consideration because the total acreage available for irrigation is small compared to the construction costs for the separate distribution system necessary to bring the recycled water to the irrigation sites.

The remaining projects have larger irrigation water requirements. Recycled water project costs could be reduced if the recycled water customers could be served with secondary treated recycled water, thereby limiting the necessary WWTP upgrades. Surface irrigation with secondary level treated wastewater while legally permitted for golf courses with restricted access and certain non-food and food crops where the recycled water does not come into contact with the edible portion of the crop may not be feasible in Morro Bay. Some orchards can be irrigated with secondary level recycled water; however, avocado trees, which often have fruit bearing branches close to the ground may not be good candidates due to the potential cross contamination, their sensitivity to chloride ions, and the relatively high salt content of the effluent.

The two Morro Bay recycled water assessments concluded that the Morro Bay golf course and most of the potential Morro Valley recycled agricultural irrigation water customers would require tertiary levels of water treatment thereby requiring an upgrade to the existing WWTP. Given the higher capital and operations and maintenance costs to upgrade the Morro Bay - Cayucos WWTP to tertiary level treatment plus the long pipeline required to bring recycled water to the potential customers, the cost per acre foot for recycled water would be about \$2,400 per ac-ft. Agricultural irrigation water demand also varies seasonally and drops significantly in the wet winter months making the financing of reclamation facilities even more difficult.

Wastewater reclamation has been presented as an approach for increasing the use of Chorro groundwater. A Community Development Block Grant (CDBG) Wastewater Reclamation Feasibility Study was conducted (Boyle Engineering, 1999). In that Study, a concept for construction of a treatment plant at the eastern end of Morro Bay, near Chorro Creek, was presented as an approach for improving wastewater service while also increasing summer stream flows in the creek. The City has considered construction of a new plant to offset demand at the existing jointly owned Cayucos/Morro Bay facility. The initial projected flow at the new facility (0.6 mgd) is less than the stream flow (1.4 cfs or 0.9 mgd) required for full use of the Chorro wells. Discharge from the treatment plant alone could not sustain the desired flow rate in Chorro Creek. However, potential ultimate flows from future development that could be served by the new treatment plant could reach 1.2 mgd. The treated water from this flow rate (1.8 cfs) would be sufficient to meet the desired flow in the creek necessary to enhance water supply reliability.

There are no existing recycled water customers in the City of Morro Bay System. Therefore, Table 4-10 has been intentionally left blank. The City is in the process of upgrading their WWTP to allow for tertiary level treatment. The City plans to have recycled water available by planning year 2020. The actual users and distribution network have not yet been identified and will be developed based on the requirements of future users and type of use.

Table 4-10
Potential Future Recycled Water Uses

User type	Description	Feasibility	2015	2020	2025	2030	2035
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

1. This table is based on the DWR Guidebook Table 23.

In the *City of Morro Bay 2005 Urban Water Management Plan*, projections of recycled water within the City by the year 2010 were not included. Therefore, Table 4-11 is not applicable for this system and has been intentionally left blank.

Table 4-11
Comparison of Recycled Water Uses—Year 2005 Projections versus 2010 Actual

Type of Use	2010 Actual Use	2005 Projection for 2010
N/A	N/A	N/A

Notes:

1. This table is based on the DWR Guidebook Table 24.

Optimization and Incentives for Recycled Water Use

Apart from upgrading the level of treatment at the plant, and a settlement agreement with the High School which could require their use of recycled water, the City does not have any plans in place to encourage uses of recycled water. Therefore, Table 4-12 is only minimally applicable for this system at this time and has been intentionally left blank. The City will update this table in the future if the City develops a recycled water program.

Table 4-12
Methods to Encourage Recycled Water Use

Actions	Projected Results					
	2010	2015	2020	2025	2030	2035
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

1. This table is based on the DWR Guidebook Table 25.

Future Water Projects

The City will construct new wells, pipelines, and treatment systems, as needed, as a part of its ongoing operations to maintain its existing sources of supply and to meet distribution

system requirements. The City's plan is to maximize supplies from the SWP to provide increased reliability for water quality reasons, then to provide treatment to groundwater, brackish water, and seawater supplies to meet water quality objectives during peak-use and during shortages in the SWP. This also lessens the City's reliance on SWP for the long-term.

Between 1998 and 2009, the City of Morro Bay had difficulty meeting the City's water demand. The City's long-time historical water sources, the Chorro and Morro wells, were out of service because of water quality concerns and in-stream minimum flow requirements as explained previously in this plan. Fortunately, the City's SWP connection was in service and the City was able to obtain agreements with CCWA and the County to provide sufficient SWP water for 2000 and 2001 summer and fall peak-demand period requirements. During the planned maintenance shutdowns of the SWP pipeline during late October and early November, the City has made special arrangements with the CCWA to continue purchasing stored SWP water, when available. In the past, the City supplemented the water with water pumped from the Chorro Basin and on several occasions used emergency exchange water from the CMC water treatment plant. In 2010 the City met its water demands with the BWRO trains at the Desalination Facility, Morro Well Field and Well 11A in the Chorro Well Field. The City plans to improve its local source water reliability, so these sources can be used in the future to get through planned SWP shutdowns.

Beyond these recent water supply shortages, the City needs to identify sufficient water supplies to serve the City under the following conditions:

1. To improve water supply operational reliability during droughts.
2. To plan for short-term supply shortfalls when State Water or other City water supplies are not available.

The City is in the fortunate position of having numerous potential water supply sources to choose from, however, no single water source will be capable of meeting all of the City's demands. Each of the potentially available water sources is described below.

State Water Project

San Luis Obispo County has additional State Water entitlements and other agencies may make portions of their allocations available in the future.

Additional State Water Project Drought Buffer: The City has benefited from its existing 174 percent drought buffer during reduced SWP delivery years. The City could potentially expand its existing drought buffer in the future to help insure that the City's full allocation of water is delivered when the DWR declares reduced water deliveries due to drought conditions. The City's 1,313 ac-ft/yr entitlement with 2,290 additional drought buffer will allow the City to take the full allotment of water when the DWR declares the supplies to be reduced to 36 percent of normal delivery. Since the County currently has an excess of unallocated State Water entitlement, State Water subcontractors in San Luis Obispo County could make a request to the County for additional drought buffer. Even during severe droughts, State Water deliveries are only unavailable when the State Water transmission facilities are out of service for maintenance or during a disaster. During droughts, or due to environmental conditions at the SWP point of diversion, projected deliveries have been as low as 5 percent. The City would need 24,947 ac-ft or 1,900 percent drought buffer to take the full allotment of water during a 5 percent delivery year, which is greater than the County's

available allocation and would not be economically feasible for the community. The City could purchase an additional 1,313 ac-ft or 100 percent of drought buffer and which would guarantee full deliveries down to 27 percent SWP deliveries which also may not be cost effective in terms of the enhancement to reliability that it provides. The City will track what the County does with its current unallocated allotment of State Water and act accordingly.

Purchase Additional State Water Project Allocation: The County has 17,530 ac-ft/yr of excess capacity in the SWP. Other agencies with State Water contracts may also make a portion of their allocation available in the future. However, the issues of ownership of the additional delivery capacity that exists in the Coastal Branch II aqueduct and the treatment plant capacity in the Polonio Pass Treatment Plant would need to be resolved. Polonio Pass is the plant which treats State Water for San Luis Obispo and Santa Barbara Counties.

This option was not evaluated further for four primary reasons:

1. The high cost of upgrades to the Polonio Pass Treatment Plant to treat the water.
2. The high cost of upsizing Chorro Valley Pipeline or constructing a new pipeline to transport additional water deliveries from the Coastal Branch II aqueduct to the City.
3. The theoretical reliability of the supply would be increased, but the City would still be subject to the delivery system reliability limitations of the SWP.
4. The City cannot rely on another agency making a portion of their allocation or pipeline capacity available in the future.

Pursuit of other agencies' allocations is a possible approach in the future, but cannot be relied upon as a definite future source of water and the cost of the pipeline upgrades in item 2 above would still apply. Therefore, it was not included in this analysis but is not considered a viable option if an opportunity presents itself.

Table 4-13 presents potential water supply project/program that is being pursued by the City. The City plans to upgrade the WWTP to tertiary treatment by 2020. The City may have the ability to provide up to 400 ac-ft/yr of recycled water to potential future customers.

Table 4-13
Future Water Supply Projects

Project Name	Projected start	Projected	Potential project constraints	Normal year supply	Single-dry year supply	Multiple-dry year Supply		
						Year1	Year2	Year3
Water Recycling and Reuse ¹	-	2020	Capital Costs, Energy Costs, Water Quality	TBD	TBD	TBD	TBD	TBD

Notes:

1. Water volumes presented here are accounted for in Table 4-1 (DWR table 16)
2. Table format based on DWR Guidance Document Table 26

Section 5. Water Supply Reliability and Water Shortage Contingency Plan

A detailed evaluation of water supply reliability and water shortage contingency planning are requested by the Act. Sections 10631 (a) through (d) require that (item numbers are from the 2010 UWMP guidebook outline checklist):

#5. An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions (10620(f)).

#23. 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 supplement or replace that source with alternative sources or water demand management measures, to the extent practicable (10631(c)(2)).

#37. Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster (10632(c)).

#38. Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning (10632(d)).

#39. Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply (10632(e)).

#40. Penalties or charges for excessive use, where applicable (10632(f)).

#41. An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments (10632(g)).

#42. A draft water shortage contingency resolution or ordinance (10632(h)).

#52. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability (10634).

#22. Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following: (A) an average water year, (B) a single-dry water year, (C) multiple-dry water years (10631(c)(1)).

#35. Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions which are applicable to each stage (10632(a)).

#36. *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 (10632(b)).*

#43. *A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis 10632(i).*

#53. *Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple-dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single-dry water year, and multiple-dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier (10635(a)).*

A comparison of the water supplies and demands for the City of Morro Bay is presented in this section. This section also presents an assessment of overall reliability of future supplies regardless of drought or emergency conditions. It includes discussion of City's planned responses in emergency situations that can affect water supplies. This section presents a drought contingency plan in which the City has laid out the responses in an event of shortage in water supplies.

The City has taken guidance from the following documents/information while preparing this section:

- DWR Urban Drought Guidebook 2008 Updated Edition
- DWR California Drought Contingency Plan (2010)
- DWR SWP Delivery Reliability Report (2009)
- Reliability of Water Supply Data Provided by CCWA (2010)

Water Supply Reliability and Drought Planning

Currently, the City has the available water supply (discussed in Section 4) to meet the projected demands. As discussed in Section 4, the City has the following sources of potable water supply:

- SWP water (imported water)
- Morro well field (Groundwater)
- Chorro well fields (Groundwater)
- Desalination facility (SWRO/BWRO treatment facility)

Because the City's supplies are derived both from local groundwater and the SWP, the conditions in local and distant areas can impact the reliability of supplies. The following discussion summarizes the reliability of the City's water supply sources. The City's total supply is expected to exceed demands through 2035.

City of Morro Bay's Water Supply Reliability

Reliability of the City's water supply is determined based upon the reliability of imported water, groundwater production, and the operation and maintenance of the desalination facility, as discussed previously. City's total water supply and demand are presented in

Section 4 and Section 3, respectively. Comparison of water supply (Table 4-1) with water demand (Table 3-13) shows that excess water supply is available to meet the projected water demand. This supply buffer (available supply in excess of demand) serves to increase reliability of supply.

Table 5-1 presents water supply projections from purchased water, groundwater, and desalination facility during a normal year, single-dry year and multiple-dry years for the City for 2035. To analyze the effect of drought conditions on the water supply, the year with the highest water demands (i.e., 2035) was selected. The normal year supply represents the expected supply under average hydrologic conditions, the dry year supply represents the expected supply under the single driest hydrologic year, and the multiple-dry year supply represents the expected supply during a period of four consecutive dry years. CCWA's water supplies are estimated using 60, 34, and 11 percent for the normal, multiple-dry and a single-dry water year demands, respectively. These supplies are expected to be 100 percent reliable. It is anticipated that the City will use its full imported water supply from SWP during multiple dry water years using the draught buffer. Any water demands, which cannot be met with imported SWP water, are expected to be met by groundwater supplies and the desalination facility.

Table 5-1
Supply Reliability for the City of Morro Bay for Year 2035 (Based on Historic Conditions)

Source	Normal (Average) Water Year	Single-Dry Water Year	Multiple-Dry Water Years			
			Year 1	Year 2	Year 3	Year 4
Imported Water from SWP with drought buffer ⁽²⁾	1,313	144	1,223	1,223	1,223	1,223
Morro Groundwater ⁽³⁾	581	581	581	581	581	581
Chorro Groundwater ⁽⁴⁾	1,143	566	566	566	566	566
Recycled Water						
Desalination Facility ⁽⁵⁾	645	645	645	645	645	645
Total	3,682	1,936	3,015	3,015	3,015	3,015
Percent of Normal/Average		53	82	82	82	82

Notes:

1. Unit of measure: ac-ft/yr
2. Single-dry year and multiple-dry year reliability for imported water is 11 and 34 percent, respectively, of contracted amount plus drought buffer. It is assumed that the City will meet the demand during multiple dry water years using the draught buffer for the SWP water.
3. Extractions in Morro Basin are below safe yield of the basin in dry years (Cleath and Associates, 1994)
4. During drought years the productivity of the Chorro well field is reduced to 566 ac-ft/yr based on historical extractions.
5. The desalination facility is assumed to be a drought resistant source.
6. Table format based on DWR Guidance Document Table 28.

Although the single-dry year and multiple-dry year supplies are less than the normal water year supplies, these available supplies under these hydrological conditions still exceed supplies needed to meet projected demands (Table 3-13).

Table 5-2 lists single-dry year and multiple-dry year periods for both groundwater and purchased water supplies. The single-dry year and multiple-dry year periods are based on CCWA's (which are based on SWP) analysis of the lowest average precipitation for a single year and the lowest average precipitation for a consecutive multiple-year period, respectively. The desalination facility is assumed to be a drought resistant source.

Based on the historical records of SWP water and reliability data specific to San Luis Obispo County, CCWA has indicated that 1977 is the single-dry year and the years of 1929 through 1932 are representative of driest four consecutive years (CCWA, 2011). A normal water year is based on the long-term average basis.

Table 5-2
Basis of Water Year Data

Water Year Type	Base Year(s)
CCWA ⁽¹⁾	
Normal Water Year	N/A ⁽²⁾
Single-Dry Water Year	1977
Multiple-Dry Water Years	1929 -1932
Groundwater ⁽³⁾	
Normal Water Year ⁽⁴⁾	1980
Single-Dry Water Year	1971
Multiple-Dry Water Years	2006 - 2008

Notes:

1. Delivery reliability data provided by CCWA
2. N/A = Not Applicable. Average of the entire hydrologic period.
3. Record of precipitation from WRCC at Morro Bay, CA
4. Normal water year calculated from median precipitation from water year 1949 through water year 2010
5. Table format based on DWR Guidance Document Table 27

CCWA has determined that they can meet their projected water demands for imported water for these years, so the available water supply is expected to meet the demand. In addition, there are other mechanisms that could augment the reliability of supplies during a dry period. For the groundwater reliability analysis, precipitation data from 1959 through 2010 were reviewed. Data for the water year basis were obtained by the WRCC at Morro Bay Fire Department, California. Precipitation data was evaluated from Water Year 1959 to 1960 (October 1, 1959 through September 30, 1960) through water year 2009 and 2010 (October 1, 2009 through September 30, 2010). 1971 to 1972 was the single driest year with 7.1 inches of precipitation. The normal water year was based on DWR's description of the median water year over the period of record. The median annual precipitation between water year 1959 and water year 2009 at the Morro Bay Fire Department was 16.46 inches. Based on the median precipitation, the normal water year was 1964. The multiple-dry year period of water year 2006 through water year 2008 recorded the lowest 3-year total of precipitation.

This overall reliability of total water supply portfolio is a result of the projected reliability of imported water, groundwater supply, and the reliability of treated seawater and brackish water by desalination, as discussed below.

CCWA's Water Supply Reliability

CCWA's sole water supply is imported water from the SWP. The actual amount of water available to be delivered by SWP varies from year to year based on a combination of hydrologic conditions, water available in SWP storage reservoirs, and environmental regulations in the San Francisco Bay/Sacramento-San Joaquin River Delta. SWP water deliveries are subject to reduction when dry conditions occur in northern California or as a result of regulation.

CCWA is a SWP contractor through San Luis Obispo Flood Control and Water Conservation District (SLOFCWCD) with an annual contractual amount of 25,000 acre-feet (ac-ft). Each Contractor annually submits a request to DWR by October 1 of each year for water delivery in the following calendar year, in any amount up to the Contractor's full amount. However, some contractors have never requested delivery of their allotted amounts as a result of factors such as less-than-planned water demand, availability of other water supplies, and water conservation efforts that have held below initial demand projections for full contract amounts (CCWA, 2011).

The SWP Delivery Reliability report (DWR, 2009) concluded that the SWP, using existing facilities operated under current regulatory conditions, and with all contractors asking for their full allotted amount, could deliver 60 percent of total allotted amounts on a long-term average basis. The analysis also projected that SWP deliveries during multiple-dry year periods would be about 36 percent (4-year drought) of the allotted amounts, and possibly about 11 percent of the allotted amounts during an unusually dry single year.

Per CCWA (CCWA, 2011), water supply deliveries to the City are expected to be 63, 62, 61, and 60 percent reliable (based on a long-term average basis) during normal years for 2015, 2020, 2025 through 2030, and 2035, respectively. However, deliveries during multiple-dry year periods could be between 34 and 36 percent of the allotted amounts between 2015 and 2035 and possibly 7 through 11 percent of the allotted amount during an unusually dry single year for the period of 2015 through 2035.

During a drought when the SWP deliveries are reduced and if the full allocation for SLOFCWCD has been claimed by other participants, the City may receive additional SWP reliability through the contracted drought buffer. With the drought buffer, the City will receive 100 percent of its contract entitlement as long as SWP deliveries statewide are approximately 36 percent or more. The City's contracted drought buffer will provide the City with deliveries which are calculated based on an entitlement of 3,598 ac-ft/yr (entitlement with drought buffer) instead of 1,313 ac-ft/yr. When statewide SWP deliveries drop to 5 percent of entitlements during critical drought years, the City would receive 180 ac-ft/yr or 14 percent of its 1,313 ac-ft/yr entitlement held with SLOFCWCD.

In this UWMP, it is assumed that the County will have sufficient unclaimed allocation and/or the SWP will not be reduced below 36 percent in order to provide the City with 100 percent of its contract entitlement during normal years and multiple-dry years. For the single dry years, the water supply from the SWP will be reduced from 7 percent through 11 percent from 2015 through 2035, the City's supply buffer (available supply in excess of demand) will assure reliability of supplies.

City of Morro Bay's Groundwater Supply Reliability

Reliability of Morro Groundwater Basin

The reliability of groundwater supplies is limited by hydrogeologic conditions and the amounts of recharge available. The Morro Groundwater Basin is comprised of a small shallow aquifer with limited storage capability. Due to the size of the Morro aquifer, historical operations indicate that the Morro aquifer could experience salt water intrusion in the event the Morro well field is continuously operated during a 2 to 7 year drought cycle. The BWRO treatment system currently installed in the Morro Basin allows extractions from the basin to continue even with a certain level of salt water intrusion.

The City has firm access to groundwater based on the SWRCB approval of the City's Morro basin water permit. The permitted pumping rate is normally set within the groundwater basin's long-term average yield. The reliability of the Morro Groundwater Basin water supply could be reduced in the event of further or continued groundwater contamination.

Reliability of Chorro Groundwater Basin

The reliability of the Chorro Groundwater Basin is similar to the Morro Groundwater Basin reliability; however, there are several additional issues affecting the Chorro Basin reliability. One major consideration is that Well Nos. 8 and 12 were found to be under the influence of surface water. By order of DHS, these wells cannot be used without full filtration in accordance with the U.S. Environmental Protection Agency's (EPA) Surface Water Treatment Rule. Because of the water quality issues, the City terminated its lease for Well No. 8 and abandoned the well. Well No. 12 is inactive due to its proximity to surface water.

The Ashurst Well Field, comprising of wells 9, 9A, 10, 10A, 12, and 16, is currently inactive due to high nitrate levels. Nitrate levels in the basin have risen and the City currently does not have nitrate treatment facilities capable of reducing nitrate levels below the maximum contaminant level (MCL). Until the City provides treatment or blending, or nitrate levels in the basin subside, the City cannot reliably use the Ashurst Well Field as a potable drinking water supply.

The overall reliability of the Chorro Basin (Table 5-1), however, would increase if the City provides a water treatment facility to remove the nitrate contamination of this water supply source. If treatment were to be installed in the Chorro Basin it could be designed as a surface water treatment facility which would eliminate concerns regarding proximity to surface water and bacteriological contamination. To regain the use of Well No. 8 would require that the City enter into a new lease or drill a new replacement well.

Another potential issue in the Chorro Basin outside of the City's control is the potential for additional upstream diversions for agricultural irrigation. Upstream agricultural activity has had a documented impact on nitrate levels and also increases the Chorro aquifer's susceptibility to contamination common with the application of pesticides, and herbicides (Cleath, 2007).

Chorro Creek flows into the Morro Bay Natural Estuary area. Consequently, environmental groups have focused on the instream flow requirements for Chorro Creek. The City's water permit requires the City to install a permanent instream flow monitoring station. According to the permit, the City can only pump its Chorro wells when the downstream flow is 1.4 cfs

or more. This reliability could be reduced during a drought year although the importation of State water and water from Whale Rock reservoir into the upper basin have augmented natural stream flows.

City of Morro Bay's Desalination Facility Water Supply Reliability

As a water supply, desalination is independent of the weather conditions that cause droughts. Other factors that may affect reliability include short-term and long-term power outages and raw water quality. Currently the facility does not have emergency generator in the event of long-term power outage. The water supply from the desalination facility is expected to be reliable under all hydrologic conditions.

The following sections present the current water sources, normal water year, single-dry year, multiple-dry year water supply, and demand assessments.

Current Water Sources Analysis

The Act requires an estimate of the minimum water supply available during each of the next three water years (2011 through 2013) based on the driest three-year historic sequence for the City of Morro Bay's water supply. Table 5-3 summarizes the minimum volume of water available from each source during the next 3 years based on multiple-dry water years and normal/average water year. The water supply quantities for 2011 through 2013 are based on the groundwater pumping rights and data provided by CCWA (CCWA, 2011). The SWP water reliability is 34 percent in 2010 and 2015; therefore, the multiple-dry year water supply of imported water for 2011 through 2013 is estimated based on 34 percent of the contractual amount.

Overall, the City of Morro Bay's supply is expected to be reliable from 2011 to 2013. This reliability is a result of (1) the projected reliability of imported water and desalination facility and (2) reliable groundwater in the Morro and Chorro Groundwater Basins.

Normal Water Year Analysis

Table 5-4 summarizes the service reliability assessment for a normal water year based on water supply and water demand projections. Note that the water supply presented in this table is the supplies needed to meet the demands. However, the City's projected total water supply is higher than the supplies needed to meet the demands. The demands presented in Table 5-4 include projected water use within the City and unaccounted for water. As discussed previously and in Section 4, local groundwater from Morro and Chorro Groundwater Basins, water supply from the desalination facility, and the total purchased water are expected to be reliable to meet the projected demands through 2035. Any demands that cannot be met with SWP water are expected to be met by native groundwater supplies and the desalination facility.

Table 5-3
Three-Year Estimated Minimum Water Supply

Water Supply Sources	Multiple-Dry Water Year			2010 (Actual)
	2011	2012	2013	
Purchased Water from SWP ⁽¹⁾	1,223	1,223	1,223	873
Morro Groundwater ⁽³⁾	581	581	581	74
Chorro Groundwater ⁽⁴⁾	566	566	566	54
Desalination Facility ⁽⁵⁾	645	645	645	258
Total	3,015	3,015	3,015	1,259

Notes:

1. Reliability of purchased water is calculated based on the 34 percent reliability of contracted amount under the multiple-dry year conditions given in the 2009 CCWA Reliability Report.
2. Unit of measure: ac-ft/yr
3. Extractions in Morro Basin are below safe yield of the basin in dry years.
4. During drought years the productivity of the Chorro well field is reduced to 566 ac-ft/yr based on historical extractions.
5. The desalination facility is assumed to be a drought resistant source.
6. This table is based on the DWR Guidebook Table 31.

Table 5-4
Comparison of Projected Normal Year Supply and Demand for Normal Water Year

	2015	2020	2025	2030	2035
Water Supply Total (ac-ft/yr)	1,454	1,416	1,461	1,505	1,548
Water Demand Total (ac-ft/yr)	1,454	1,416	1,461	1,505	1,548
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

Notes:

1. Table format based on DWR Guidance Document Table 32
2. The water supplies needed to meet the demands are shown in this table. However, the City's supplies exceed the amount needed to meet the projected demands. Table 4-1 provides details of available total water supplies.

Single-Dry Year Analysis

As noted earlier, the single-dry year reliable supplies for imported water delivered by CCWA may be significantly reduced to about 7 to 11 percent from 2015 through 2035. Any water demand that cannot be met with the SWP water will be met by groundwater supplies and the desalination facility. In addition, the City is planning to have additional supply to be provided in 2020 by the introduction of recycled water, through the upgrade of the existing WWTP.

Table 5-5 demonstrates the reliability of water supplies to meet projected annual water demands for the City of Morro Bay in a single-dry year. It is assumed that the single-dry year supplies will meet or exceed projected demands through 2035 because local

groundwater supply and the desalination facility will offset the deficit in imported water supply in a single-dry year.

Table 5-5
Comparison of Projected Supply and Demand for Single-Dry Year

	2015	2020	2025	2030	2035
Supply Total (ac-ft/yr)	1,454	1,416	1,461	1,505	1,548
Demand Total (ac-ft/yr)	1,454	1,416	1,461	1,505	1,548
Difference (supply minus demand)	0	0	0	0	0
Difference as Percent of Supply	0	0	0	0	0
Difference as Percent of Demand	0	0	0	0	0

Notes:

1. Table format based on DWR Guidance Document Table 33
2. The water supplies needed to meet the demands are shown in this table. However, the City's supplies exceed the amount needed to meet the projected demands. Table 4-1 provides details of available total water supplies.

Multiple-Dry Year Analysis

Table 5-6 presents the projected multiple-dry year water supply and demand assessment. As noted earlier, the multiple-dry year supplies (from CCWA) for imported water are estimated at 34 to 36 percent of available supplies from 2015 through 2035. Any water demands that cannot be met with the SWP water are expected to be met by groundwater supplies and the desalination facility. The third year of the multiple-dry year water supply projection represents the end of each 3-year multiple-dry year period as required for the multiple-dry year analysis. It is assumed that the water demand for the preceding 2 years (of the 3-year multiple-dry year period) will be the same as those in the third year.

The multiple-dry year water supplies are expected to be the same as the supply in normal years as long as SWP deliveries statewide are approximately 36 percent or more. This is because the City's contracted drought buffer will provide the City with additional SWP reliability during a drought when the SWP deliveries are reduced and if the full allocation for San Luis Obispo County has been claimed by other participants. The projected total water supplies are much higher than the projected demands. A combination of groundwater, desalinated water, and purchased water will meet projected water demands under multiple-dry years. Table 5-6 demonstrates that the water supplies are sufficient to meet the projected water demand for each multiple-dry year period because groundwater, desalinated water, and purchased water can supply water reliably through 2035. As a result, the total water supplies to meet the demands under multiple-dry years are expected to be 100 percent reliable.

In summary, water supplies from the desalination facility, local groundwater, and purchased water ensure that the total water demands can be met under normal, single-dry year, and multiple-dry years.

Table 5-6
Projected Multiple-Dry Year Water Supply and Demand Assessment

Year	Supply ³ (ac-ft/yr)	Demand (ac-ft/yr)	Difference	Difference as Percent of Supply	Difference as Percent of Demand
2015 (Multiple-Dry Year First Year Supply)	1,454	1,454	0	0	0
2015 (Multiple-Dry Year Second Year Supply)	1,454	1,454	0	0	0
2015 (Multiple-Dry Year Third Year Supply)	1,454	1,454	0	0	0
2020 (Multiple-Dry Year First Year Supply)	1,416	1,416	0	0	0
2020 (Multiple-Dry Year Second Year Supply)	1,416	1,416	0	0	0
2020 (Multiple-Dry Year Third Year Supply)	1,416	1,416	0	0	0
2025 (Multiple-Dry Year First Year Supply)	1,461	1,461	0	0	0
2025 (Multiple-Dry Year Second Year Supply)	1,461	1,461	0	0	0
2025 (Multiple-Dry Year Third Year Supply)	1,461	1,461	0	0	0
2030 (Multiple-Dry Year First Year Supply)	1,505	1,505	0	0	0
2030 (Multiple-Dry Year Second Year Supply)	1,505	1,505	0	0	0
2030 (Multiple-Dry Year Third Year Supply)	1,505	1,505	0	0	0
2035 (Multiple-Dry Year First Year Supply)	1,548	1,548	0	0	0
2035 (Multiple-Dry Year Second Year Supply)	1,548	1,548	0	0	0
2035 (Multiple-Dry Year Third Year Supply)	1,548	1,548	0	0	0

Notes:

1. Table format based on DWR Guidance Document Table 34
2. Total Water Supply includes projected demand within Morro Bay and sales to other agencies
3. The water supplies needed to meet the demands are shown in this table. However, the City's supplies exceed the amount needed to meet the projected demands. Table 4-1 provides details of available total water supplies.

Resource Optimization

Section 10620 (f) asks urban water suppliers to evaluate water management tools and options to maximize water resources and minimize the need for imported water from other regions.

The City is committed to optimize its available water resources, including groundwater and implement water conservation programs throughout its service area. In an effort to expand the breadth of offered programs, the City partners with wholesale suppliers, local retailers, and other agencies that support water conservation programs. The City understands the great importance of water conservation to its future. The City's has water conservation programs to reduce the water demand are in effect at all times within the City. The conservation programs include the following:

- **Irrigation System.** The City initiated a large landscape irrigation efficiency program to improve the efficiency of irrigation programs on the City's parks. Under this program, a state-of-the-art computerized control system was installed at many sites to improve irrigation efficiency.
- **Public Information Programs.** The City also practices a comprehensive public/education program that has led to lower water usage.
- **Voluntary Water Conservation Activities.** The City continues to work with the community to encourage water conservation on a voluntary basis. Water conservation activities include water conservation kits, conservation tip mailers, local television advertisements, and other promotional items.
- **Water Conservation Rate Structure.** The City maintains a water rate structure that encourages and significantly promotes water conservation with each unit of water costing more than the last.

The City maximizes the local water supply sources to the extent possible within the existing constraints to optimize the City's resources. The City has taken several steps in recent years to bolster its ability to supply local groundwater. The installation of the BWRO trains at the desalination facility has allowed for renewed use of Morro Basin Groundwater. By optimizing groundwater and using innovative actions that use water information systems to conserve and use water efficiently, the City aims to reduce dependence on imported water. The City is seeking CDPH Proposition 84 funding to implement additional improvements to the desalination facility to allow for standalone operation of the BWRO treatment system. These improvements will allow the City to put its permitted water use in the Morro Groundwater Basin to full beneficial use.

The increase in the quantity of supply available from groundwater production reduces reliance on any one pipeline, electrical system, which in turn allows the City to successfully meet municipal water needs in acute or chronic water shortage conditions. Conservation and water use efficiency projects help to increase the reliability of City's overall water portfolio and reduces reliance on imported water.

Factors Resulting in Inconsistency of Supply

Table 5-7 presents the factors resulting in inconsistency of supply for the City of Morro Bay. These factors are also discussed in Section 4. The impacts of water quality and permit constraints are factored into the reliability qualities of supplies available from the Morro and Chorro Groundwater Basins.

Table 5-7
Factors Resulting in Inconsistency of Supply

Water Supply Sources	Specific source name, if any	Limitation Quantification	Legal	Environmental	Water Quality	Climatic	Additional Information
Purchased Water	SWP	N/A	None	SWP supply may vary (based on fish species in the Delta) under the state and federal endangered species Act	None	Reliability of imported water supply may vary based on SWP annual water supply	N/A
Groundwater	Morro Groundwater Basin	N/A	None	N/A	Nitrate	None	Anthropogenic
Groundwater	Chorro Groundwater Basin	N/A	Stream Flow/ Permit Constraint	None	Nitrate	Flow constraint	N/A

Notes:

1. Table format based on DWR Guidance Document Table 29
2. N/A = Not applicable
3. The Chorro Groundwater Basin supplies in single-dry year and multiple-dry years may be limited up to 577 ac-ft/yr due to the legal constraints

Water Quality

Water Quality Issues

The quality of the City's water supply depends on the blending proportion of the imported surface water and local groundwater in addition to water quality of imported water and groundwater. In general, imported surface water has a lower TDS concentration than local groundwater. The quality of these two sources is described below.

The local groundwater produced by the City's groundwater wells generally has a TDS concentration ranging from 393 parts per million (ppm) to 637 ppm, with an average of 519 ppm (Morro Bay CCR, 2010). The City's surface water supply imported through the SWP generally has a TDS concentration range of 200 to 615 ppm, with an average of 328 ppm (Morro Bay CCR, 2010).

In general, groundwater represents approximately 28 percent of the City's current water supply. The local groundwater is blended with SWP water resulting in water quality that complies with all state and federal drinking water requirements. Currently, the nitrate contamination issue in the Groundwater Basins affects supply reliability of Chorro

Groundwater wells. The City is working to renew this water supply source by providing nitrate treatment or blending by 2020. In the future, once treatment technologies are in place, the City does not anticipate any future water quality issues that may affect supply or reliability. Annually, the City publishes a water quality report which details the water quality sampling results for the City's wells and SWP water. A recent water quality report (for 2010) is provided in Appendix H.

Surface Water Quality

The City of Morro Bay purchases water from CCWA. The CCWA obtains its water supply from the coastal reach of the SWP California Aqueduct. The source water of the SWP originates in northern California's mountains, rivers and streams, and flows through the Sacramento-San Joaquin Delta before entering the SWP's 444-mile California Aqueduct.

The Coastal Branch Reach II of the SWP consists of a 101-mile-long aqueduct from Kern County to Vandenberg Air Force Base in Santa Barbara County. Water is pumped from the West Branch of the SWP through a series of four pumping stations and ultimately delivered to the Polonial Pass Filtration Plant where the water is treated by conventional surface water filtration techniques. The Polonial Plant is located in the Cholame Hills at an elevation of approximately 1,400 feet. This elevation allows the plant to distribute water from the plant to San Luis Obispo County, which is approximately 100 miles away. Typically, there is no other treatment of the purchased surface water, other than the treatment received at the Polonial Pass Plant. The City provides additional chlorine treatment as needed to keep an active disinfection residual in the distribution system. The interconnection, thorough which Morro Bay accepts water from CCWA, is located downstream of Polonial Pass Plant along the Costal Branch Reach II.

Groundwater Quality

The Morro Groundwater Basin is susceptible to nitrate contamination. The City conducted an analysis to determine the source of the nitrate contamination throughout the basin. The *2007 Morro Valley Nitrate Analysis*, identified nitrate based agricultural fertilizers as the primary source of nitrate contamination in the Morro Groundwater Basin. The City has installed Brackish Reverse Osmosis Treatment to allow continued extractions in light of the degraded water quality and nitrate levels in the Morro Basin.

The Morro Groundwater Basin was previously unavailable to the City due to nearby MTBE contamination in the groundwater basin in 2000. Treatment The City began treatment for MTBE in 2002 and continued this treatment until MTBE contamination levels fell below the RWQCB's monitoring threshold in 2008. Since then the MTBE levels continue to remain below the RWQCB's monitoring threshold.

In the past the Morro Groundwater Basin has experienced intermittent periods of seawater intrusion during long-term droughts. A study on the condition of the Morro Groundwater Basin was conducted (Cleath and Associates, 1994). Based on the study findings, with the City's 581 ac-ft/yr (189 million gallons/year) annual limit on pumping from the Morro Basin, seawater intrusion is less likely to occur in the future. In addition, the Morro wells should be able to produce year round at the maximum 1.2 cfs rate allowed in the City's water right permit (Cleath and Associates, 1994).

Like the Morro Basin, the Chorro Groundwater Basin is susceptible to nitrate contamination. In a study, it was found that nitrate based agricultural fertilizers are the primary source of nitrate contamination in the Ashurst Well Field (Cleath H, 2009). Per the direction of CDPH, the City cannot use the Ashurst wells as a potable drinking water supply until the City provides blending, treatment, or nitrate levels in the basin subside. The City is working on solutions to the degraded water quality in regards to nitrate levels in the Chorro Basin.

The City currently blends the high quality surface water with local groundwater or treats local ground water at the desalination facility, which serves to mitigate any groundwater quality issue.

Desalination Facility Quality

The City operates both a SWRO and BWRO treatment systems at the desalination facility. The SWRO feed water supply wells have high iron concentrations that cause operational difficulties at the treatment plant. These difficulties limit the City's ability to operate the SWRO trains as a routine water supply source. The City is planning to renovate the iron pretreatment system as part of its capital improvement program. Once the iron pretreatment system is complete, the City does not anticipate any future water quality issues that would affect the supply or reliability of the SWRO system. The City does not anticipate water quality issues to affect the supply or reliability of the BWRO system.

Projected Impact of Water Quality

Table 5-8 summarizes the current and projected impact on water supply due to water quality of each supply source in the City of Morro Bay. Most of the City's wells are susceptible to nitrate contamination, causing negative impacts on the City's water supply resulting from water quality issues through 2035. After considering the treatment losses and contamination issues, under typical operating conditions the City can meet current and future demands by blending local groundwater with imported water and treated water from the desalination facility.

Distribution System Water Quality

The City has implemented a number of monitoring programs to ensure that the water quality remains within acceptable ranges. The water quality parameters that are monitored, pursuant to plans approved by the Department of Health Services, include general physical parameters, presence of coliform bacteria, disinfectant and disinfection byproduct levels, and corrosivity of water by monitoring lead and copper levels at customers' water taps. All monitoring parameters and levels currently meet drinking water standards. The ability to continue to meet these standards is not expected to change in the foreseeable future.

In addition to the monitoring programs, the City has implemented a number of operational programs that are designed to maintain water quality within acceptable criteria. The system actively flushes its distribution system while exercising system valves on a routine basis as a means to remove built up sediment within the mains as well as to ensure that aged water is removed from the system. The system also has an active backflow and cross connection prevention program in place to reduce the risk of backflow conditions from a service connection into the distribution system. Also, security measures are in place to protect the distribution system from tampering by unauthorized personnel. All of these programs are

designed to assist with maintaining the water quality within the distribution system and provide some of the tools needed to respond to a water quality emergency.

Table 5-8
Water Quality – Current and Projected Water Supply Impacts

Water Sources	Description of Condition	2010	2015	2020	2025	2030	2035
Morro Groundwater Basin	Nitrate Contamination ⁽²⁾	145	0	0	0	0	0
Chorro Groundwater Basin	Nitrate Contamination ⁽³⁾	822	822	0	0	0	0
Imported Water	None	0	0	0	0	0	0
Desalination Facility	Iron Contamination ⁽⁴⁾	155	0	0	0	0	0

Notes:

1. Table format is based on DWR Guidance Document Table 30.
2. The Morro Groundwater Basin was affected by nitrate contamination in 2010. The City installed reverse osmosis treatment (in 2010) that restored this water supply source.
3. CDPH inactivated 5 of the 6 active wells in the Chorro Groundwater Basin in 2010 due to nitrate contamination. The City plans to provide treatment or blending by 2020 to restore this water supply source.
4. Iron contamination in the raw water supply for the desalination facility has precluded the City from using its full production potential. The City anticipates installing iron pretreatment process equipment at the facility by 2015.
5. Units are in ac-ft/year.

Emerging Water Quality Issues

In 2000, there was significant interest in the detection and possible health effects of chromium 6 in drinking water supplies throughout the state. In 2001, the Office of Environmental Health Hazard Assessment (OEHHA) withdrew their previously established Public Health Goal (risk assessment level) of 2.5 micrograms per liter ($\mu\text{g}/\text{L}$) for total chromium. The current MCL enforced by CDPH is 50 $\mu\text{g}/\text{L}$ for total chromium, and OEHHA is in the process of establishing a specific Public Health Goal for chromium 6. Currently, total chromium in the City's well water is 20.0 $\mu\text{g}/\text{L}$ (Morro Bay CCR, 2010).

There is emerging concern related to the presence of pharmaceuticals in drinking water. The EPA is currently conducting research to determine the amount of pharmaceuticals and personal care products (PPCPs) in national water bodies. The EPA is also focused on determining what affects PPCPs may have on the environment and people. As findings are made in the future, through this research, the EPA could set limits on certain PPCPs in drinking water. There currently is no standard treatment technology to remove PPCPs although advanced oxidation processes have shown some potential to treat PCCPs. The water treatment industry will need to work towards treatment solutions for PPCPs as regulatory limits are decided upon in regards to PPCPs. The EPA is advising the public to properly dispose of pharmaceuticals at designated pharmaceutical handling facilities, and not flushing unwanted PPCPs.

Water Shortage Contingency Planning

This section documents the City of Morro Bay's Water Shortage Contingency Plan per requirements of Section 10632 of the Act. The purpose of the Water Shortage Contingency Plan is to provide a plan of action to be followed during the various stages of a water shortage. The plan includes the following elements: action stages, estimate of minimum supply available, actions to be implemented during a catastrophic interruption of water supplies, prohibitions, penalties and consumption reduction methods, revenue impacts of reduced sales, and water use monitoring procedures.

The Urban Drought Guidebook, 2008 updated edition, prepared by DWR, Office of Water Use Efficiency and Transfers was used as a resource in preparing this plan. The City's draft Water Shortage Contingency Plan was used to develop this subsection.

The City has developed a draft Water Shortage Contingency Plan which documents City's water supply and demand conditions. That plan has been developed in collaboration with a Water Shortage Response Team that consists of City staff from the Utilities and Finance Departments, along with assistance from the City Attorney's Office. The previously adopted ordinance (Ord. 417 § 2, 1992) which is a part of City's Municipal Code contains the City's existing water shortage contingency plan. The City prepared a revised draft Water Shortage Contingency Plan and a draft resolution which can be adopted in an event of shortage. Appendix I contains those draft documents.

The City has initiated water conservation programs to reduce the water demand. These programs to reduce the water demands are in effect at all times within the City. The City's water conservation policies promote the more efficient use of the existing water resources. Since the City adopted its water conservation program in the late 1980s, water demand in the City has declined substantially (e.g., from 168 gpcd in 1981 to 121 gpcd in 1992).

Since its inception, the City's water conservation program mandated that developers provide water for new construction by funding retrofits of existing facilities to offset two times the developer's estimated water demand. A new voluntary ULFT rebate program has also been started. In addition to the retrofitting program, the City adopted mandatory water conservation measures intended to reduce overall water consumption by existing customers. These mandatory water conservation measures are described in the City's Municipal Code Sections 13.04.320 to 13.04.345, which are provided in Appendix I. Section 13.04.320 grants the City Council authority to declare when a low water level condition exists. Section 13.04.330 identifies the water conservation powers of the City Council when it is deemed necessary to conserve water during low water level periods. Section 13.04.340 identifies the legal authority of the Public Works Director to enforce water conservation measures if the City Council adopts a resolution declaring a low water level or water system emergency.

Section 13.04.345 identifies the mandatory water conservation requirements for the five increasing levels of conservation as the City's water supplies are reduced during drought conditions. The five classifications for mandatory water restrictions are as noted in the following subsection and are enforceable through financial penalties and/or loss of service.

The City's policy is to maximize use of all of its water resources, each to its best application, to maintain water supply under varying levels of availability, with a focus on ensuring public health and safety.

Action Stages

The Act requires documentation of actions to be undertaken during a water shortage. The City of Morro Bay has developed actions to be undertaken in response to water supply shortages, including up to a 50 percent reduction in water supply.

The following section discusses the actions that might be taken depending on the severity of the shortage. The City Council may impose water-rationing requirements as it deems appropriate. Table 5-9 describes the water supply shortage stages and conditions. The stages will be implemented during water supply shortages according to shortage level, ranging from less than 5 percent shortage in Stage 1 to greater than 50 percent shortage in Stage 5. The stage determination and declaration during a water supply shortage will be made by the City.

Table 5-9
Water Shortage Contingency – Rationing Stages to Address Water Supply Shortages

Stage No.	Water Shortage Supply Conditions	% Shortage
1	Normal Water Supply Conditions	less than 5
2	Moderately Restricted Water Supply Conditions	5 to 15
3	Severely Restricted Water Supply Conditions	15 to 25
4	Critical Water Supply Conditions	25 to 50
5	Emergency Water Supply Conditions	greater than 50

Notes:

1. Table format is based on DWR Guidance Document Table 35.

Stage 1

The activities performed by the City during this stage include, but are not limited to:

- Spring-loaded shut-off nozzles are required for outdoor water use.
- Outdoor irrigation resulting in excessive runoff is prohibited.
- Water may be used as needed for washing and cleaning paved surfaces.
- Water is supplied to customers at restaurants only upon request.

Under Stage 1, no additional conservation action is required due to availability of adequate supplies to meet the demand.

Stage 2

Stage 2 will include actions undertaken in Stage 1. The actions to be undertaken by the City during this stage include, but are not limited to:

- Any use that results in excessive gutter runoff is prohibited.

- Water may be used for washing vehicles, boats and buildings with spring-loaded shut-off nozzles, but spraying paved areas is prohibited except for public health or safety.
- Outdoor irrigation is restricted between 10:00 a.m. and 4:00 p.m. and is to be performed only on designated days, except for newly planted landscaping that requires additional water to survive. Excessive gutter runoff is prohibited.
- Water is supplied to customers at restaurants only upon request

Stage 3

Stage 3 is a severely restricted shortage condition that includes all steps taken in prior stages regarding allotments and mandatory conservation rules. The actions to be undertaken by the City include, but are not limited to:

- Washing boats, marinas, buildings and outdoor paved areas is prohibited except for public health or safety reasons.
- Washing cars may be performed only with the use of a bucket and sponge.
- Emptying and refilling swimming pools and commercial spas is prohibited.
- The use of potable water for compaction, dust control and construction purposes is prohibited.
- Dysfunctional or leaking water fixtures in public or commercial facilities are required to be repaired within 3 days.
- All visitor-serving facilities shall prominently display water conservation educational materials and provide handouts, which outline the mandatory conservation measures being taken.

Stage 4

This is a critical shortage condition that includes all steps taken in prior stages regarding allotments and mandatory conservation. The actions to be undertaken by the City include, but are not limited to:

- Any water use that results in gutter runoff is prohibited.
- Any water cleanup for public health and safety shall be performed with a bucket and brush. No use of hoses, even if equipped with a shut-off nozzle is permitted.
- Irrigation is to be performed only once per week, and is not allowed between 9:00 a.m. and 5:00 p.m.
- Use of fresh water to wash down boats or docks or for other incidental activities is prohibited. All hoses shall have spring-loaded shut-offs or similar devices and may be used only to fill water tanks of boats or to flush outboard engines.
- Restaurants shall serve water only in response to specific requests by a customer.
- Emptying and refilling all pools and spas is prohibited.

- Use of potable water for compaction or dust control purposes in construction activities is prohibited.
- Dysfunctional or leaking water fixtures shall be repaired immediately.
- All visitor-serving facilities in the city shall prominently display these mandatory water conservation requirements for the benefit and education of visitors to the community.

Stage 5

This is a emergency water supply condition that includes all steps taken in prior stages regarding allotments and mandatory conservation. The actions to be undertaken by the City include, but are not limited to:

- The City Council may impose water-rationing requirements as it deems appropriate.

In addition to the mandatory water conservation program detailed above, the City has implemented a leakage detection and repair program and is planning to further reduce water losses by calibrating production meters, replacing water meters, and coordinating billing information. An extensive pipe replacement program has also been undertaken such that aged pipe is no longer considered to be a major contributor to the unaccounted for water losses.

The combination of steps outlined in the stages from 1 through 5 will help the City ensure that sufficient supply is available to meet demands with a comfortable margin of safety. For example, the resulting supply at Stage 4 with 50 percent shortage in supply in 2035 would result in supply of 2,041 ac-ft/yr (Table 5-1) which is higher than the anticipated demand in 2035 of 1,548 ac-ft/yr (Table 3-12). As a result, it is not anticipated that the City of Morro Bay will face a chronic shortage condition at which the City would need to implement any additional measures to reduce the demand.

Catastrophic Supply Interruption Plan

The Act requires documentation of actions to be undertaken by the water supplier to prepare for, and implement during a catastrophic interruption of water supplies. A catastrophic interruption constitutes a proclamation of a water shortage and could be any event (either natural or man-made) that causes a water shortage severe enough to classify as a Stage 5 water supply shortage condition. Table 5-10 provides a summary of actions to be undertaken during catastrophic events such as power outage, earthquake, and malevolent acts.

A catastrophic supply interruption can occur when the City loses one or more of its main water supplies. The likelihood of experiencing a simultaneous loss of more than one supply is low. For instance, local power outages may limit use of groundwater, but will not affect imported water delivery.

If the available supply is insufficient to meet the demand and water quality requirements, an emergency notification will be sent to all water customers, to inform them of the condition. The message will include the expected duration of the condition, and restrictions on water use for the duration of the condition.

Table 5-10
Summary of Actions for Catastrophic Events

Possible Catastrophe	Summary of Actions
Regional Power outage	<ul style="list-style-type: none"> • Assess the condition and ensure demands can be met. For example, continue supply water from its some of its largest wells using generator power if the State Water is not available • Depending on the expected length of the outage, evaluate the amount of storage available, production with available supplies, and the projected demand to determine whether existing demands can be met while the outage persists. • Contact the largest water users, including the City's Parks and Recreation Department, to determine if demand on large meters, such as for large irrigated landscapes like parks and schools, can be reduced sufficiently to last through the expected outage. • Arrange to provide emergency water. • Assess areas that will take the longest to repair. • Establish water distribution points and ration water if necessary. • Depending on the length of outage, assess and conduct bacteriological tests to determine possible contamination. • Arrange for alternate power supply to operate pumps. The City may request aid from adjacent water agencies for use of portable generators to power additional production wells to meet higher demands • If water service is restricted, attempt to provide potable water tankers or bottled water to the area
Earthquake	<ul style="list-style-type: none"> • Assess the condition of the water supply system. Arrange to provide emergency water (e.g., use of groundwater supplies in the event of non-availability of the SWP water). • Identify priorities including hospitals, schools and other emergency operation centers. • Complete the damage assessment checklist for reservoirs, water treatment plants, wells and boosters, system transmission and distribution. • Coordinate with fire district to identify immediate fire fighting needs. • Determine any health hazard of the water supply and issue any notification to the customers, if necessary. • Make arrangements to conduct bacteriological tests, in order to determine possible contamination.
Other Disasters (e.g., Malevolent acts)	<ul style="list-style-type: none"> • Assess threat or actual intentional contamination of the water system. • Notify local law enforcement to investigate the validity of the threat. • Get notification from public health officials of potential water contamination • Determine any health hazard of the water supply and issue any notification to the customers, if necessary • Isolate areas affected and assess any structural damage to the facility/water distribution system. Arrange to provide emergency water

Prohibitions, Penalties, and Consumption Reduction Methods

The Act requires an analysis of mandatory prohibitions, penalties, and consumption reduction methods against specific water use practices, which may be considered excessive during water shortages.

The City can set forth water use violation fines, charges for removal of flow restrictors, as well as establish the period during which mandatory conservation and rationing measures will be in effect. In addition to the restrictions placed on metered water use, other water use practices that will be prohibited during water shortages include the City's systematic water main flushing. In addition, street sweeping will be prohibited from using the City's domestic supply. Table 5-11 summarizes the various prohibitions and the stages during which the prohibition becomes mandatory.

Table 5-11
Water Shortage Contingency – Mandatory Prohibition

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Outdoor irrigation resulting in excessive runoff	1
Using potable water for street washing	2
Any use that results in excessive gutter runoff	2
Washing boats, marinas, buildings and outdoor paved areas	3
Emptying and refilling swimming pools and commercial spas	3
The use of potable water for compaction, dust control and construction purposes	3
Any water use that results in gutter runoff	4

Notes:

1. Table format is based on DWR Guidance Document Table 36.

Based on the requirements of the Act, Table 5-12 summarizes the methods that can be used by the City to enforce a reduction in consumption, where necessary. As mentioned earlier, various water conservation programs have been initiated the City and the County to reduce the water demand. Additional measures can be phased in to provide additional demand reductions and increase public awareness of the need to conserve water. Conservation is a permanent and long-term application used within the City at all times.

Table 5-12
Water Shortage Contingency – Consumption Reduction Methods

Consumption Reduction Method	Stage when Method Takes Effect	Projected Reduction (%)
Water is supplied to customers at restaurants only upon request	1	1
Outdoor irrigation is restricted between 10 am and 4 pm and is to be performed only on designated days	2	2
Washing cars may only be performed only with the use of a bucket and sponge	3	5
Any water cleanup for public health and safety shall be performed with a bucket and brush	4	10
No use of hoses, even if equipped with a shut-off nozzle is permitted	4	10
Public education/information programs	All Stages	N/A
Demand reduction program	All Stages	N/A
Upgrade irrigation systems	All Stages	2
Plumbing fixture replacement	All Stages	4
Replace antiquated lines, heads, and valves	All Stages	N/A
Install high-efficiency retrofit kits	All Stages	N/A
Water conservation kits	All Stages	N/A
Conduct audits	All Stages	N/A

Notes:

1. Table format is based on DWR Guidance Document Table 37.

The City sets forth penalties for violations of prohibited uses mentioned previously. Table 5-13 summarizes the penalties and charges and the stage during which they take effect. The City adopts two processes through which complaints of water wasting are handled: (1) the code enforcement process and (2) the Water Division work order process. If a code enforcement complaint is received it will be logged and investigated. The Public Services Director has the ability after providing written warning to terminate water service per section 13.04.330 of the Morro Bay Municipal Code. If a complaint is received directly by the Water Division a work order is issued. Water Division staff then investigate the issue. This occurs on average several times per year. In the case of an actual waste of water, the case would be forwarded on for code enforcement. Termination of water service with a fee to subsequently reinstate the service is the sole remedy outlined in the code for violating the water conservation provisions. There are several complaints about water that have been resolved through the work order process during 2009-2010. Note that in those years no complaint was resolved through the code enforcement process, although there was one in 2011. The penalties consist of a written warning and a surcharge for the violation. A flow-

restrictor or possible shutoff may be imposed after the violation notice, depending on the amount of water use.

Table 5-13
Water Shortage Contingency – Penalties and Charges

Penalties or Charges	Stage When Penalty Takes Effect
Flow restriction orifices for customers not meeting Stage 4 allocations	4
Flow restriction orifices for customers not meeting Stage 3 allocations	3
Termination of Supplies through code enforcement process	All stages

Notes:

1. Table format is based on DWR Guidance Document Table 38.

Revenue Impacts

Revenue reduction due to reduced water usage will cut into reserves during the shortage, and will be reflected in future rate setting discussions to re-establish acceptable water fund reserve levels after the water shortage period is over. The City's existing pro forma already reflects the resulting revenue drop associated with past conservation and therefore is already accounted for in establishing future rate adjustments. The City has taken measures to provide the financial ability to respond to a water shortage emergency by placing into reserves excess revenues. Using reserves as a water shortage reserve fund will cover potential impacts of a water shortage such as:

- Offsetting decreases in water sales income if water consumption declines due to mandated water conservation measures.
- Paying for higher cost emergency water supplies.

Since additional water supplies are either purchased or pumped and require only disinfection and fluoridation, there are little additional operations and maintenance costs to augment water supplies.

Monitoring Plan Effectiveness

The City tracks the actual reductions in water use based on the Water Shortage Contingency analysis, by monitoring system demands at each of the City's five water tank sites. The City's SCADA system allows the Water Division to track current production as well as tank levels giving information on demands. Water use analysis could be performed on a daily, weekly basis depending on monitoring needs.

Section 6. Demand Management Measures

The evaluation of DMMs occupies a significant portion of the Act. The required elements for this section include (item numbers are from the 2010 UWMP guidebook outline checklist):

#26. (Describe and provide a schedule of implementation for) 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: (A) water survey programs for single-family residential and multifamily residential customers; (B) residential plumbing retrofit; (C) system water audits, leak detection, and repair; (D) metering with commodity rates for all new connections and retrofit of existing connections; (E) large landscape conservation programs and incentives; (F) high-efficiency washing machine rebate programs; (G) public information programs; (H) school education programs; (I) conservation programs for commercial, industrial, and institutional accounts; (J) wholesale agency programs; (K) conservation pricing; (L) water conservation coordinator; (M) water waste prohibition; (N) residential ultra-lowflush toilet replacement programs (10631(f)(1) and (2).

#27. A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan (10631(f)(3)).

#28. An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand (10631(f)(4)).

#29. An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following: (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors; (2) Include a cost-benefit analysis, identifying total benefits and total costs; (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost; (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation (10631(g)).

This section presents a comprehensive description of the City's past, current and future water conservation activities for the Morro Bay water system in compliance with the above listed sections of the Act. The water conservation practices, as defined by the Act, are comprised of 14 DMMs. The DMMs are functionally equivalent to urban water conservation best management practices (BMPs) administered by the California Urban Water Conservation Council (Council). The City of Morro Bay is currently not a member of the Council. However, for meeting the requirements of this section of the Act, the City has followed the Council's requirements. Table 6-1 lists the DMMs.

Table 6-1
Water Conservation Best Management Practices

A	Water Survey Programs for Single-Family Residential and Multifamily Residential Customers
B	Residential Plumbing Retrofit
C	System Water Audits, Leak Detection, and Repair
D	Metering with Commodity Rates
E	Large-Landscape-Conservation Programs and Incentives
F	High-Efficiency-Washing-Machine Rebate Programs
G	Public Information Programs ⁽¹⁾
H	School Education Programs ⁽¹⁾
I	Conservation Program for Commercial, Industrial, Institutional (CII) Accounts
J	Wholesale-Agency Assistance Programs ⁽¹⁾
K	Conservation Pricing ⁽¹⁾
L	Water Conservation Coordinator ⁽¹⁾
M	Water Waste Prohibition ⁽¹⁾
N	Residential ULFT Replacement Programs

Notes:

1. Economic benefits of these BMPs are considered non-quantifiable.

Documentation of DMMs

The goal of this subsection is to provide a comprehensive description of the City's water conservation programs that are currently being implemented and those planned to be implemented. General information on the effectiveness of the conservations measures to reduce demand and effect on the water use target is included. Specifically, this subsection includes the following information for each DMM:

- A comprehensive description of each DMM
- Description of activities, specific actions, and steps taken by the City to comply with the UWMP DMM requirements
- Implementation schedule
- Status of implementation for each DMM
- Description of the methods used to evaluate the effectiveness of DMM
- Description of marketing or advertising strategy
- Quantification (e.g., number of devices provided, washers rebated)
- Estimates of conservation savings and effects of the savings on the City's ability to further reduce demand
- Economic evaluation of DMMs that the City is not currently implementing

The implementation status for each DMM was assessed based on historical information and tracking of DMM activities undertaken by the City. The City intends to implement all

DMMs that are cost effective to the community. The DMM reports were used to assess whether the target implementation schedule, as defined by the Council, for each DMM is met. The City tracks the DMMs through several ongoing programs. These programs include:

- Residential Plumbing Retrofit Program (Planning and Building Division)
- Leak Detection Program (Water Division)
- Water Audits (Utility Billing Division)
- Work order tracking (Public Services Department)
- Water Billing (Utility Billing Division)
- Washing Machine Rebate Program (Planning and Building Division)
- Water Waste Prohibition (Code Enforcement Group)
- Toilet Retrofit Program (Planning and Building Division)

For the DMMs that are not implemented, where applicable, the following information is included:

- Economic and non-economic factors
- Environmental, social, health and technological factors
- Customer impact
- Legal authority
- Description of available funding available to implement any planned water supply project providing water at a higher unit cost
- Description of City's legal authority and ability to work with other agencies to implement the DMM

The City has taken a position to focus on the DMMs that are cost effective and are critical elements of water resources strategy. The City's efforts are geared towards improving outcomes from the conservation efforts rather than focusing on one type of DMM.

DMM A - Water Survey Programs

The City is not currently implementing this DMM as the City determined, using the economic analysis that this DMM is not cost effective. The economic analysis of this DMM is discussed in the Cost Benefit Analysis subsection below. The City will implement this DMM if it becomes cost effective in the future. To implement this DMM the City would need to provide resources and staffing to prepare and conduct residential water audits/surveys, tracking of implementation activities, calculations of water savings, and coordination with residential water users.

Since this DMM is not currently implemented, the evaluation takes into account the economic and noneconomic factors. The benefit cost analysis for DMM A along with a description of economic and legal considerations and cost share partners are included later in this section.

DMM B - Residential Plumbing Retrofit

The City has been implementing this DMM through the City's retrofit upon sale ordinance, which requires sellers of residential properties in the City to retrofit existing toilets, faucets, and showerheads with aerators and low flow equipment prior to sale. The City's retrofit upon sale ordinance is included in Appendix J. The City had historically allowed developers to offset the new water demand that will be generated by a proposed development, by retrofitting existing homes in the community that have not already been retrofitted. The City's Planning and Building Department oversees the inspection and implementation of this DMM implementation. This residential plumbing retrofit program consists of marketing, rebate program administration, tracking of rebates, and calculation of water savings. The City maintains a retrofit list with the customer names and addresses of retrofitted residences. Table 6-2 provides details of DMM B. Table 6-3 provides a summary of the residential plumbing retrofits conducted from 1992 through 2010 and planned retrofits from 2011 - 2015.

Table 6-2
Summary of Status of DMM B

Implementation Status	Fully implemented. The program was started in 1985. As of December 2010, approximately 83 percent of the City's residential addresses have been retrofitted with low flow equipment
Implementation Schedule	Table 6-2 summarizes the implementation of the Residential Plumbing Retrofit Program between 1992 and 2010, as well as the projected program implementation schedule in the future
Devices provided to customers	Retrofit existing toilets, faucets, and showerheads with aerators, and low flow equipment
Ordinance:	City's retrofit upon sale ordinance
Quantification	Table 6-2 includes the quantification of devices
Steps necessary to implement measures	Since its inception, the City's water conservation program mandated that developers provide water for new construction by funding retrofits of existing facilities to offset two times the developer's estimated water demand. The City developed a water equivalency program to quantify proposed water conservation measures and ensure that reduced water demands will offset water needed for new construction. In practice, retrofitting has generally been for the toilet replacement. Typically developers were required to fund 14 toilet retrofits for each proposed new residential service. The developer mandated toilet retrofit program ceased in 2001 since the City believes all willing toilet retrofit candidates have been funded and that the remaining candidates would not provide adequate water savings for the additional expense. A new voluntary ULFT rebate program has begun.
Method used to evaluate the effectiveness of this DMM	The City estimates the reductions in water use based on the residential plumbing retrofits. The evaluation is based on the effectiveness of devices such as toilets, aerators, and low flow showerheads.
Estimates of existing conservation savings	Water savings are estimated to be about 0.066536 ac-ft/yr for each residential plumbing retrofit from various devices such aerators and low flow showerheads. (see Table 6-3 for total water savings on annual basis). Water savings from toilet retrofits are estimated and reported under DMM N: Residential ULFT Replacement Program. and are not included in the estimate of water savings for this DMM. Water savings from showerhead retrofits are estimated based on 2.2 people per residence, 15 minutes shower change from 4 gpm to 2.2 gpm.

Table 6-3
Summary of Residential Plumbing Retrofits – Actual (1992 – 2010) and Planned (2011 – 2015)

Actual					
	1992-2006⁽¹⁾	2007	2008	2009	2010
# of Single Family Devices	225	12	9	38	33
# of Multi-Family Devices	60	6	3	5	5
Actual Water Savings (ac-ft/yr) ⁽²⁾	18.96	1.20	0.80	2.86	2.53
Planned					
	2011	2012	2013	2014	2015
# of Single Family Devices	20	20	20	20	20
# of Multi-Family Devices	5	5	5	5	5
Projected Water Savings (ac-ft/yr) ⁽²⁾	1.66	1.66	1.66	1.66	1.66

Notes:

1. The number of pre-1992 single family and multi-family accounts is estimated to be 3,324 and 320 respectively. There were 4,840 total residential accounts as of December 2010. The residential retrofit program has been 83 percent implemented as of December 2010.
2. Water savings are estimated to be about 0.066536 ac-ft/yr for each residential plumbing retrofit.

DMM C - System Water Audits, Leak Detection, and Repair

The City implements this DMM by conducting audits of water production and delivery records to determine any losses within the distribution/transmission system. By comparing the production amount and total deliveries to customers, an overall water balance is calculated to identify possible meter problems or to detect leaks. City staff actively determine the sources of water loss through the system and prioritize system repairs and replacements.

The City began implementing of DMM C in 2000. This DMM will continue to be implemented with an annual leak survey and a water system audit. The City has replaced a large number of older and leaking water pipes and has reduced the system water losses as shown in Table 3-12 (in Section 3). The last audit was performed in 2010. The City historically had high water losses resulting from pipeline leakage and unaccounted for use. The City's extensive pipeline replacement program has reduced pipeline losses. Unaccounted-for water includes system losses due to leaks, reservoir overflows, and inaccurate meters, as well as water used in operations, hydrant flushing, street sweeping, line breaks etc. For the period from 2005 through 2010, annual average losses ("unaccounted for water") is about 9 percent.

Table 6-4 provides the details of this DMM and Table 6-5 summarizes the historic implementation of the System Water Audits, Leak Detection, and Repair Programs between 2006 and 2010, as well as the projected program implementation between 2011 and 2015.

Table 6-4
Summary of Status of DMM C

Implementation Status	Fully implemented. The implementation of this DMM was started in 2000.
Implementation Schedule	Table 6-23 summarizes the implementation of this DMM from 2006 through 2010, as well as the projected program implementation schedule in the future.
Whether a water audit is performed to determine unaccounted-for water loss; year last audit performed	The City conducts water audits on an annual basis. Last audit was performed in 2010.
Percentage of unaccounted-for water	Table 6-5 contains the percentage of unaccounted for water
Does the City has an active leak detection program (as opposed to only fixing leaks when found)	The City has developed and implemented a program to determine the leaks in the distribution/transmission system.
Description of the leak detection program	The City conducts a leak detection survey on approximately 30 percent of its water distribution system annually. Each year the survey covers areas where leaks are thought to exist or where audits have not been conducted recently. The City also conducts water audits on individual meters routinely to highlight potential consumer side leaks. The City notifies the customer when a potential leak has been found during the audit process. The City also typically bills on a monthly basis to limit the amount of time that a metered leak may go unnoticed.
An estimate of water savings from repair of leaks	The amount of water saved with each audit indicates a reduction in loss due to effective management strategy. .In 2010 the estimated savings from leaks were found to be 1.2 ac-ft/yr.
Method used to evaluate the effectiveness of this DMM	The effectiveness of this DMM is being evaluated by calculating the reduction in water losses in the distribution system.
Estimates of existing conservation savings	Typical measured system losses should be less than 10 percent per year. An audit revealing higher uses will result in an investigation to determine the source of the loss if possible with a strategy to reduce them. Current estimated savings from this program are 2-3 percent of total water production.

Table 6-5
Summary of System Water Audits, Leak Detection, and Repairs

Actual	2006	2007	2008	2009	2010
% of Unaccounted Water ⁽¹⁾	9	14	12	9	<1
Miles of Mains Surveyed	16.5	No Record ⁽²⁾	No Record ⁽²⁾	20	20
Miles of Lines Repaired ⁽³⁾	As Needed	As Needed	As Needed	As Needed	As Needed
Actual Water Savings (ac-ft/yr)	varies	varies	varies	varies	varies
Planned					
	2011	2012	2013	2014	2015
% of Unaccounted Water ⁽¹⁾	2	4	5	7	8
Miles of Mains Surveyed	20	20	20	20	20
Miles of Lines Repaired ⁽³⁾	As Needed	As Needed	As Needed	As Needed	As Needed
Projected Water Savings (ac-ft/yr)	varies	varies	varies	varies	varies

Notes:

1. Total percentage of unaccounted water is shown. The City's Estimates for the system losses from leaks are 2-3 percent of total annual production.
 2. Water audit records for 2007 and 2008 are not available.
 3. Repairs are made when distribution system leaks are determined through system water audits or leak detection surveys.
- N/A = Not available

DMM D - Metering with Commodity Rates

The City has fully implemented this DMM. The City requires that all long-term and short-term water connections be metered.

**Table 6-6
Summary of Status of DMM D**

System fully metered	Yes
Residential meter installation or retrofit program Implementation Status	Fully implemented. The implementation of this DMM was started in 1964.
Implementation Schedule	All of the connections in Tables 3-5 through 3-9 in Section 3 of this plan are metered with commodity rates. Table 6-7 summarizes the historic implementation of metering with commodity rates between 2006 and 2010, as well as the projected program implementation between 2011 and 2015. Since this DMM was fully implemented prior to 2006, Table 6-7 is blank.
Number of connections in 2010 and number of unmetered connections	DMM was fully implemented since the City's incorporation in 1964.
Rate of meter retrofit for unmetered connections	All the City connections are currently metered
Expected year of completion to meet AB306	Not applicable
Number of connections billed by volume-of-use	All City's connections are billed by volume-of-use
Quantification of meters installed	Fully implemented. Total of 5,384 metered connections in 2010
Steps necessary to implement measure – marketing/method of tracking number of meters installed	Administration of water meter installations is conducted by the Utility Billi
Method used to evaluate the effectiveness of this DMM	Research studies conducted by the Urban Water Conservation Council.
Estimates of existing conservation savings	Water savings are estimated to be about 20 percent to 30 percent water savings overall from unmetered uses.

Table 6-7
Summary of Metering with Commodity Rates

Actual					
	2006	2007	2008	2009	2010
Number of unmetered accounts	0	0	0	0	0
Number of retrofit meters installed	0	0	0	0	0
# of accounts w/o commodity rates	0	0	0	0	0
Actual Water Savings (ac-ft/yr)	0	0	0	0	0
Planned					
	2011	2012	2013	2014	2015
Number of unmetered accounts	0	0	0	0	0
Number of retrofit meters installed	0	0	0	0	0
# of accounts w/o commodity rates	0	0	0	0	0
Projected Water Savings (ac-ft/yr)	0	0	0	0	0

Notes:

1. DMM has been fully implemented since the City's incorporation in 1964.

DMM E - Large Landscape Conservation Programs and Incentives

Currently, no large landscape conservation program exists; however, the City plans to implement a non-potable water program for irrigation of turf areas at the high school and Leila Keiser Park in 2011. Additionally, the golf course in the City, which is one of the largest landscaped areas in the service area, uses recycled water from the California Men's Colony for irrigation. The use of non-potable water for irrigation will reduce demands on the potable water system and should facilitate future reclamation implementation.

Since the City is proposing no new water sources, the cost for implementing this demand measure would greatly exceed the cost of implementing non-existent supply augmentation projects. Therefore, implementing a large landscape conservation program is not currently a cost-effective DMM for the City.

The benefit cost analysis for DMM E is discussed later in this section.

DMM F - High-efficiency Washing Machine Rebate Programs

This DMM is met through the City's ongoing washer rebate program. Each residential address in the City is eligible for a rebate for the replacement of a standard or high water use washing machine with an approved energy efficient unit. The City plans to continue this program as long as funds remain available. This program consists of marketing, rebate program administration, tracking of rebates, and calculation of water savings. Table 6-8 provides a status summary of DMM F. Table 6-9 summarizes the historic implementation of the High-efficiency Washing Machine Rebate Program between 2006 and 2010, as well as the projected program implementation between 2011 and 2015.

**Table 6-8
Summary of Status of DMM F**

Description of the high efficiency washing machine rebate program	The City offers a \$100 onetime rebate to each residential household that replaces a non energy efficient washing machine with a high efficiency washing machine.
Implementation Status	Coverage requirements are being met. The implementation of this DMM was started in 2001.
Implementation Schedule	In 2001, the City adopted an Energy Star washing machine rebate program that was added to the existing rebate program for ULFTs. Table 6-9 provides the implementation schedule
Whether City or any other agency provides rebates	City of Morro Bay
Quantification of rebates	Table 6-9 provides the quantification of rebates
Steps necessary to implement measure – marketing/targeting strategy for rebates; method of tracking rebates; Methods for calculating water savings after rebate	This program consists of marketing, rebate program administration, tracking of rebates, and calculation of water savings.
Method used to evaluate the effectiveness of this DMM	Estimate of water reduction due to lower water use washing machine on an annual basis.
Estimates of existing conservation savings	Water savings based on 10 gallons per load, 2.2 people per household, and 1.5 loads per person per week.

Table 6-9
Summary of High-efficiency Washing Machine Rebate Program

Actual					
	2006	2007	2008	2009	2010
\$ per Rebate	100	100	100	100	100
# of Rebates Paid	11	10	26	46	30
Actual Water Savings (ac-ft/yr) ⁽¹⁾	0.06	0.05	0.15	0.25	0.16
Planned					
	2011	2012	2013	2014	2015
\$ per Rebates	100	100	100	100	100
# of Rebates Paid	20	20	20	20	20
Projected Water Savings (ac-ft/yr) ⁽¹⁾	0.1	0.1	0.1	0.1	0.1

Notes:

1. Water savings based on 10 gallons per load, 2.2 people per household, and 1.5 loads per person per week.

DMM G - Public Information Programs

This DMM is fulfilled through the City's conservation outreach program. The City incorporates conservation minded articles routinely in its utility newsletters, public conservation notices, announcements at public meetings, television advertisements on the public access channel, and press releases. A recent City of Morro Bay Utility Newsletter is included in Appendix K. Current newflashes and public notices can be found on the City's website at www.morro-bay.ca.us. The implementation of this DMM consists of administering public advertising/notices, tracking program implementation, and participating with the San Luis Obispo Partners in Water Conservation group.

Table 6-10 provides a status summary of DMM G. Table 6-11 summarizes the public information program between 2006 and 2010, as well as the projected program implementation between 2011 and 2015. The benefits of this DMM are considered non-quantifiable.

Table 6-10
Summary of Status of DMM G

Implementation Status	Coverage requirements are being met. The implementation of this DMM was started in 2001.
Implementation Schedule	Table 6-11 provides the implementation schedule
Description of publications, venues, demonstration garden, other public information programs	<p>The City began preparing brochures which address drought resistant landscaping in 2001 and continues to make is information available to the public. These brochures are available upon request at the Public Services counter. In addition to the generally available information at the counter the City prepares water bill inserts and direct mailings on a semi-regular basis to inform the public about water issues.</p> <p>In addition the City provides water conservation tips and resources on the City's website, distribution of water conservation kits, and support through the San Luis Obispo Partners in Water Conservation Group.</p>
Steps necessary to implement measure – method for publicizing public information activities	Preparation of utility newsletters, preparation of bill inserts, website maintenance and updating,
Whether attendance to public activities is tracked	The City does not track attendance at public activities.

DMM H - School Education Programs

This DMM is not currently being implemented by the City. The City does not have the legal authority to administer curriculum within the educational school system. The Morro Bay School District has State mandated educational curriculum it must provide to its students. The school district has informed the City it does not have available class time to add additional coursework at this time. As the City does not have the legal authority to fully implement the DMM, the City continues to find alternate ways to disseminate the message for this DMM. The strategy includes providing water conservation materials to the local schools and at the Morro Bay Community Library, and continuing to administer public information programs covered by DMM G. The City's overall goal is to implement this measure in the near future.

To implement this DMM the City would need legal authority to administer the program, provide resources and staffing to cover coordination of an educational program, develop educational materials, and perform implementation tracking. Due to the lack of legal authority for implementation of this DMM, the City is focusing on educating water users using different platforms, e.g. the public information program which educates young water users of water conservation tips and descriptions of water saving BMPs. It's anticipated that the measures taken in DMM G will achieve the goals of this DMM as well. The benefits of this DMM are considered non-quantifiable.

Table 6-11
Summary of Public Information Program

Actual					
	2006	2007	2008	2009	2010
a. Paid advertising ⁽¹⁾	No	No	Yes	Yes	Yes
b. Public Service announcement ⁽²⁾	No	Yes	Yes	Yes	Yes
c. Bill Inserts/Newsletters/Brochures ⁽²⁾	Yes	Yes	Yes	Yes	Yes
d. Bill comparing previous water usage	No	No	No	No	Yes
e. Demonstration Gardens	No	No	No	No	No
f. Special Events, Media Events	No	No	No	No	No
g. Speaker's Bureau	No	No	No	No	No
h. Program to coordinate with other govt ⁽³⁾	No	No	Yes	Yes	Yes
Planned					
	2011	2012	2013	2014	2015
a. Paid advertising ⁽¹⁾	Yes	Yes	Yes	Yes	Yes
b. Public Service announcement ⁽²⁾	Yes	Yes	Yes	Yes	Yes
c. Bill Inserts/Newsletters/Brochures ⁽²⁾	Yes	Yes	Yes	Yes	Yes
d. Bill comparing previous water usage	Yes	Yes	Yes	Yes	Yes
e. Demonstration Gardens	No	No	No	No	No
f. Special Events, Media Events	No	No	No	No	No
g. Speaker's Bureau	No	No	No	No	No
h. Program to coordinate with other govt ⁽³⁾	Yes	Yes	Yes	Yes	Yes

Notes:

1. Water conservation articles in newsletters, bill inserts, and advertisements on the local public access channel, the City has partnered with other local agencies to deliver a regional waterwise gardening website for San Luis Obispo County.
2. Public service announcements are made through the public postings, the City's website, and email notifications.
3. The City coordinates with other government agencies to conduct multi-agency programs to leverage agency resources through the San Luis Obispo Partners in Water Conservation Group.

DMM I - Conservation Programs for Commercial, Industrial, and Institutional (CII)

The City is not currently implementing this DMM. Because of the limited number of commercial, industrial, and institutional accounts and high water rates, the City has determined that developing a conservation program for non-residential accounts is not a cost-effective approach to demand management at this time.

The benefit cost analysis for DMM I along with a description of economic and legal considerations and cost share partners are included later in this section.

The City will implement this DMM if it becomes cost effective in the future. To implement this DMM the City would need to provide resources and staffing to cover CII conservation programs, implementation tracking, calculations of water savings, and coordination with CII users.

DMM J - Wholesale Agency Program

The City of Morro Bay is not a wholesale water agency and therefore this DMM is not applicable.

DMM K - Conservation Pricing

DMM K is fully implemented. Water meters are used to determine volumetric water use and customers are billed in accordance with the City's established water rate structure, which is attached in Appendix L. Table 6-12 provides a status summary of DMM K.

The City has an increasing tier rate schedule (higher unit cost with increased consumption) which, combined with information explaining the rate structure, encourages water conservation. A summary of the City's water rate structures is provided in Table 6-13.

Table 6-12
Summary of Status of DMM K

Implementation Status	Coverage requirements are being met.
Implementation Schedule	Implementation of this DMM started in 1995.
Identification of water rate structure for each sector and effective date of rate	Progressively tiered water rate structure attached in Appendix L. Enacted in 1995.
Steps necessary to implement measure – conservation pricing etc.	Establish and monitor rate structure, maintain and read meters, conduct water billing based on rate structure.
Method used to evaluate the effectiveness of this DMM	It is difficult to quantify the water savings associated with this DMM. The City did notice a reduction in per capita water usage due to the implementation of conservation pricing.
Estimates of existing conservation savings on water use	The benefits of this DMM are considered non-quantifiable. The exact amount of water savings from this DMM cannot be separated from the effects of other implemented DMMs over the same time period.

Table 6-13
Summary of Status of DMM K

Residential			
Water rate structure	Progressive	Sewer rate structure	Fixed/Variable
Year rate effective	1995	Year rate effective	2008
Commercial			
Water rate structure	Progressive	Sewer rate structure	Fixed/Variable
Year rate effective	1995	Year rate effective	2008
Industrial			
Water rate structure	Progressive	Sewer rate structure	Fixed/Variable
Year rate effective	1995	Year rate effective	2008
Institutional/Government			
Water rate structure	Progressive	Sewer rate structure	Fixed/Variable
Year rate effective	1995	Year rate effective	2008
Irrigation			
Water rate structure	Progressive		
Year rate effective	1995		
Other			
Water rate structure	Progressive	Sewer rate structure	Fixed/Variable
Year rate effective	1995	Year rate effective	2008

DMM L - Water Conservation Coordinator

The implementation of this DMM started in early 1990s after the City started conservation efforts. The City's resources did not hire a full-time Water Conservation Coordinator due to limited resources. However, the City has taken an approach of fulfilling the need for this DMM by utilizing the resources to continue the conservation efforts through the staffing in the City's Public Services Department. The City has designated the Public Services Director as the acting Water Conservation Coordinator. A significant portion of the Public Services Director's time and job duties include administrating the water conservation program for the City. Other tasks include conservation program planning, implementation, evaluation, coordination with stakeholders, tracking of conservation ordinances and integrating them into the program, development of materials for outreach, public events, and other forms of communications with the public, DMM implementation and tracking, enforcement of water waste ordinance, management of water conservation stages, public notification and outreach, and other water conservation related activities as needed. Additional staff members in the department assist the Director in these duties. In 2010, these supporting positions included the Utilities/Capital Projects Manager, Assistant Engineer, Utilities/Administrative Technician, Building Inspector, Engineering Tech III, Engineering Intern, and Permit Technician.

Table 6-14
Summary of Status of DMM L

Implementation Status/year program implemented	Implementation started in 1990
The number of full time and part time staff that perform conservation coordinator activities	The City has 8 full time employees that work part-time on conservation coordination activities in 2010. These positions are summarized earlier in this section.
The responsibilities of the staff and activities performed	Coordination of water conservation programs, conservation program planning, implementation, evaluation, coordination with stakeholders, tracking of conservation ordinances and integrating them into the program, development of materials for outreach, public events, and other forms of communications with the public, DMM implementation and tracking, enforcement of water waste ordinance, management of water conservation stages, public notification and outreach, and other water conservation related activities as needed.
The approximate number of hours spent on conservation activities	City staff members are assigned to this work as need to administer the City's various water conservation tasks. These hours are not tracked independently from other tasks.
Description of events in which the conservation coordinator participates.	Programs and events organized through the participation with the San Luis Obispo Partners in Water Conservation Group are attended by City staff when available.
Steps necessary to implement measure	Provide staffing and other resources to cover the program responsibilities listed above.
Method used to evaluate the effectiveness of this DMM	The benefits achieved through all other DMMs are reflective of the outcome of this DMM.
Estimates of existing conservation savings on water use	The benefits of this DMM are considered non-quantifiable. The exact amount of water savings from this DMM cannot be separated from the effects of other implemented DMMs over the same time period.

Table 6-15
Summary of Water Conservation Coordinator Positions

Actual					
	2006	2007	2008	2009	2010
Number of full-time positions	0	0	0	0	0
Number of full/part time positions ⁽¹⁾	7	9	9	9	8
Planned					
	2011	2012	2013	2014	2015
Number of full-time positions	0	0	0	0	0
Number of full/part time positions ⁽¹⁾	7	8	8	8	8

Notes:

1. Number of full-time staff that conduct conservation coordination activities part-time as needed and as available.

DMM M - Water Waste Prohibition

The City restricts nuisance and wasteful water use through its municipal code and storm water ordinance (Appendix M). During severe water supply shortages the City strictly enforces these regulations using a complaint-based approach to preserve water. This program is implemented through two processes. The code enforcement process and the Water Division work order process. If a code enforcement complaint is received it is logged and investigated. The Public Services Director has the ability after providing written warning to terminate water service per section 13.04.330 of the Morro Bay Municipal Code. If a complaint is received directly by the Water Division a work order is issued. Water Division staff then investigate the issue. This occurs on average several times per year. In the case of an actual water waste incident, the case would be forwarded on to code enforcement. Termination of water service with a fee to subsequently reinstate the service is the sole remedy outlined in the code for violating the water conservation provisions.

Regulations of water use during normal supply conditions include:

1. Spring-loaded shut-off nozzles are required for outdoor water use.
2. Outdoor irrigation resulting in excessive runoff is prohibited.
3. Water may be used as needed for washing and cleaning paved surfaces.
4. Water is supplied to customers at restaurants only upon request.

Table 6-16
Summary of Status of DMM M

Implementation Status/year program implemented	Coverage requirements are being met.
Implementation Schedule	Fully implemented
Does your agency have a water waste prohibition	Yes, included in Appendix M. Implemented through municipal code and storm water ordinance.
Whether this water waste prohibition is enforced at all times or only during water shortage	The City implements stricter water waste usage regulations during periods of reduced water supply. These restrictions are stated in the City's Municipal Code Section 13.04.345 - Mandatory Water Conservation Requirements, included in Appendix M.
Provide a list of the prohibited water uses	Included in Appendix M
Provide a copy of the ordinance	See Appendix M
Steps necessary to implement measure – targeting strategy for water waster, methods for receiving information regarding water waste (e.g. phone line, website, etc), methods for tracking numbers of warnings issued, methods for follow-up to warnings to assure compliance	The City implements this program through complaint tracking, enforcement, follow-up site visits, and compliance tracking.
Method used to evaluate the effectiveness of this DMM	It is difficult to quantify the water savings associated with this DMM.
Estimates of existing conservation savings on water use	Estimates of water saves are not currently available for this DMM. The exact amount of water savings from this DMM cannot be separated from the effects of other implemented DMMs over the same time period.

Table 6-17
Summary of Water Waste Prohibition

Actual					
	2006	2007	2008	2009	2010
Water Waste Ordinance in Effect	Yes	Yes	Yes	Yes	Yes
Estimated Number of Onsite visits	2	2	3	2	2
Planned					
	2011	2012	2013	2014	2015
Water Waste Ordinance in Effect	Yes	Yes	Yes	Yes	Yes
Estimated Number of Onsite visits	3	2	2	2	2

DMM N - Residential Ultra-Low-Flush Toilet Replacement Programs

This rebate program started as an incentive to replace existing standard flush toilets with low-flush toilets in single and multi-family residences. This program was later updated to require the replacement of standard flush toilets with ULFT. When the new ULFT technology was available the City updated the rebate program to cover replacement of standard flush toilets with ULFTs. The minimal water savings to extend the toilet retrofit program to cover replacement of low-flush toilets with ULFTs did not justify the expansion of this program to cover the replacement of low-flush toilets with ULFTs. Table 6-17 summarizes the implementation status of this DMM which is implemented in conjunction with the residential plumbing retrofit program. Table 6-18 summarizes the historical and projected combined low-flow toilet and ULFT rebates between 2006 and 2015

Table 6-18
Summary of Status of DMM N

Implementation Status	Fully Implemented.
Implementation Schedule	The low flush toilet program has been implemented since 1985. The ultra-low flush toilet program has been implemented since 2001.
Devices provided to customers	Retrofit existing toilets, faucets, and showerheads with aerators, and low flow equipment
Ordinance:	City's retrofit upon sale ordinance
Quantification	Table 6-19 includes the quantification of devices
Steps necessary to implement measures	Since its inception, the City's water conservation program mandated that developers provide water for new construction by funding retrofits of existing facilities to offset two times the developer's estimated water demand. The City developed a water equivalency program to quantify proposed water conservation measures and ensure that reduced water demands will offset water needed for new construction. In practice, retrofitting has generally been for the toilet replacement. Typically developers were required to fund 14 toilet retrofits for each proposed new residential service. The developer mandated toilet retrofit program ceased in 2001 since the City believes all willing toilet retrofit candidates have been funded and that the remaining candidates would not provide adequate water savings for the additional expense. A voluntary ULFT rebate program has begun.
Method used to evaluate the effectiveness of this DMM	The City estimated the water savings to be about 0.01468 ac-ft/year for each residential plumbing retrofit. This estimate includes savings from various water saving devices such as toilets, aerators, and low flow showerheads.
Estimates of existing conservation savings	Water savings are estimated to be about 0.01468 ac-ft/yr for each ULFT retrofit, The estimate for ULFT is based on 2.2 people per residence, 44 flushes per person per day and a reduction of 1.5 gallons per flush (replacement of a 3 gallons per flush toilet with 1.5 gallons per flush). This water savings accounts for a portion of the total water savings of the Residential Plumbing Retrofit Program.

Table 6-19
Summary of ULFT Rebate Program

Rebates disbursed (2006-2010)					
Actual	2006	2007	2008	2009	2010
Number of ULF rebates	18	18	12	43	38
Estimated water savings (ac-ft/yr)	0.26	0.26	0.18	0.63	0.56
Rebates to be disbursed (2011-2015)					
Planned	2011	2012	2013	2014	2015
Number of ULF rebates	18	18	18	18	18
Projected water savings (ac-ft/yr)	0.26	0.26	0.26	0.26	0.26

Note:
 ULF = ultra low flush

Cost Benefit Analysis

An economic analysis, including a benefit-cost analysis, was completed for the quantifiable DMMs that are not currently implemented (DMMs A, E, and I). The benefit-cost analysis was completed with consideration of all economic factors. Non-economic factors, including environmental, social, health, and new technology, are not believed to be quantifiable and were not considered in the analysis.

The basis and assumptions used in the economic analysis of each DMM are included in Table 6-20. Common assumptions for all DMMs are a real discount rate of 6.0 percent and a value of conserved water of \$120 per ac-ft. The value of conserved water provided by the City is estimated based on the cost incurred for the next increment of developed water. The real discount rate is based on the DWR's economics guidelines. Other assumptions with supporting references are described in Table 6-21.

Table 6-20
Summary of DMM General Assumptions used for the Economic Analysis

Source:	
City of Morro Bay	
Common Assumptions Across DMMs:	
Value of Conserved Water (incremental cost of a developed ac-ft of water)	\$120
This estimate includes incremental acquisition (groundwater pumping), treatment, distribution, and wastewater costs for an ac-ft of developed water. The \$120 is composed of \$74 of energy costs (assumed for pumping, treatment and distribution), \$1 of treatment costs (chemicals), and \$45 of wastewater treatment costs.	
Real Discount Rate	6.0%
Six percent based on the City's cost of borrowing. This is consistent with the DWR. http://www.water.ca.gov/economics/guidance.cfm	

The economic analysis was performed using a spreadsheet program developed by the Council. A separate, customized worksheet for each DMM is presented in Tables 6-22, 6-23, and 6-24 for DMM A, E, and I, respectively. Each DMM's economic analysis spreadsheet projects on an annual basis the number of interventions and the dollar values of the benefits and costs that would result from fully implementing a particular DMM. The definition of terms and formulas that are common to all worksheets are presented in Table 6-25.

Table 6-26 summarizes the results of the economic analysis. The table presents the total discounted costs and benefits, the benefit-cost ratio, the simple pay-back period, the discounted cost per ac-ft of water saved, and the net present value (NPV) per ac-ft of water saved for each DMM.

The economic analysis shows that these three DMMs yield benefit-cost ratios less than one, which indicates that the costs of conservation are in excess of the benefits from implementation of these conservation measures.

Table 6-21
Summary of DMM Specific Assumptions

DMM A: Water Survey Programs for Single-family Residential and Multifamily Residential Customers	
Single-family survey water savings (gpd/unit)	3.39
Multi-family survey water savings (gpd/unit)	6.78
Annual savings decay	25%
Annual single-family surveys	150
Annual multifamily surveys	20
Single-family customer expenditures per survey	\$20
Multifamily customer expenditures per survey	\$40
Total customer benefit per ac-ft (energy savings)	\$1,067
Annual program costs	\$17,190
DMM E(a): Large Landscape Conservation Programs and Incentives	
Average acres per survey	2
Average water use per acre (ac-ft)	0.5
Annual water savings	20%
Annual number of large landscape surveys	8
Annual savings decay	5%
Customer participation costs (per survey)	\$550
Annual program costs	\$3,110
DMM E(b): Large Landscape Conservation Programs and Incentives	
Number of CII sites with dedicated irrigation meters	42
Total budgets implemented for CII sites with dedicated irrigation meters	38
Average annual water use of CII sites with dedicated irrigation meters (ac-ft)	13
Average annual water use per site (ac-ft)	0.31
Percent annual reduction per site	20%
Annual water savings per site (ac-ft)	0.06
Customer participation costs (per site)	\$3,000
Initial program setup costs (first year of program only)	\$60,000
Annual program costs (first 4 years of program only)	\$6,836
Budget development costs per site	\$175
Per site follow-up cost (10 percent of sites per year)	\$125
Implementation year	2013
DMM I: Conservation Programs for Commercial, Industrial, and Institutional (CII) Accounts	
Average savings per survey (ac-ft)	0.02
Annual number of large landscape surveys	5
Annual savings decay	5%
Customer benefit per survey per year (energy savings)	\$1
Customer participation costs (per survey)	\$1,500
Annual program costs	\$3,609

gpd = gallon(s) per day

Table 6-22
DMM A Analysis: Water Survey Programs for Single-family Residential and Multifamily Residential Customers

Calendar Year	Water Saving Calculations				Benefits				Costs				NPV
	Single Family Surveys	Multi Family Surveys	Single Family Water Savings (ac-ft/Yr)	Multi Family Water Savings (ac-ft/Yr)	Avoided Agency Capital Costs	Avoided Agency Variable Costs	Avoided Customer Energy Costs	Total Discounted Benefits	Agency Capital Costs	Agency Operating Expenses	Customer Participation Costs	Total Discounted Costs	
2010													
2011	150	20	0.57	0.15	0	87	769	808	0	17,190	3,800	19,802	-18,995
2012	150	20	1.00	0.27	0	152	1,347	1,333	0	17,190	3,800	18,681	-17,348
2013	150	20	1.32	0.35	0	200	1,779	1,662	0	17,190	3,800	17,624	-15,962
2014	150	20	1.56	0.42	0	237	2,104	1,854	0	17,190	3,800	16,626	-14,772
2015	150	20	1.74	0.46	0	264	2,347	1,952	0	17,190	3,800	15,685	-13,734
2016	150	20	1.87	0.50	0	285	2,530	1,984	0	17,190	3,800	14,797	-12,813
2017	150	20	1.97	0.53	0	300	2,667	1,973	0	17,190	3,800	13,960	-11,986
2018	150	20	2.05	0.55	0	312	2,770	1,933	0	17,190	3,800	13,170	-11,236
2019	150	20	2.11	0.56	0	321	2,847	1,875	0	17,190	3,800	12,424	-10,549
2020	150	20	2.15	0.57	0	327	2,904	1,805	0	17,190	3,800	11,721	-9,916
2021	150	20	2.18	0.58	0	332	2,948	1,728	0	17,190	3,800	11,057	-9,330
2022	150	20	2.21	0.59	0	336	2,980	1,648	0	17,190	3,800	10,432	-8,784
2023	150	20	2.22	0.59	0	339	3,005	1,567	0	17,190	3,800	9,841	-8,274
2024	150	20	2.24	0.60	0	341	3,023	1,488	0	17,190	3,800	9,284	-7,796
2025	150	20	2.25	0.60	0	342	3,037	1,410	0	17,190	3,800	8,759	-7,349
2026	150	20	2.26	0.60	0	343	3,047	1,335	0	17,190	3,800	8,263	-6,928
2027	150	20	2.26	0.60	0	344	3,055	1,262	0	17,190	3,800	7,795	-6,533
2028	150	20	2.27	0.60	0	345	3,060	1,193	0	17,190	3,800	7,354	-6,161
2029	150	20	2.27	0.60	0	345	3,065	1,127	0	17,190	3,800	6,938	-5,811
2030	150	20	2.27	0.61	0	346	3,068	1,064	0	17,190	3,800	6,545	-5,481
Totals:	3,000	400	38.75	10.33	\$0	\$5,898	\$52,351	\$31,002	\$0	\$343,808	\$76,000	\$240,758	-\$209,756
												Benefit Cost Ratio:	0.13
												Simple Pay-Back Period (years):	155
												Discounted Cost / Water Saved (\$/ac-ft):	\$4,905
												NPV / Water Saved (\$/ac-ft):	-\$4,274

Table 6-23
Analysis of DMM E(a): Large Landscape Conservation Programs and Incentives

Calendar Year	Water Saving Calculations		Benefits			Costs				Net Present Value
	Number of Large Landscape Surveys	Water savings (ac-ft/yr)	Avoided Agency Capital Costs	Avoided Agency Variable Costs	Total Discounted Benefits	Agency Capital Costs	Agency Operating Expenses	Customer Participation Costs	Total Discounted Costs	
2010										
2011	8	1.60	0	192	181	0	3,110	4,400	7,085	-6,904
2012	8	3.12	0	375	334	0	3,110	4,400	6,684	-6,350
2013	8	4.56	0	548	460	0	3,110	4,400	6,306	-5,845
2014	8	5.94	0	713	565	0	3,110	4,400	5,949	-5,384
2015	8	7.24	0	870	650	0	3,110	4,400	5,612	-4,962
2016	8	8.48	0	1,019	718	0	3,110	4,400	5,294	-4,576
2017	8	9.65	0	1,160	771	0	3,110	4,400	4,995	-4,223
2018	8	10.77	0	1,294	812	0	3,110	4,400	4,712	-3,900
2019	8	11.83	0	1,422	842	0	3,110	4,400	4,445	-3,604
2020	8	12.84	0	1,543	862	0	3,110	4,400	4,194	-3,332
2021	8	13.80	0	1,658	873	0	3,110	4,400	3,956	-3,083
2022	8	14.71	0	1,768	878	0	3,110	4,400	3,732	-2,854
2023	8	15.57	0	1,871	877	0	3,110	4,400	3,521	-2,644
2024	8	16.39	0	1,970	871	0	3,110	4,400	3,322	-2,450
2025	8	17.17	0	2,064	861	0	3,110	4,400	3,134	-2,273
2026	8	17.92	0	2,153	848	0	3,110	4,400	2,956	-2,109
2027	8	18.62	0	2,238	831	0	3,110	4,400	2,789	-1,958
2028	8	19.29	0	2,318	812	0	3,110	4,400	2,631	-1,819
2029	8	19.92	0	2,394	791	0	3,110	4,400	2,482	-1,691
2030	8	20.53	0	2,467	769	0	3,110	4,400	2,342	-1,573
Totals:	160	250.0	\$0	\$30,038	\$14,608	\$0	\$62,204	\$88,000	\$86,141	-\$71,533
Benefit Cost Ratio: 0.17										
Simple Pay-Back Period (years): 118										
Discounted Cost / Water Saved (\$/ac-ft): \$345										
NPV / Water Saved (\$/ac-ft): -\$286										

Table 6-24
Analysis of DMM E(b): Large Landscape Conservation Programs and Incentives

Calendar Year	Water Saving Calculations			Benefits			Costs				
	CII Accounts with Developed Budgets	CII Accounts with Active Budgets	Water savings (ac-ft/yr)	Avoided Agency Capital Costs	Avoided Agency Variable Costs	Total Discounted Benefits	Agency Capital Costs	Agency Operating Expenses	Customer Participation Costs	Total Discounted Costs	NPV
2010											
2011	0	0	0.00	0	0	0	0	0	0	0	0
2012	0	0	0.00	0	0	0	0	0	0	0	0
2013	9	0	0.00	0	0	0	0	68,411	27,000	80,109	-80,109
2014	9	9	0.56	0	67	53	0	8,524	27,000	28,138	-28,085
2015	9	18	1.11	0	134	100	0	8,636	27,000	26,629	-26,529
2016	11	27	1.67	0	201	142	0	9,099	33,000	29,678	-29,536
2017	0	38	2.35	0	283	188	0	475	0	316	-128
2018	0	38	2.35	0	283	177	0	475	0	298	-121
2019	0	38	2.35	0	283	167	0	475	0	281	-114
2020	0	38	2.35	0	283	158	0	475	0	265	-107
2021	0	38	2.35	0	283	149	0	475	0	250	-101
2022	0	38	2.35	0	283	140	0	475	0	236	-96
2023	0	38	2.35	0	283	133	0	475	0	223	-90
2024	0	38	2.35	0	283	125	0	475	0	210	-85
2025	0	38	2.35	0	283	118	0	475	0	198	-80
2026	0	38	2.35	0	283	111	0	475	0	187	-76
2027	0	38	2.35	0	283	105	0	475	0	176	-71
2028	0	38	2.35	0	283	99	0	475	0	166	-67
2029	0	38	2.35	0	283	93	0	475	0	157	-64
2030	0	38	2.35	0	283	88	0	475	0	148	-60
Totals:	38		36	\$0	\$4,359	\$2,147	\$0	\$101,320	\$114,000	\$167,667	-\$165,520
Benefit Cost Ratio: 0.01 Simple Pay-Back Period (years): 1,562 Discounted Cost / Water Saved (\$/ac-ft): \$4,622 NPV / Water Saved (\$/ac-ft): -\$4,563											

Table 6-25
Analysis of DMM I: Conservation Programs for Commercial, Industrial, and Institutional (CII) Accounts

Calendar Year	Number of CII Surveys	Water Savings (ac-ft/yr)	Benefits				Costs				NPV
			Avoided Agency Capital Costs	Avoided Agency Variable Costs	Avoided Customer Energy Costs	Total Discounted Benefits	Agency Capital Costs	Agency Operating Expenses	Customer Participation Costs	Total Discounted Costs	
2010											
2011	5	0.10	0	12	4	15	0	3,609	7,500	10,480	-10,465
2012	5	0.20	0	23	4	24	0	3,609	7,500	9,887	-9,863
2013	5	0.29	0	34	4	32	0	3,609	7,500	9,327	-9,295
2014	5	0.37	0	45	4	38	0	3,609	7,500	8,799	-8,761
2015	5	0.45	0	54	4	43	0	3,609	7,500	8,301	-8,258
2016	5	0.53	0	64	4	47	0	3,609	7,500	7,831	-7,784
2017	5	0.60	0	73	4	51	0	3,609	7,500	7,388	-7,337
2018	5	0.67	0	81	4	53	0	3,609	7,500	6,970	-6,917
2019	5	0.74	0	89	4	55	0	3,609	7,500	6,575	-6,520
2020	5	0.80	0	96	4	56	0	3,609	7,500	6,203	-6,147
2021	5	0.86	0	104	4	56	0	3,609	7,500	5,852	-5,795
2022	5	0.92	0	110	4	57	0	3,609	7,500	5,521	-5,464
2023	5	0.97	0	117	4	57	0	3,609	7,500	5,208	-5,152
2024	5	1.02	0	123	4	56	0	3,609	7,500	4,913	-4,857
2025	5	1.07	0	129	4	55	0	3,609	7,500	4,635	-4,580
2026	5	1.12	0	135	4	54	0	3,609	7,500	4,373	-4,318
2027	5	1.16	0	140	4	53	0	3,609	7,500	4,125	-4,072
2028	5	1.21	0	145	4	52	0	3,609	7,500	3,892	-3,840
2029	5	1.25	0	150	4	51	0	3,609	7,500	3,672	-3,621
2030	5	1.28	0	154	4	49	0	3,609	7,500	3,464	-3,415
Totals	100	15.62	\$0	\$1,877	\$71	\$954	\$0	\$72,172	\$150,000	\$127,415	-\$126,461
										Benefit cost ratio =	0.01
										Simple pay-back period (years) =	2.672
										Discounted Cost / Water Saved (\$/ac-ft):	\$8,156
										NPV / Water Saved (\$/ac-ft):	-\$8,095

Table 6-26
Definitions of Terms Used in the Economic Analysis

Term	Definition	Comments
Benefits:		
Avoided Capital Costs	Capital costs that are avoided by implementing the BMP	Example is the cost of a well that would not have to be installed due to implementation of the BMP.
Avoided Variable Costs	Variable costs that are avoided by implementing the BMP.	Example is the cost of electricity that would be saved if the BMP were implemented.
Avoided Purchase Costs	Purchase costs that are avoided by implementing the BMP.	Example is the cost of purchasing water that would not be required due to implementation of the BMP.
Total Undiscounted Benefits	The sum of avoided capital, variable, and purchase costs.	
Total Discounted Benefits	The present value of the sum of avoided capital, variable, and purchase costs.	The discount rate is used to calculate the present value of avoided costs.
Costs:		
Capital Costs	Capital costs incurred by implementing the BMP.	
Financial Incentives	Financial incentives paid to customers.	Example is the rebate for purchasing low-flow plumbing devices.
Operating Expenses	Operating expenses incurred implementing the BMP.	Example is the administrative cost of conducting surveys.
Total Undiscounted Costs	The sum of capital, financial incentives and operating expenses.	
Total Discounted Costs	The present value of the sum of capital, financial incentives and operating expenses.	The discount rate is used to calculate the present value of incurred costs.
Results:		
NPV	Total discounted benefits minus total discounted costs.	A value greater than zero indicates an economically justifiable BMP.
Benefit/Cost Ratio	The sum of the total discounted benefits divided by the sum of the total discounted costs.	A ratio greater than one indicates an economically justifiable BMP.
Simple Pay-Back Period	The sum of the total discounted costs divided by the average annual total discounted benefits.	Indicates the number of years required for the benefits to pay back the costs of the BMP.
Discounted Cost/Water Saved	The sum of the total discounted costs divided by the total ac-ft of water saved over the study period.	Indicates the present-value cost to save one acre-foot of water. A low value is considered economically attractive.
NPV/Water Saved	The sum of the NPV divided by the total ac-ft of water saved over the study period.	Indicates the net value of saving one acre-foot of water. A high value is considered economically attractive.

Table 6-27
Results of Economic Analysis for BMPs Currently not Meeting Coverage Requirements

BMP Description	Total Discounted Cost ⁽¹⁾	Total Discounted Benefits ⁽²⁾	Total Water Saved (ac-ft) ⁽³⁾	Benefit/Cost Ratio ⁽⁴⁾	Simple Payback Analysis (years) ⁽⁵⁾	Discounted Cost / Water Saved (\$/c-ft) ⁽⁶⁾	NPV / Water Saved (\$/ac-ft) ⁽⁷⁾
A Water Survey Programs for Single-family Residential and Multifamily Residential Customers	\$240,758	\$31,002	49	0.13	155	\$4,905	-\$4,274
E Large Landscape Conservation Programs and Incentives	\$253,808	\$16,755	286	0.07	303	\$887	-\$828
I Conservation Programs for Commercial, Industrial, and Institutional (CII) Accounts	\$127,415	\$954	16	0.01	2,672	\$8,156	-\$8,095

Notes:

1. Present value of the sum of financial incentives and operating expenses - using discount rate of 6.0 percent.
2. Present value of the sum of avoided purchased water costs - using discount rate of 6.0 percent.
3. Achieved water savings for the implemented DMM.
4. Total discounted benefits divided by total discounted costs.
5. Time horizon in years required for benefits to pay back costs of the DMM.
6. Total discounted costs divided by total water saved.
7. Total discounted benefits less discounted costs divided by total water saved.

Recommended Conservation Program

The results of the economic analysis show DMMs A, E, and I yielding benefit-cost ratios less than one, which indicates that the costs of conservation are in excess of the benefits and implementation of these conservation measures is not cost effective. Water purveyors are not required to implement DMMs that are not cost beneficial. Therefore, the City is not required to continue implementation of these DMMs.

When implementing water conservation programs, the City is subject to economic and legal constraints that need to be considered as they may affect the cost effectiveness of each DMM.

Economic Considerations

The cost of water is an important economic factor that needs to be considered when implementing conservation programs. Higher cost of water increases the economic viability of DMM implementation. Currently, there are no water projects planned in the City that would result in higher unit costs of water, thus increasing the economic feasibility of water conservation measures.

Legal Considerations

The City has the legal authority to implement cost beneficial DMMs in its capital/operating budget. When developing programs that advance water conservation, the City can offer financial incentives, information or educational programs in its service area and has legal authority to enforce urban codes or plumbing codes for new or existing connections that pertain to implementation of efficient devices, or reduction of water use.

The only DMM that may not be able to be implemented by the City is the School Education Program. The City will continue to explore the possibilities for the implementation of this BMP.

Cost Share Partners

The City partners with other agencies that support conservation programs to expand the breadth of offered programs. Joint participation offers opportunity for cost sharing and development of more effective conservation strategies. The San Luis Obispo Partners in Water Conservation is a joint group of water purveyors that focus on developing conservation programs and incentives regionally, and discuss individual efforts of its members. The partnership also leverages voluntary money from its members to support regional conservation programs and awareness. The City is an active member of this group.

To avoid placing a disproportionate burden on any customer sector, the City has actively been pursuing outside sources of funding to complement the City's resources. As an example, the City pursued various grant funding opportunities over the last 5 years to reduce costs to its rate paying public.

Section 7. References

Boyle Engineering. 1999. *Community Development Block Grant (CDBG) Wastewater Reclamation Feasibility Study, Phase 2.*

U.S. Census Bureau. 2010. *American FactFinder Population Finder.*
<http://factfinder.census.gov>.

U.S. Census Bureau. 2006. *American FactFinder Population Finder McCall City, Idaho.*

Department of Water Resources (DWR). 2008. California Department of Water Resources. *Urban Drought Guidebook 2008 Updated Edition.*

Department of Water Resources (DWR). 2009. California Department of Water Resources. *State Water Project Delivery Reliability Report (2009).*

Department of Water Resources (DWR). 2010. California Department of Water Resources. *California Drought Contingency Plan (2010).*

California Department of Finance (DOF). 2011. E-4 Population Estimates for Cities, Counties and the State, 2001-2010, with 2000 Benchmark. <http://www.dof.ca.gov/research/demographic/reports/estimates/e-4/2001-10/view.php>.

California Department of Water Resources (DWR). 2011. *Guidebook to Assist Water Suppliers in the Preparation of a 2010 Urban Water Management Plan. "Technical Methodology 2 - Methodologies for Calculating Baseline and Compliance Urban per Capital Water Use document."*

Carollo Engineers. 1999. *Cayucos/Morro Bay Comprehensive Recycled Water Study, City of Morro Bay and Cayucos Sanitary District.* October. pp 7-23.

Central Coast Water Authority (CCWA). 2010. *Draft 2010 Urban Water Management Plan.*

Central Coast Water Authority (CCWA). 2011. *Reliability of Water Supply Data Provided by CCWA.*

City of Morro Bay. 1988. *City of Morro Bay General Plan.* <http://www.morro-bay.ca.us/DocumentView.aspx?DID=445>.

Cleath and Associates. 1994. *Ground Water Analysis, Appendix "B" to Analysis and Recommendations for a Water Management Plan, Final Report.* March.

Cleath and Associates. 2007. *Morro Valley Nitrate Analysis.* December.

Cleath Harris Geologists. 2009. *Ashurst Well Field Nitrate Analysis.*

City of Morro Bay (CCR). 2010. *City of Morro Bay 2010 Water Quality Report.*

San Luis Obispo Council of Governments (SLOCOG). 2006. *Long Range Socio-Economic Projections (Year 2030).* July.

Appendix A
2010 Urban Water Management Planning Act

CALIFORNIA WATER CODE DIVISION 6

PART 2.6. URBAN WATER MANAGEMENT PLANNING

All California Codes have been updated to include the 2010 Statutes.

CHAPTER 1.	GENERAL DECLARATION AND POLICY	10610-10610.4
CHAPTER 2.	DEFINITIONS	10611-10617
CHAPTER 3.	URBAN WATER MANAGEMENT PLANS	
Article 1.	General Provisions	10620-10621
Article 2.	Contents of Plans	10630-10634
Article 2.5.	Water Service Reliability	10635
Article 3.	Adoption and Implementation of Plans	10640-10645
CHAPTER 4.	MISCELLANEOUS PROVISIONS	10650-10656

WATER CODE

SECTION 10610-10610.4

10610. This part shall be known and may be cited as the "Urban Water Management Planning Act."

10610.2. (a) The Legislature finds and declares all of the following:

- (1) The waters of the state are a limited and renewable resource subject to ever-increasing demands.
- (2) The conservation and efficient use of urban water supplies are of statewide concern; however, the planning for that use and the implementation of those plans can best be accomplished at the local level.
- (3) A long-term, reliable supply of water is essential to protect the productivity of California's businesses and economic climate.
- (4) As part of its long-range planning activities, every urban water supplier should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry water years.
- (5) Public health issues have been raised over a number of contaminants that have been identified in certain local and imported water supplies.
- (6) Implementing effective water management strategies, including groundwater storage projects and recycled water projects, may require specific water quality and salinity targets for meeting groundwater basins water quality objectives and promoting beneficial use of recycled water.
- (7) Water quality regulations are becoming an increasingly important factor in water agencies' selection of raw water sources, treatment alternatives, and modifications to existing treatment facilities.
- (8) Changes in drinking water quality standards may also impact the usefulness of water supplies and may ultimately impact supply reliability.
- (9) The quality of source supplies can have a significant impact

on water management strategies and supply reliability.

(b) This part is intended to provide assistance to water agencies in carrying out their long-term resource planning responsibilities to ensure adequate water supplies to meet existing and future demands for water.

10610.4. The Legislature finds and declares that it is the policy of the state as follows:

(a) The management of urban water demands and efficient use of water shall be actively pursued to protect both the people of the state and their water resources.

(b) The management of urban water demands and efficient use of urban water supplies shall be a guiding criterion in public decisions.

(c) Urban water suppliers shall be required to develop water management plans to actively pursue the efficient use of available supplies.

WATER CODE

SECTION 10611-10617

10611. Unless the context otherwise requires, the definitions of this chapter govern the construction of this part.

10611.5. "Demand management" means those water conservation measures, programs, and incentives that prevent the waste of water and promote the reasonable and efficient use and reuse of available supplies.

10612. "Customer" means a purchaser of water from a water supplier who uses the water for municipal purposes, including residential, commercial, governmental, and industrial uses.

10613. "Efficient use" means those management measures that result in the most effective use of water so as to prevent its waste or unreasonable use or unreasonable method of use.

10614. "Person" means any individual, firm, association, organization, partnership, business, trust, corporation, company, public agency, or any agency of such an entity.

10615. "Plan" means an urban water management plan prepared pursuant to this part. A plan shall describe and evaluate sources of supply, reasonable and practical efficient uses, reclamation and demand management activities. The components of the plan may vary according to an individual community or area's characteristics and its capabilities to efficiently use and conserve water. The plan shall address measures for residential, commercial, governmental, and industrial water demand management as set forth in Article 2 (commencing with Section 10630) of Chapter 3. In addition, a strategy and time schedule for implementation shall be included in the plan.

10616. "Public agency" means any board, commission, county, city

and county, city, regional agency, district, or other public entity.

10616.5. "Recycled water" means the reclamation and reuse of wastewater for beneficial use.

10617. "Urban water supplier" means a supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually. An urban water supplier includes a supplier or contractor for water, regardless of the basis of right, which distributes or sells for ultimate resale to customers. This part applies only to water supplied from public water systems subject to Chapter 4 (commencing with Section 116275) of Part 12 of Division 104 of the Health and Safety Code.

WATER CODE

SECTION 10620-10621

10620. (a) Every urban water supplier shall prepare and adopt an urban water management plan in the manner set forth in Article 3 (commencing with Section 10640).

(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.

(c) An urban water supplier indirectly providing water shall not include planning elements in its water management plan as provided in Article 2 (commencing with Section 10630) that would be applicable to urban water suppliers or public agencies directly providing water, or to their customers, without the consent of those suppliers or public agencies.

(d) (1) An urban water supplier may satisfy the requirements of this part by participation in areawide, regional, watershed, or basinwide urban water management planning where those plans will reduce preparation costs and contribute to the achievement of conservation and efficient water use.

(2) 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.

(e) The urban water supplier may prepare the plan with its own staff, by contract, or in cooperation with other governmental agencies.

(f) An urban water supplier shall describe in the plan water management tools and options used by that entity that will maximize resources and minimize the need to import water from other regions.

10621. (a) Each urban water supplier shall update its plan at least once every five years on or before December 31, in years ending in five and zero.

(b) Every urban water supplier required to prepare a plan pursuant to this part shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water

supplier will be reviewing the plan and considering amendments or changes to the plan. The urban water supplier may consult with, and obtain comments from, any city or county that receives notice pursuant to this subdivision.

(c) The amendments to, or changes in, the plan shall be adopted and filed in the manner set forth in Article 3 (commencing with Section 10640).

WATER CODE

SECTION 10630-10634

10630. It is the intention of the Legislature, in enacting this part, to permit levels of water management planning commensurate with the numbers of customers served and the volume of water supplied.

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

(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.

(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). If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:

(1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.

(2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current official departmental bulletin that characterizes the condition of the groundwater basin, and a detailed description of the efforts being undertaken by the urban water supplier to eliminate the long-term overdraft condition.

(3) A detailed description and analysis of the location, amount, and sufficiency of groundwater pumped by the urban water supplier for the past five years. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.

(c) (1) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

- (A) An average water year.
- (B) A single dry water year.
- (C) Multiple dry water years.

(2) 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 supplement or replace that source with alternative sources or water demand management measures, to the extent practicable.

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

(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) Multifamily.
- (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.

(I) Agricultural.

(2) The water use projections shall be in the same five-year increments described in subdivision (a).

(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:

- (A) Water survey programs for single-family residential and multifamily residential customers.
- (B) Residential plumbing retrofit.
- (C) System water audits, leak detection, and repair.
- (D) Metering with commodity rates for all new connections and retrofit of existing connections.
- (E) Large landscape conservation programs and incentives.
- (F) High-efficiency washing machine rebate programs.
- (G) Public information programs.
- (H) School education programs.
- (I) Conservation programs for commercial, industrial, and institutional accounts.

- (J) Wholesale agency programs.
- (K) Conservation pricing.
- (L) Water conservation coordinator.
- (M) Water waste prohibition.
- (N) Residential ultra-low-flush toilet replacement programs.
- (2) A schedule of implementation for all water demand management measures proposed or described in the plan.
- (3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan.
- (4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.
- (g) An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies. This evaluation shall do all of the following:
 - (1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.
 - (2) Include a cost-benefit analysis, identifying total benefits and total costs.
 - (3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.
 - (4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.
- (h) Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of Section 10635. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.
 - (i) Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.
 - (j) For purposes of this part, urban water suppliers that are members of the California Urban Water Conservation Council shall be deemed in compliance with the requirements of subdivisions (f) and (g) by complying with all the provisions of the "Memorandum of Understanding Regarding Urban Water Conservation in California,"

dated December 10, 2008, as it may be amended, and by submitting the annual reports required by Section 6.2 of that memorandum.

(k) Urban water suppliers that rely upon a wholesale agency for a source of water shall provide the wholesale agency with water use projections from that agency for that source of water in five-year increments to 20 years or as far as data is available. The wholesale agency shall provide information to the urban water supplier for inclusion in the urban water supplier's plan that identifies and quantifies, to the extent practicable, the existing and planned sources of water as required by subdivision (b), available from the wholesale agency to the urban water supplier over the same five-year increments, and during various water-year types in accordance with subdivision (c). An urban water supplier may rely upon water supply information provided by the wholesale agency in fulfilling the plan informational requirements of subdivisions (b) and (c).

10631.1. (a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

(b) It is the intent of the Legislature that the identification of projected water use for single-family and multifamily residential housing for lower income households will assist a supplier in complying with the requirement under Section 65589.7 of the Government Code to grant a priority for the provision of service to housing units affordable to lower income households.

10631.5. (a) (1) Beginning January 1, 2009, the terms of, and eligibility for, a water management grant or loan made to an urban water supplier and awarded or administered by the department, state board, or California Bay-Delta Authority or its successor agency shall be conditioned on the implementation of the water demand management measures described in Section 10631, as determined by the department pursuant to subdivision (b).

(2) For the purposes of this section, water management grants and loans include funding for programs and projects for surface water or groundwater storage, recycling, desalination, water conservation, water supply reliability, and water supply augmentation. This section does not apply to water management projects funded by the federal American Recovery and Reinvestment Act of 2009 (Public Law 111-5).

(3) Notwithstanding paragraph (1), the department shall determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if the urban water supplier has submitted to the department for approval a schedule, financing plan, and budget, to be included in the grant or loan agreement, for implementation of the water demand management measures. The supplier may request grant or loan funds to implement the water demand management measures to the extent the request is consistent with the eligibility requirements applicable to the water management funds.

(4) (A) Notwithstanding paragraph (1), the department shall

determine that an urban water supplier is eligible for a water management grant or loan even though the supplier is not implementing all of the water demand management measures described in Section 10631, if an urban water supplier submits to the department for approval documentation demonstrating that a water demand management measure is not locally cost effective. If the department determines that the documentation submitted by the urban water supplier fails to demonstrate that a water demand management measure is not locally cost effective, the department shall notify the urban water supplier and the agency administering the grant or loan program within 120 days that the documentation does not satisfy the requirements for an exemption, and include in that notification a detailed statement to support the determination.

(B) For purposes of this paragraph, "not locally cost effective" means that the present value of the local benefits of implementing a water demand management measure is less than the present value of the local costs of implementing that measure.

(b) (1) The department, in consultation with the state board and the California Bay-Delta Authority or its successor agency, and after soliciting public comment regarding eligibility requirements, shall develop eligibility requirements to implement the requirement of paragraph (1) of subdivision (a). In establishing these eligibility requirements, the department shall do both of the following:

(A) Consider the conservation measures described in the Memorandum of Understanding Regarding Urban Water Conservation in California, and alternative conservation approaches that provide equal or greater water savings.

(B) Recognize the different legal, technical, fiscal, and practical roles and responsibilities of wholesale water suppliers and retail water suppliers.

(2) (A) For the purposes of this section, the department shall determine whether an urban water supplier is implementing all of the water demand management measures described in Section 10631 based on either, or a combination, of the following:

(i) Compliance on an individual basis.

(ii) Compliance on a regional basis. Regional compliance shall require participation in a regional conservation program consisting of two or more urban water suppliers that achieves the level of conservation or water efficiency savings equivalent to the amount of conservation or savings achieved if each of the participating urban water suppliers implemented the water demand management measures. The urban water supplier administering the regional program shall provide participating urban water suppliers and the department with data to demonstrate that the regional program is consistent with this clause. The department shall review the data to determine whether the urban water suppliers in the regional program are meeting the eligibility requirements.

(B) The department may require additional information for any determination pursuant to this section.

(3) The department shall not deny eligibility to an urban water supplier in compliance with the requirements of this section that is participating in a multiagency water project, or an integrated regional water management plan, developed pursuant to Section 75026 of the Public Resources Code, solely on the basis that one or more of

the agencies participating in the project or plan is not implementing all of the water demand management measures described in Section 10631.

(c) In establishing guidelines pursuant to the specific funding authorization for any water management grant or loan program subject to this section, the agency administering the grant or loan program shall include in the guidelines the eligibility requirements developed by the department pursuant to subdivision (b).

(d) Upon receipt of a water management grant or loan application by an agency administering a grant and loan program subject to this section, the agency shall request an eligibility determination from the department with respect to the requirements of this section. The department shall respond to the request within 60 days of the request.

(e) The urban water supplier may submit to the department copies of its annual reports and other relevant documents to assist the department in determining whether the urban water supplier is implementing or scheduling the implementation of water demand management activities. In addition, for urban water suppliers that are signatories to the Memorandum of Understanding Regarding Urban Water Conservation in California and submit biennial reports to the California Urban Water Conservation Council in accordance with the memorandum, the department may use these reports to assist in tracking the implementation of water demand management measures.

(f) This section shall remain in effect only until July 1, 2016, and as of that date is repealed, unless a later enacted statute, that is enacted before July 1, 2016, deletes or extends that date.

10631.7. The department, in consultation with the California Urban Water Conservation Council, shall convene an independent technical panel to provide information and recommendations to the department and the Legislature on new demand management measures, technologies, and approaches. The panel shall consist of no more than seven members, who shall be selected by the department to reflect a balanced representation of experts. The panel shall have at least one, but no more than two, representatives from each of the following: retail water suppliers, environmental organizations, the business community, wholesale water suppliers, and academia. The panel shall be convened by January 1, 2009, and shall report to the Legislature no later than January 1, 2010, and every five years thereafter. The department shall review the panel report and include in the final report to the Legislature the department's recommendations and comments regarding the panel process and the panel's recommendations.

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

(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions that are applicable to each stage.

(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.

(3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

(4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

(6) Penalties or charges for excessive use, where applicable.

(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

(8) A draft water shortage contingency resolution or ordinance.

(9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

(b) Commencing with the urban water management plan update due December 31, 2015, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. The preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies that operate within the supplier's service area, and shall include all of the following:

(a) A description of the wastewater collection and treatment systems in the supplier's service area, including a quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

(b) A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

(c) A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.

(d) A description and quantification of the potential uses of recycled water, including, but not limited to, agricultural irrigation, landscape irrigation, wildlife habitat enhancement, wetlands, industrial reuse, groundwater recharge, indirect potable reuse, and other appropriate uses, and a determination with regard to the technical and economic feasibility of serving those uses.

(e) 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 pursuant to this subdivision.

(f) A description of actions, including financial incentives, 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.

(g) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

WATER CODE

SECTION 10635

10635. (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from state, regional, or local agency population projections within the service area of the urban water supplier.

(b) The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county within which it provides water supplies no later than 60 days after the submission of its urban water management plan.

(c) Nothing in this article is intended to create a right or entitlement to water service or any specific level of water service.

(d) Nothing in this article is intended to change existing law concerning an urban water supplier's obligation to provide water service to its existing customers or to any potential future customers.

WATER CODE

SECTION 10640-10645

10640. Every urban water supplier required to prepare a plan pursuant to this part shall prepare its plan pursuant to Article 2 (commencing with Section 10630).

The supplier shall likewise periodically review the plan as required by Section 10621, and any amendments or changes required as a result of that review shall be adopted pursuant to this article.

10641. An urban water supplier required to prepare a plan may consult with, and obtain comments from, any public agency or state agency or any person who has special expertise with respect to water demand management methods and techniques.

10642. Each urban water supplier shall encourage the 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. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published within the jurisdiction of the publicly owned water supplier pursuant to Section 6066 of the Government Code. The urban water supplier shall provide notice of the time and place of hearing to any city or county within which the supplier provides water supplies. A privately owned water supplier shall provide an equivalent notice within its service area. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10643. An urban water supplier shall implement its plan adopted pursuant to this chapter in accordance with the schedule set forth in its plan.

10644. (a) An urban water supplier shall submit to the department, the California State Library, and any city or county within which the supplier provides water supplies a copy of its plan no later than 30 days after adoption. Copies of amendments or changes to the plans shall be submitted to the department, the California State Library, and any city or county within which the supplier provides water supplies within 30 days after adoption.

(b) The department shall prepare and submit to the Legislature, on or before December 31, in the years ending in six and one, a report summarizing the status of the plans adopted pursuant to this part. The report prepared by the department shall identify the exemplary elements of the individual plans. The department shall provide a copy of the report to each urban water supplier that has submitted its plan to the department. The department shall also prepare reports and provide data for any legislative hearings designed to consider the effectiveness of plans submitted pursuant to this part.

(c) (1) For the purpose of identifying the exemplary elements of the individual plans, the department shall identify in the report those water demand management measures adopted and implemented by specific urban water suppliers, and identified pursuant to Section

10631, that achieve water savings significantly above the levels established by the department to meet the requirements of Section 10631.5.

(2) The department shall distribute to the panel convened pursuant to Section 10631.7 the results achieved by the implementation of those water demand management measures described in paragraph (1).

(3) The department shall make available to the public the standard the department will use to identify exemplary water demand management measures.

10645. Not later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

WATER CODE

SECTION 10650-10656

10650. Any actions or proceedings to attack, review, set aside, void, or annul the acts or decisions of an urban water supplier on the grounds of noncompliance with this part shall be commenced as follows:

(a) An action or proceeding alleging failure to adopt a plan shall be commenced within 18 months after that adoption is required by this part.

(b) Any action or proceeding alleging that a plan, or action taken pursuant to the plan, does not comply with this part shall be commenced within 90 days after filing of the plan or amendment thereto pursuant to Section 10644 or the taking of that action.

10651. In any action or proceeding to attack, review, set aside, void, or annul a plan, or an action taken pursuant to the plan by an urban water supplier on the grounds of noncompliance with this part, the inquiry shall extend only to whether there was a prejudicial abuse of discretion. Abuse of discretion is established if the supplier has not proceeded in a manner required by law or if the action by the water supplier is not supported by substantial evidence.

10652. The California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) does not apply to the preparation and adoption of plans pursuant to this part or to the implementation of actions taken pursuant to Section 10632. Nothing in this part shall be interpreted as exempting from the California Environmental Quality Act any project that would significantly affect water supplies for fish and wildlife, or any project for implementation of the plan, other than projects implementing Section 10632, or any project for expanded or additional water supplies.

10653. The adoption of a plan shall satisfy any requirements of state law, regulation, or order, including those of the State Water Resources Control Board and the Public Utilities Commission, for the preparation of water management plans or conservation plans; provided, that if the State Water Resources Control Board or the Public Utilities Commission requires additional information concerning water conservation to implement its existing authority, nothing in this part shall be deemed to limit the board or the commission in obtaining that information. The requirements of this part shall be satisfied by any urban water demand management plan prepared to meet federal laws or regulations after the effective date of this part, and which substantially meets the requirements of this part, or by any existing urban water management plan which includes the contents of a plan required under this part.

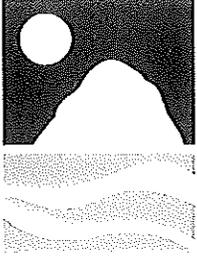
10654. An urban water supplier may recover in its rates the costs incurred in preparing its plan and implementing the reasonable water conservation measures included in the plan. Any best water management practice that is included in the plan that is identified in the

"Memorandum of Understanding Regarding Urban Water Conservation in California" is deemed to be reasonable for the purposes of this section.

10655. If any provision of this part or the application thereof to any person or circumstances is held invalid, that invalidity shall not affect other provisions or applications of this part which can be given effect without the invalid provision or application thereof, and to this end the provisions of this part are severable.

10656. An urban water supplier that does not prepare, adopt, and submit its urban water management plan to the department in accordance with this part, is ineligible to receive funding pursuant to Division 24 (commencing with Section 78500) or Division 26 (commencing with Section 79000), or receive drought assistance from the state until the urban water management plan is submitted pursuant to this article.

Appendix B
Notification (60 Days Prior to Review)



City of Morro Bay

 FILE COPY

Morro Bay, CA 93442 • 805-772-6200
www.morro-bay.ca.us

April 20, 2011

Carolyn Berg E.I.T.
County of San Luis Obispo
Department of Public Works Room 207
County Government Center
1050 Monterey Street
San Luis Obispo, CA 93408

Subject: City of Morro Bay – 2010 Urban Water Management Plan Updates

The Urban Water Management Planning Act requires that urban water suppliers supplying more than 3,000 acre-feet of water annually or 3,000 customers prepare an Urban Water Management Plan (UWMP) in years ending in 5 and 0. However, because of recent changes in UWMP requirements, State law has extended the deadline for the 2010 Plans to July 1, 2011. The Act describes in detail the content of the plans to be submitted to the California Department of Water Resources.

The City of Morro Bay (City) is in the process of preparing the 2010 UWMP. The County of San Luis Obispo has been identified as a wholesale water provider to the City. The Act requires the City to provide information regarding projected water supply sources in the UWMP. In order to update the UWMP, the City or its consultant, CH2M HILL, may be contacting you to obtain data as required by the Act to meet supply definition and reliability issues.

The City will also contact the County of San Luis Obispo in the future regarding public meetings where we will discuss the UWMP. We encourage your attendance and input. The City will also provide your organization with a draft copy of the UWMP for your review and comments. In addition, the City will send out the final UWMP within 30 days of adoption by the City.

If you have additional information that may benefit this update or questions and concerns, please feel free to contact us. I can be reached at (805) 772-6266 and the staff at CH2M HILL can be reached via Terry Foreman at (805) 371-7817 ext. 38065.

Sincerely,



Dylan Wade, P.E.
Utilities/Capital Projects Manager
City of Morro Bay

FINANCE
595 Harbor Street

HARBOR DEPARTMENT
1275 Embarcadero Road

ADMINISTRATION
595 Harbor Street

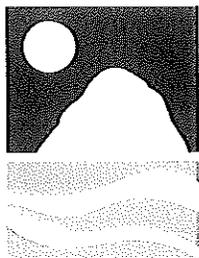
CITY ATTORNEY
955 Shasta Avenue

FIRE DEPARTMENT
715 Harbor Street

POLICE DEPARTMENT
850 Morro Bay Boulevard

PUBLIC SERVICES
955 Shasta Street

RECREATION AND PARKS
1001 Kennedy Way



City of Morro Bay

 FILE COPY

Morro Bay, CA 93442 • 805-772-6200
www.morro-bay.ca.us

April 20, 2011

William Brennan
Executive Director
Central Coast Water Authority
255 Industrial Way
Buellton, CA 93427

Subject: City of Morro Bay - 2010 Urban Water Management Plan Updates

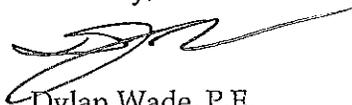
The Urban Water Management Planning Act (Act) requires that urban water suppliers supplying more than 3,000 acre-feet of water annually or 3,000 customers prepare an Urban Water Management Plan (UWMP) in years ending in 5 and 0. However, because of recent changes in UWMP requirements, State law has extended the deadline for the 2010 Plans to July 1, 2011. The Act describes in detail the content of the plans to be submitted to the California Department of Water Resources.

The City of Morro Bay (City) is in the process of preparing the 2010 UWMP. Central Coast Water Authority has been identified as a wholesale water provider to the City. The Act requires the City to provide information regarding projected water supply sources in the UWMP. In order to update the UWMP, the City or its consultant, CH2M HILL, may be contacting you to obtain data as required by the Act to meet supply definition and reliability issues.

The City will also contact Central Coast Water Authority in the future regarding public meetings where we will discuss the UWMP. We encourage your attendance and input. The City will also provide your organization with a draft copy of the UWMP for your review and comments. In addition, the City will send out the final UWMP within 30 days of adoption by the City.

If you have additional information that may benefit this update or questions and concerns, please feel free to contact us. I can be reached at (805) 772-6266 and the staff at CH2M HILL can be reached via Terry Foreman at (805) 371-7817 ext. 38065.

Sincerely,



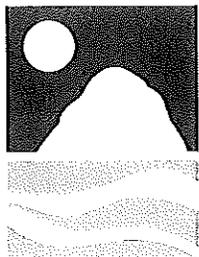
Dylan Wade, P.E.
Utilities/Capital Projects Manager
City of Morro Bay

FINANCE
595 Harbor Street
HARBOR DEPARTMENT
1275 Embarcadero Road

ADMINISTRATION
595 Harbor Street
CITY ATTORNEY
955 Shasta Avenue

FIRE DEPARTMENT
715 Harbor Street
POLICE DEPARTMENT
850 Morro Bay Boulevard

PUBLIC SERVICES
955 Shasta Street
RECREATION AND PARKS
1001 Kennedy Way



City of Morro Bay

Morro Bay, CA 93442 • 805-772-6200
www.morro-bay.ca.us

 FILE COPY

April 20, 2011

San Luis Obispo Council of Governemnts
1114 Marsh Street
San Luis Obispo, CA 93401

Subject: City of Morro Bay – 2010 Urban Water Management Plan Updates

The Urban Water Management Planning Act requires that urban water suppliers supplying more than 3,000 acre-feet of water annually or 3,000 customers prepare an Urban Water Management Plan (UWMP) in years ending in 5 and 0. However, because of recent changes in UWMP requirements, State law has extended the deadline for the 2010 Plans to July 1, 2011. The Act describes in detail the content of the plans to be submitted to the California Department of Water Resources.

The City of Morro Bay (City) is in the process of preparing the 2010 UWMP. It was found that the City's system falls within your boundaries. In order to update the UWMP(s), the City or its consultant, CH2M HILL, may be contacting you to obtain planning information including growth projection and population data.

A draft UWMP will be available for public review before the public meeting.

If you have additional information that may benefit this update or questions and concerns, please feel free to contact us. I can be reached at (805) 772-6266 and the staff at CH2M HILL can be reached via Terry Foreman at (805) 371-7817 ext. 38065.

Sincerely,

Dylan Wade, P.E.
Utilities/Capital Projects Manager
City of Morro Bay

FINANCE
595 Harbor Street
HARBOR DEPARTMENT
1275 Embarcadero Road

ADMINISTRATION
595 Harbor Street
CITY ATTORNEY
955 Shasta Avenue

FIRE DEPARTMENT
715 Harbor Street
POLICE DEPARTMENT
850 Morro Bay Boulevard

PUBLIC SERVICES
955 Shasta Street
RECREATION AND PARKS
1001 Kennedy Way

Appendix C
Public Hearing Notice



City of Morro Bay
 595 Harbor Street
 Morro Bay, CA 93442-1900
 (805) 772-6222

Water and Sewer Bill

DUE DATE APPLIES TO CURRENT CHARGES ONLY

log onto <https://esuite.morro-bay.ca.us/esuite.utilities/> to view your bill, consumption and transactions. Also, pay the bill or sign up for paperless billing.

Mailing Address:



Service Address:

Account No:
 Due Date: 6/30/2011
 Amount Due: \$139.39



Account No.

Service Address

Billing Date

5/31/2011

BILLING AND PAYMENT HISTORY

Previous Balance	130.15
Penalties	0.00
Adjustments	0.00
Payments Received	-(130.15)
Past Due Amount	0.00

Current Billing	
Charge Code	Amount
Water Charge	85.13
Sewer Charges	54.26
Total	139.39

Total Amount Due: 139.39

Past due amounts are subject to penalties and shut off

METER READINGS

Meter No.	Read Dates	Days	Previous	Current	Usage
	4/7/2011 - 5/4/2011	28	1,254	1,269	15

A Public Hearing will be held on June 28th at 6:00 p.m. to adopt the 2010 Urban Water Management Plan. *

PRIOR USAGE ANALYSIS

Meter No.	Read Dates	Avg/Day	Last Year	% Change
-----------	------------	---------	-----------	----------

Please return this portion with payment
 Balance Due will be Bank Drafted.

Balance Due Will Be Bank Drafted/Auto Paid

10% PENALTY ASSESSED IF PAID AFTER 06/30/11



Please Make Checks Payable To:

City of Morro Bay
 595 Harbor Street
 Morro Bay, CA 93442-1900

Service Address:

Account No:
 Due No Later Than: 6/30/2011
 Amount Due: \$139.39

Amount Remitted:

PARTY'S CALIFORNIA CONVENTION

Feinstein says Democrats have work to do to beat back Republicans

By JULIET WILLIAMS
Associated Press

SACRAMENTO — U.S. Sen. Dianne Feinstein told the Democratic faithful on Saturday that they must work to retake the House of Representatives next year or risk deep GOP budget cuts that would hurt seniors and poor people the most.

The four-term senator from California, who faces re-election next year, told delegates at the state party's annual convention that conservatives and the tea party are pursuing a "radical, ideological agenda to dismantle the social and economic safety net of our country."



U.S. Sen. Dianne Feinstein, right, talks with California Attorney General Kamala Harris at the state convention in Sacramento on Saturday.

"In the five months since Republicans have taken control of the House, they have tried to systematically disassemble the American dream by targeting environmental protection, investments in education and infrastructure, and most recently health care reform and Medicare," Feinstein said. "The majority party in today's House of Repre-

sentatives is more radical, more hostile to working people, more determined to undermine a Democratic president than the Gingrich Congress in 1995."

Feinstein also slammed a budget proposal by Rep. Paul Ryan, chairman of the House Budget Committee. The Wisconsin Republican's plan would fundamentally restructure Medicare and cut social-

safety-net programs such as food stamps and Medicaid. Republicans have rallied around Ryan's plan, although it has drawn mixed reactions at budget town halls around the country.

"The Paul Ryan budget is unfair, irresponsible, and a nonstarter in the Senate," Feinstein said.

Tom Del Beccaro, chairman of the California Re-

publican Party, said rather than criticize Ryan's effort to restrain spending, Feinstein should suggest her own spending cuts.

"The federal deficit is a far greater risk to social programs" than Ryan's plan, Del Beccaro said. "A bankrupt government is not a compassionate government, and Dianne Feinstein, as far as I can tell, has not been an effective voice on reining in the deficit. I mean, think about it, Ryan's budget doesn't call for a balanced budget for years to come."

No Republican has so far stepped forward to challenge Feinstein's seat.

This weekend's meeting is the party's first statewide gathering of Democrats since the party beat back a nationwide Republican surge last November. They elected Democrats to all nine constitutional offices, picked up a seat in the state Assembly, defended Sen. Barbara Boxer's post and returned Jerry Brown to the governor's office after three decades.

State may let locals opt out of immigration checks

By AMY TAXIN
Associated Press

LOS ANGELES — California lawmakers are the latest to weigh joining efforts in other states to gain control over a controversial national program that automatically checks the immigration status of arrestees.

The Golden State accounts for more than a third of the deportations under the Immigration and Customs Enforcement program, and some local officials are saying they were misled by the federal gov-

ernment about the program's extent.

Illinois lawmakers are also considering a measure to let communities retreat from the program. Washington state has deferred to local governments on whether they want to join the so-called "Secure Communities" program, which links up the FBI's criminal database and the Department of Homeland Security's records so that every time someone is arrested their immigration status is automatically, electronically checked.

But their efforts could be thwarted as federal officials argue that states have no control over what information is shared among federal agencies.

The tug-of-war over the ICE program highlights the tension between states and the federal government in the absence of a legislative fix on immigration.

Immigrant advocates have lambasted ICE's fingerprint-sharing program for sweeping up crime victims and witnesses who are arrested during an investi-

gation in addition to those accused of committing a crime.

On Tuesday, the California Assembly's public safety committee voted to advance the bill that would let local communities participate in the program only if they choose to do so through resolution. The bill faces criticism from the California State Sheriffs' Association.

StateRoundup

HEMET

RIVERSIDE

A Riverside County church whose members were arrested as they read Bible verses outside a Department of Motor Vehicles office has filed a federal lawsuit against the California Highway Patrol.

Attorneys for Hemet Calvary Chapel said the church's First Amendment rights were violated by the Feb. 2 arrests that were captured on video and posted on YouTube.

"It's as simple as vindicating their constitutional rights and unlawful arrests for what occurred at the DMV that day," Jennifer Monk, an attorney for Advocates for Faith & Freedom, told the Riverside Press-Enterprise on Friday. The organization is representing the church at no cost.

Authorities say a truck flipped over and spilled more than 10 tons of human waste onto a Southern California freeway.

California Highway Patrol spokesman Darren Meyer told the Riverside Press-Enterprise that the truck's driver swerved to miss another vehicle, lost control, jackknifed and dumped the contents of the rear of two trailers onto an onramp of Interstate 10 in Banning.

Meyer said the load was in the last stage of treatment and was headed from a sewage plant to a landfill. He says it posed no health threat.

Meyer said the spill didn't give off an especially strong odor, but "kind of smells like the ocean."

— Associated Press

Classic Blinds & DRAPERIES

May Madness

60% OFF

- Wood Image 2" Faux Wood Blinds
- Free Routeless Upgrade
- Monet Roman Shades
- Sunlight Screens
- Vertical Impressions

FREE Installation

FREE Estimate

AND Seniors

Save an Additional 10%!

Call 462-0117
or 235-0661



CITY OF MORRO BAY



NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Morro City Council will hold a PUBLIC HEARING on Tuesday, June 28, 2010 at 6:00 p.m. in the Veteran's Memorial Building, located at 209 Surf Street in the City of Morro Bay, to consider the following matters. The Environmental Coordinator has conducted environmental review for the hearing items in accordance with the requirements of the California Environmental Quality Act (CEQA). In each case, a determination has been made that the project is either exempt from CEQA or that a complete and adequate Negative Declaration or Environmental Impact Report (EIR) has been prepared and duly circulated for public comment. Staff reports, plans and other information related to these cases are available for public review at the Public Services Department, 955 Shasta Street, Morro Bay, CA.

Interested persons are invited to appear at the hearing or otherwise express their views and opinions regarding the proposed project. An opportunity will be presented at the hearing for verbal comments. Written comments are also welcomed at the hearing or prior to the hearing. Written comments prepared prior to the hearing should be mailed or submitted to the Public Services Department, 955 Shasta Street, Morro Bay, California, 93442. Pursuant to California Government Code Section 65009 legal challenges regarding the decision made by the City Council may be limited to only those issues you or someone else raised at the hearing or through written comments received prior to the hearing.

2010 Urban Water Management Plan Update. The City of Morro Bay, in conformance with the California Urban Water Management Plan Act, will hold a public hearing to consider adopting The City of Morro Bay's 2010 Urban Water Management Plan. Preparation of this plan does not constitute a project and is statutorily exempt from CEQA

Staff Contact: For additional information contact Dylan Wade P.E. Utilities/Capital Projects Manger (805) 772-6261 or visit the City's web site www.morro-bay.ca.us.

Feel Young Again.

New Resident Special

In honor of Older Americans Month

OFFER ENDS MAY 31ST

Call 805-543-2300 for details!



Serving Seniors for over 25 Years

The Villages of San Luis Obispo offers a full continuum of retirement living options. We invite you to start enjoying the independent and active lifestyle found at our premier retirement community.

Call us today for a personal tour.



Appendix D
Public Workshop/Hearing Materials

Appendix D

Public Workshop/Hearing Materials

Contents

- Public Workshop
Public Works Advisory Board Synopsis Minutes, June 16, 2011

- Public Hearing, June 28, 2011
 - Agenda
 - Meeting Minutes

- Response to Comments Received Prior to and at the Public Hearing

CITY OF MORRO BAY
PUBLIC WORKS ADVISORY BOARD
SYNOPSIS MINUTES

(Complete audio- and videotapes of this meeting are available from the City upon request)

Veterans Memorial Hall
Regular Meeting, 6:00 p.m.

209 Surf Street, Morro Bay
Wednesday, June 16, 2011

Matt Makowetski, Chair

Richard Rutherford, Vice Chair
Ron Burkhart

Bill Olson
Stephen Shively

I. CALL TO ORDER AND ROLL CALL

Chairperson Makowetski called the meeting to order at 6:00 p.m. and noted five members are present including new members Ron Burkhart, Stephen Shively and returning Board Member Bill Olson.
Staff Present: Rob Livick and Dylan Wade

II. PLEDGE OF ALLEGIANCE / MOMENT OF SILENCE

Makowetski called for a moment of silence.

III. ACCEPTANCE OF AGENDA

Shively moved to accept the agenda as presented. Olson seconded.

IV. ANNOUNCEMENTS – None.

V. WRITTEN COMMUNICATIONS

Makowetski announced the receipt of Jenny Brantlee's PWAB resignation letter and a letter from the Morro Bay Citizen's Bike Committee which supports a recommendation to County Parks that the multi use trail between Morro Bay and Cayucos be built on the western side of Hwy 1. Also received was email correspondence from John Ziemer commenting on various potholes around the City.

VI. PUBLIC COMMENTS/PRESENTATIONS

Makowetski opened Public Comment period.

- Councilmember Noah Smukler introduced himself as the Council's representative to the Public Works Advisory Board.

VII. CONSENT CALENDAR

- A. Approval of minutes from the November 17, 2010 meeting.
- B. Approval of minutes from the February 17, 2011 meeting.

MOTION: Rutherford moved to approve the minutes of November 17, 2010 and February 17, 2011

Shively seconded the motion. The motion carried unanimously 5-0.

VIII. DIRECTOR'S REPORT/INFORMATION ITEMS

Board Members discussed with staff:

- Rutherford stated the Wastewater Treatment Plant should be relocated to an alternate location.
- The made-in-America requirement for the Fire Station HVAC system - Wade responded that an exemption /waiver request was not granted, therefore the system was re-designed in order to find an American manufacturer.
- Lift Station 2– A construction management firm has been hired to assist in the process and the City expects to go out to bid in the fall. Lift Station 3 will be out to bid after Lift Station 2. Wade offered to bring in the site plans and prepare a presentation on the design process. Makowetski agreed.
- Shively inquired if the Regional Water Quality Board has bought into the City's Storm Water Management Plan. Livick explained the goal was to develop an illicit discharge ordinance and also hydromodification control plan as part of the storm water process.
- The \$15,000 grant and whether that will affect the west side trail. Livick explained the grant is to complete bicycle transportation.
- Livick announced two upcoming workshops for soliciting input on the WWTP upgrade alternatives analysis. The workshops will be held on June 27th from 6-8pm and June 28th from 11-1pm at the Vet's Hall.
- Street improvements – Livick announced a reminder that the responsibility for day to day operations for street repairs and improvements responsibility has been shifted to the Recreation & Parks Department. The number is 772-6278 or at the City's website, an e-form is available to report potholes under the tab for the Recreation & Parks Department.
- At the 6/28/2011 City Council meeting, the Pavement Management Plan will be discussed. Emphasis is on pavement preservation which is not to fix the worst first, but best first in order to be most efficient with maintenance funds. The City has approximately \$900,000 in Measure Q funding to address this.
- Staff is working with Del Mar school to develop a Safe Route to School on Greenwood St. The grant application is a joint application between the City and the School District to SLOCOG. The money is not meant to fund paving of streets, but for pedestrian improvements.
- Rutherford asked for the status of placing a stop sign at Quintana and South Bay Blvd. Livick clarified the traffic counts do not warrant placing a stop sign there due to the heavy traffic on South Bay and much lighter traffic on Quintana. Instead, a flashing warning light will be placed there to warn motorists of the approaching intersection.
- Rutherford asked for an update on the Morro and Chorro Valley water issues including nitrates. Wade explained the different on-going issues with both the Morro and Chorro Valley basins. Chorro Valley has a current water rights complaint. In the Morro Valley, staff has working on data collection and analysis with the households. Wade responded that although nitrates vary seasonally, they are still observing elevated nitrate levels in both basins. Wade clarified the water is safe to drink, has been treated and would notify the public if it were not safe. The Morro basin has been treated with brackish water reverse osmosis system. The Chorro basin does not have this same treatment, so therefore that water source has been cut back. Wade explained the different water sources through the year including the groundwater/State water split, and the various ratios of water blends used.

IX. NEW BUSINESS

A. Election of Chair and Vice Chair

MOTION: Rutherford nominated Matt Makowetski to serve as Chairperson. Shively seconded the nomination. The motion carried unanimously 5-0.

MOTION: Makowetski nominated Rutherford to serve as Vice-Chairperson. Olson seconded the nomination. The motion carried unanimously 5-0.

B. 2010 Urban Water Management Plan Update– Wade

Dylan Wade presented a staff report regarding the Urban Water Management Plan. Wade gave a historical overview explaining the purpose of the plan, and the updates and other requirements mandated by the State. The Urban Water Management Plan is required to be adopted by July 1st.

The two primary goals of the Plan include long range water planning and a reduction in water usage which is to decrease water use 20 percent by 2020.

Wade overviewed the seven different chapters in the plan noting that the State Department of Water Resources (DWR) does not review for content but completeness.

Boardmembers asked Wade to clarify how the consultant cost to revise this Plan helps the City. Wade responded that completion of the Plan enables the City to apply for available funding opportunities. Also, the City is then eligible to apply for SRF (State Revolving Loan Fund) funding which is anticipated for the WWTP upgrade project.

Wade further discussed with Boardmembers the following:

- The different methods the City will use to reach the targets of water reduction. Currently, the ten year average per capita daily water use is 124 gallons per day. By 2015, the per capita daily water use will be decreased to 119 gallons per day. By 2020, the goal will be to reduce that to 113 gallons per day. The average use last year was 106 gallons per day.

Wade noted that water usage rates can vary, depending on economic factors and the amount of yearly rainfall. Furthermore, Morro Bay as a tourist destination has water usage rates that run higher due to the fact that visitor water use gets added into the counts with the permanent resident population.

- Wade covered the City's four different sources of water: State water, groundwater basins from the Morro and Chorro Valley and the Desal plant.
- The various methods of water conservation, such as retrofitting old toilets and shower valves. In addition, the rate structure which encourages people to be wise with their water usage.
- On June 28th, a public hearing will be held at the City Council meeting to take public comment on the draft. A public review draft will be posted on the City's website.
- Water supply storage for emergency needs. Wade replied the city has a 3 day supply of treated water.
- The annual Consumer Confidence Report (CCR) will be available and mailed starting next week. The CCR includes a complete picture of water quality in Morro Bay disclosing testing results. For any questions or anything else related to water, please see Mr. Wade at the Public Services Department at 955 Shasta Avenue.

C. Revision to Water Meter Engineering Standard (W-3) – Livick

Livick presented the staff report explaining that two changes to the W-3 Engineering standards will be implemented. Based on leaks occurring on the residential side of the meter and cracks at the meter, the Water Systems supervisor has recommended a requirement be added for a schedule 80 fitting and a new

requirement to add a ¼ turn ball valve at the meter stop. The ball valve will allow customers to shut off water themselves and avoid potential problems with broken meter stops and possible unsuccessful water turn-off or loss of water.

These two components would be provided by the City at the time of new meter installation. This would add approximately \$40 to the cost of a meter installation and would be added to the City Master Fee Schedule. The current rate is \$1,235 for a 1-inch meter installation. Livick, as the City Engineer, will propose increasing that to cover the additional components.

Boardmembers discussed with Livick and Wade that this is not proposing to modify the plumbing code, but only the City engineering standards. Changes to the ICC code are more difficult to accomplish than changing City engineering standards.

Olson inquired about the high breakage rate among schedule 40 pipe even in newer homes. Livick responded that in some applications, schedule 40 can be appropriate. Generally pipe breakage is due to settlement, not high pressure.

X. OLD BUSINESS – None.

XI. FUTURE AGENDA ITEMS: City Facility Tour (Staff), Water Conservation (Wade), Collection System Repairs (Wade).

Board members and staff reviewed future agenda items and determined that the topics for the next PWAB meeting will include:

- City Facility Tour
- Transit Survey Report
- Demonstration of the Online Water Metering
- Street Potholes Repair Process
- Discussion of Schedule 40 PVC Fittings

XII. ADJOURNMENT

The meeting was adjourned at 7:32 p.m. to the next scheduled meeting to be held at the Veteran's Memorial Hall on Thursday, August 16, 2011, at 6:00 pm.

City of Morro Bay

City Council Agenda

Mission Statement

The City of Morro Bay is dedicated to the preservation and enhancement of the quality of life. The City shall be committed to this purpose and will provide a level of municipal service and safety consistent with and responsive to the needs of the public.

**REGULAR MEETING – TUESDAY, JUNE 28, 2011
VETERANS MEMORIAL HALL - 6:00 P.M.
209 SURF ST., MORRO BAY, CA**

ESTABLISH QUORUM AND CALL TO ORDER

MOMENT OF SILENCE

PLEDGE OF ALLEGIANCE

MAYOR AND COUNCILMEMBERS ANNOUNCEMENTS & PRESENTATIONS

CLOSED SESSION REPORT

PUBLIC COMMENT PERIOD - Members of the audience wishing to address the Council on City business matters (other than Public Hearing items under Section B) may do so at this time.

To increase the effectiveness of the Public Comment Period, the following rules shall be followed:

- When recognized by the Mayor, please come forward to the podium and state your name and address for the record. Comments are to be limited to three minutes.
- All remarks shall be addressed to Council, as a whole, and not to any individual member thereof.
- The Council respectfully requests that you refrain from making slanderous, profane or personal remarks against any elected official, commission and/or staff.
- Please refrain from public displays or outbursts such as unsolicited applause, comments or cheering.
- Any disruptive activities that substantially interfere with the ability of the City Council to carry out its meeting will not be permitted and offenders will be requested to leave the meeting.
- Your participation in City Council meetings is welcome and your courtesy will be appreciated.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City Clerk, (805) 772-6205. Notification 24 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

A. CONSENT CALENDAR

Unless an item is pulled for separate action by the City Council, the following actions are approved without discussion.

A-1 APPROVAL OF AGREEMENT BETWEEN THE MORRO BAY CHAMBER OF COMMERCE AND CITY OF MORRO BAY TO OPERATE THE VISITORS CENTER; (ADMINISTRATION)

RECOMMENDATION: Approve the Agreement between the Morro Bay Chamber of Commerce and the City of Morro Bay to operate the Visitors Center.

A-2 RESOLUTION NO. 45-11 ESTABLISHING A THREE-YEAR MORATORIUM FOR THE PAYMENT OF DEVELOPMENT IMPACT FEES FOR COMMERCIAL PROJECTS WITHIN A COMMERCIAL ZONE DISTRICT; (PUBLIC SERVICES)

RECOMMENDATION: Adopt Resolution No. 45-11.

B. PUBLIC HEARINGS, REPORTS & APPEARANCES

B-1 RESOLUTION NO. 43-11 DIRECTING THE LEVY OF THE ANNUAL ASSESSMENT FOR THE CLOISTERS LANDSCAPING AND LIGHTING MAINTENANCE ASSESSMENT DISTRICT; (RECREATION & PARKS)

RECOMMENDATION: Adopt Resolution No. 43-11.

B-2 RESOLUTION NO. 44-11 DIRECTING THE LEVY OF THE ANNUAL ASSESSMENT FOR THE NORTH POINT NATURAL AREA LANDSCAPING AND LIGHTING MAINTENANCE ASSESSMENT DISTRICT; (RECREATION & PARKS)

RECOMMENDATION: Adopt Resolution No. 44-11.

B-3 ADOPTION OF THE URBAN WATER MANAGEMENT PLAN 2010 UPDATE; (PUBLIC SERVICES)

RECOMMENDATION: Adopt Resolution No. 46-11.

C. UNFINISHED BUSINESS – NONE.

D. NEW BUSINESS

D-1 CONSIDERATION OF RESOLUTION NO. 42-11 AMENDING THE PARAMETERS FOR THE USE OF THE GENERAL FUND EMERGENCY RESERVE; (ADMINISTRATIVE SERVICES)

RECOMMENDATION: Adopt Resolution No. 42-11.

D-2 REPORT ON THE CAMBRIA VOLUNTARY COMMUNITY BUS PROGRAM; (COUNCIL)

RECOMMENDATION: Discuss the next steps for a Volunteer-run Community Bus Program.

D-3 DISCUSSION AND ADOPTION OF THE PAVEMENT MANAGEMENT PLAN; (PUBLIC SERVICES)

RECOMMENDATION: Review and adopt the Pavement Management Plan as a tool for the maintenance to the City's streets.

D-4 DISCUSSION OF IMPROVEMENTS TO THE "ROCK" PARKING LOT, LOCATED AT THE END OF COLEMAN DRIVE, MORRO BAY; (PUBLIC SERVICES)

RECOMMENDATION: Discuss the project and provide direction to staff.

E. DECLARATION OF FUTURE AGENDA ITEMS

F. ADJOURNMENT

THIS AGENDA IS SUBJECT TO AMENDMENT UP TO 72 HOURS PRIOR TO THE DATE AND TIME SET FOR THE MEETING. PLEASE REFER TO THE AGENDA POSTED AT CITY HALL FOR ANY REVISIONS OR CALL THE CLERK'S OFFICE AT 772-6200 FOR FURTHER INFORMATION.

MATERIALS RELATED TO AN ITEM ON THIS AGENDA SUBMITTED TO THE CITY COUNCIL AFTER DISTRIBUTION OF THE AGENDA PACKET ARE AVAILABLE FOR PUBLIC INSPECTION AT CITY HALL LOCATED AT 595 HARBOR STREET DURING NORMAL BUSINESS HOURS OR AT THE SCHEDULED MEETING.

MINUTES - MORRO BAY CITY COUNCIL
REGULAR MEETING – JUNE 28, 2011
VETERANS MEMORIAL HALL - 6:00 P.M.

Mayor Yates called the meeting to order at 6:05 p.m.

PRESENT:	William Yates	Mayor
	Carla Borchard	Councilmember
	Nancy Johnson	Councilmember
	George Leage	Councilmember
	Noah Smukler	Councilmember
STAFF:	Robert Schultz	City Attorney
	Bridgett Kessling	City Clerk
	Eric Endersby	Harbor Operations Manager
	Rob Livick	Public Services Director
	Tim Olivas	Police Chief
	Mike Pond	Fire Chief
	Barry Rand	Assistant Engineer
	Susan Slayton	Administrative Services Director
	Dylan Wade	Utilities/Capital Projects Manager
	Joe Woods	Recreation & Parks Director

ESTABLISH QUORUM AND CALL TO ORDER

MOMENT OF SILENCE

PLEDGE OF ALLEGIANCE

MAYOR AND COUNCIL MEMBERS REPORTS, ANNOUNCEMENTS &
PRESENTATIONS

CLOSED SESSION REPORT – there was no Closed Session report.

PUBLIC COMMENT

Craig Schmidt, Chamber of Commerce CEO stated the Visitors Center hours have been changed to 9:00 am – 5:00 pm seven days per week, and the Chamber of Commerce will be paying for the additional hours until the 90-day contract is re-evaluated. He said it is unlikely Morro Bay would qualify as a California State Welcome Center because it is within 50 miles of Pismo Beach which is a Welcome Center. Mr. Schmidt stated the City Manager has been added as a voting member to the Executive Committee to the Chamber. He noted the Chamber is providing the City with profit and loss detailed statements every month, and providing the Community Promotions Committee and Tourism Business Improvement District Advisory Board with fiscal information. Mr. Schmidt announced he is looking for Skateboard event volunteers for July 3rd and volunteers for the 4th of July. He also thanked Harold Biaggini for hiring a crew to remove the weeds around the City billboard.

MINUTES - MORRO BAY CITY COUNCIL
REGULAR MEETING – JUNE 28, 2011

John Barta stated the California Welcome Center 50-mile rule may not come into play since Morro Bay is on Highway 1 and Pismo Beach is on Highway 101. He expressed support on Item D-2 (Report on the Cambria Voluntary Community Bus Program). Mr. Barta referred to Item D-4 (Discussion of Improvements to the “Rock” Parking Lot, Located at the End of Coleman Drive, Morro Bay) stating the Rock is known as the “Gibraltar of the Pacific” and the most sought after tourist attraction in the City. He requested Council be tenacious and aggressive in their decision on this item because improvements to this parking lot will add a lot to the town.

Betty Winholtz referred to Item D-4 stating the Rock parking lot is made of fill and could be an engineering nightmare; she said this money should go towards repaving City streets. Ms. Winholtz also referred to Item D-3 (Discussion and Adoption of the Pavement Management Plan) stating out of all the budgetary items on the agenda tonight, all the money should go towards this item.

Barry Brannin stated the workshops regarding the Wastewater Treatment Plant upgrade were well attended. He said he appreciated the openness and the interaction with staff and the consultant is bringing a level of professionalism that is truly remarkable.

Gerald Bednorz, Beach House Bistro, announced the 4th annual drive-thru barbeque will be held on the 4th of July from 12:00 pm - 4:00 pm to support the Susan G. Komen Breast Cancer Foundation.

Susan Stewart, Community Promotions Committee Chair gave a monthly update on the Committee’s actions.

Garry Johnson shared a photo of the K-9 walk-a-thon stating it was a great event. He also shared photos of the live theatre produced by Karen Garman stating what a fantastic job she does for the youth in our community.

Mayor Yates closed the hearing for public comment.

A. CONSENT CALENDAR

Unless an item is pulled for separate action by the City Council, the following actions are approved without discussion.

A-1 APPROVAL OF AGREEMENT BETWEEN THE MORRO BAY CHAMBER OF COMMERCE AND CITY OF MORRO BAY TO OPERATE THE VISITORS CENTER; (ADMINISTRATION)

RECOMMENDATION: Approve the Agreement between the Morro Bay Chamber of Commerce and the City of Morro Bay to operate the Visitors Center.

MINUTES - MORRO BAY CITY COUNCIL
REGULAR MEETING – JUNE 28, 2011

A-2 RESOLUTION NO. 45-11 ESTABLISHING A THREE-YEAR MORATORIUM FOR THE PAYMENT OF DEVELOPMENT IMPACT FEES FOR COMMERCIAL PROJECTS WITHIN A COMMERCIAL ZONE DISTRICT; (PUBLIC SERVICES)

RECOMMENDATION: Adopt Resolution No. 45-11.

Councilmember Smukler pulled Item A-2 from the Consent Calendar.

MOTION: Councilmember Borchard moved the City Council approve Item A-1 of the Consent Calendar. The motion was seconded by Councilmember Smukler and carried unanimously. (5-0)

A-2 RESOLUTION NO. 45-11 ESTABLISHING A THREE-YEAR MORATORIUM FOR THE PAYMENT OF DEVELOPMENT IMPACT FEES FOR COMMERCIAL PROJECTS WITHIN A COMMERCIAL ZONE DISTRICT; (PUBLIC SERVICES)

Councilmember Smukler stated he would be voting in opposition to this item because there are things the City could do that could support low impact development concepts as part of the impact fee reduction. He said this lacks a public benefit component that clearly shows resource improvements on conservation.

Councilmember Johnson referred to Resolution No. 45-11 and requested the following amendment:

BE IT FURTHER RESOLVED by the City Council of the City of Morro Bay, that only commercial or mixed-use projects on commercially zoned land shall be eligible and that residential projects within the mixed use areas shall not be eligible.

MOTION: Councilmember Johnson moved the City Council approve Item A-2 of the Consent Calendar as amended. The motion was seconded by Councilmember Borchard.

Councilmember Smukler expressed opposition because a higher standard needs to be held when giving away this large of a public gift.

VOTE: The motion carried with Councilmember Smukler voting no. (4-1)

Mayor Yates called for a break at 6:45 p.m.; the meeting resumed at 7:00 p.m.

MINUTES - MORRO BAY CITY COUNCIL
REGULAR MEETING – JUNE 28, 2011

B. PUBLIC HEARINGS, REPORTS & APPEARANCES

B-1 RESOLUTION NO. 43-11 DIRECTING THE LEVY OF THE ANNUAL ASSESSMENT FOR THE CLOISTERS LANDSCAPING AND LIGHTING MAINTENANCE ASSESSMENT DISTRICT; (RECREATION & PARKS)

Recreation & Parks Director Joe Woods stated at the May 10, 2011 City Council meeting, Council adopted Resolution No. 32-11 approving the Engineer's Report describing the annual maintenance to be completed at the Cloisters Park and Open Space, and declaring the City's intent to levy an annual assessment to finance this maintenance. The assessment, projected at \$1,241.20 per assessable lot in the Cloisters subdivision, will be collected by the County Assessor. As part of the assessment process, the City ordered the preparation of an Engineer's report, adopted a resolution of intention to levy an assessment, set June 28, 2011 as the hearing date on the proposed levy of assessment, noticed all property owners on record via first class mail of the hearing and published the notice in the local newspaper. The City Council must hold a protest/public hearing before considering the levy of the annual assessment. Mr. Woods recommended the City Council hold a public hearing on the annual levy of assessment for the Cloisters Landscaping and Lighting Maintenance Assessment District, and then adopt Resolution No. 43-11 confirming the levy of assessment for Fiscal Year 2011-12.

Mayor Yates opened the hearing for public comment.

Robert Bacon, resident of Cloisters, stated he shared pictures at a City Council meeting last year of the weeds throughout the parkway and park areas and it still looks the same this year. He said he does not object to paying the assessment, in fact it is a privilege to live by such a great park, which is a tourist attraction. Mr. Bacon objects to the lack of maintenance to the parkway and park areas.

Dawn Beattie, resident of Cloisters, stated the Recreation & Parks Department has been very responsive to the residents' needs. She said the communications between staff and the residents has been a major improvement. Ms. Beattie stated the homeowners are supporting the assessment on a probationary approach for this year.

Mayor Yates closed the hearing for public comment.

Councilmember Borchard stated she walks through the Cloisters and has noticed the improvements. She said she hopes the residents have patience with the progress.

Councilmember Johnson stated she agrees the Recreation & Parks Department has done a wonderful job in communicating with the residents and doing their best with limited funding.

Councilmember Leage stated he agrees the Department is making improvements to the area, and hopes it continues throughout the year when it comes back for review next year.

MINUTES - MORRO BAY CITY COUNCIL
REGULAR MEETING – JUNE 28, 2011

Councilmember Smukler stated it appears there have been strong communications with the residents. He said performance is going to be important for the neighborhood to be satisfied, and it will be exciting to identify long-range management plans for the development.

Mayor Yates stated his history is to not be supportive of this assessment; however, based on the support of the residents, he will support the assessment this year. He said he will reassess his consideration of this assessment next year.

MOTION: Councilmember Borchard moved the City Council adopt Resolution No. 43-11 directing the levy of the Annual Assessment for the Cloisters Landscaping and Lighting Maintenance Assessment District. The motion was seconded by Councilmember Smukler and carried unanimously. (5-0)

B-2 RESOLUTION NO. 44-11 DIRECTING THE LEVY OF THE ANNUAL ASSESSMENT FOR THE NORTH POINT NATURAL AREA LANDSCAPING AND LIGHTING MAINTENANCE ASSESSMENT DISTRICT; (RECREATION & PARKS)

Recreation & Parks Director Joe Woods stated at the May 10, 2011 City Council meeting, Council adopted Resolution No. 32-11 approving the Engineer's Report describing the annual maintenance to be completed at the North Point Natural Area, and declaring the City's intent to levy an annual assessment to finance this maintenance. The assessment, projected at \$564.50 per assessable lot in the North Point subdivision, will be collected by the County Assessor. As part of the assessment process, the City ordered the preparation of an Engineer's report, adopted a resolution of intention to levy an assessment, set June 28, 2011 as the hearing date on the proposed levy of assessment, and finally, noticed all property owners on record via first class mail of the hearing, as well as published the notice in the local newspaper. The City Council must hold a protest/public hearing before considering the levy of the annual assessment. Mr. Woods recommended the City Council hold a public hearing on the annual levy of assessment for the North Point Natural Area Landscaping and Lighting Maintenance Assessment District and then adopt Resolution No. 44-11 confirming the levy of assessment for Fiscal Year 2011-12.

Mayor Yates opened the hearing for public comment; there were no comments and Mayor Yates closed the hearing for public comment.

MOTION: Councilmember Borchard moved the City Council adopt Resolution No. 44-11 directing the levy of the Annual Assessment for the North Point Natural Area Landscaping and Lighting Maintenance Assessment District. The motion was seconded by Councilmember Leage and carried unanimously. (5-0)

MINUTES - MORRO BAY CITY COUNCIL
REGULAR MEETING – JUNE 28, 2011

B-3 ADOPTION OF THE URBAN WATER MANAGEMENT PLAN 2010
UPDATE; (PUBLIC SERVICES)

Utilities/Capital Projects Manager Dylan Wade stated in order to comply with the water code and other segments of state law, water utilities that serve more than 3000 customers or sell more than 3000 acre-feet-per-year of water are required to prepare an Urban Water Management Plan in years ending in 5 and 10. The City began preparing an update to the 2005 Urban Water Management Plan in the fall of 2010 and is bringing this document forward for public comment and Council adoption at this time. Mr. Wade stated there is a correction to page 2-4 of the Plan as follows: “The Morro Bay area experienced **relatively high-annual** population growth of 7.1 percent between 1990 and 2000.” He recommended the City Council review the 2010 Urban Water Management Plan update, propose any necessary amendments, and move for adoption with Resolution Number 46-11 as amended.

Mayor Yates opened the hearing for public comment.

John Barta stated this study shows how far the City has come within the last 20 years regarding water. He said the City has an adequate supply of water.

Betty Winholtz requested this item be continued due to insufficient noticing as required in the Plan. She said as a renter she did not receive notice since she does not receive a water bill, as is true of 50% of the residents in the City. Ms. Winholtz also referred to numerous errors in the Urban Water Management Plan as follows: 1) page 2-1: expansion of the community limited by a hillside; 2) page 2-3: viable industrial base; 3) page 2-4: affordable multi-family housing units; 4) page 2-4: population: 10,234; 5) Measure F – passed in 1984 due to a water issue; 6) page 2-9: climate average never over 70 degrees.

Mayor Yates closed the hearing for public comment.

MOTION: Mayor Yates moved the City Council adopt Resolution No. 46-11 approving the Urban Water Management Plan as amended by staff. The motion was seconded by Councilmember Borchard.

Councilmember Smukler requested the motion include recognition of the risk of unplanned emergency interruptions to the State Water Project in the Plan.

VOTE: The motion carried with Councilmember Smukler voting no. (4-1)

C. UNFINISHED BUSINESS – NONE.

MINUTES - MORRO BAY CITY COUNCIL
REGULAR MEETING – JUNE 28, 2011

D. NEW BUSINESS

D-1 CONSIDERATION OF RESOLUTION NO. 42-11 AMENDING THE PARAMETERS FOR THE USE OF THE GENERAL FUND EMERGENCY RESERVE; (ADMINISTRATIVE SERVICES)

Administrative Services Director Susan Slayton stated Resolution No. 27-10 was enacted on May 24, 2010, and set the parameters for the General Fund Emergency Reserve Fund. Staff feels an additional comment needs to be added that recommends Council's annual review of excess reserves for programming/designating them for use in the upcoming year. Ms. Slayton recommended the City Council adopt Resolution No. 42-11 which amends Resolution No. 27-10 by adding the following language: "Amounts greater than the 27.5% target balance, or minimum of \$2,750,000 (whichever is greater), will be programmed/designated by Council during the annual budget adoption process, at Council's discretion."

MOTION: Councilmember Smukler moved the City Council adopt Resolution No. 42-11 which amends Resolution No. 27-10 by adding the following language: "Amounts greater than the 27.5% target balance, or minimum of \$2,750,000 (whichever is greater), will be programmed/designated by Council during the annual budget adoption process, at Council's discretion." The motion was seconded by Councilmember Johnson.

Councilmember Borchard requested Condition #4 be removed due to its redundancy; Councilmember Smukler stated he would prefer not to remove it.

VOTE: The motion carried unanimously. (5-0)

D-2 REPORT ON THE CAMBRIA VOLUNTARY COMMUNITY BUS PROGRAM; (COUNCIL)

Councilmember Smukler stated that he along with Councilmember Borchard and City Manager Lueker met with the Cambria Bus Program volunteer coordinator in early June and discussed the program offered in Cambria. With the significant reduction of the transit programs, a community bus program may be a viable option, with volunteer support, to provide further transit opportunities to the senior and disabled community in the City. It was recommended the City Council discuss steps towards implementing a volunteer- run Community Bus Program for the City of Morro Bay.

Council consensus was in support to move forward with the implementation of a volunteer-run Community Bus Program for the seniors and disabled citizens of the City of Morro Bay.

No further action was taken on this item.

MINUTES - MORRO BAY CITY COUNCIL
REGULAR MEETING – JUNE 28, 2011

Mayor Yates called for a break at 8:10 p.m.; the meeting resumed at 8:15 p.m.

D-3 DISCUSSION AND ADOPTION OF THE PAVEMENT MANAGEMENT PLAN; (PUBLIC SERVICES)

Public Services Director Rob Livick stated in order to effectively utilize the City's limited street maintenance budget, staff has prepared a Pavement Management Plan that outlines the steps needed to both rehabilitate and preserve the pavement condition of this valuable City asset. Currently the present value of the City's street system is approximately \$40,000,000. Once adopted, the Pavement Management Plan will serve as the roadmap for future street maintenance. Mr. Livick noted an amendment to page 28 of the Pavement Management Plan as follows: "**Following years are funded with general funds or Measure Q funds as available. The actual level of funding will be allocated in each year's budget by City Council.**" He recommended the City Council review and adopts the Morro Bay Pavement Management Plan as amended.

MOTION: Councilmember Smukler moved the City Council adopt the Pavement Management Plan as amended by staff. The motion was seconded by Councilmember Borchard and carried unanimously. (5-0)

D-4 DISCUSSION OF IMPROVEMENTS TO THE "ROCK" PARKING LOT, LOCATED AT THE END OF COLEMAN DRIVE, MORRO BAY; (PUBLIC SERVICES)

Councilmember Leage stated the parking lot is in need of repair; however, the area needs a concept plan that would include paving the parking area, the addition of recreation areas, grassy areas to be used by families and tourists. He requested Council discuss the concept of improving this area and direct staff to move forward with a concept plan.

Recreation & Parks Director Joe Woods discussed the concept plan for Coleman Park that could perhaps include a recreational use north of Coleman Drive.

Public Services Director Rob Livick stated the Waterfront Master Plan, which was adopted by the City Council in May 1996, should also be reviewed by the Recreation & Parks Commission.

Council directed staff to contact Cal Poly to consider this as a viable project/concept plan; and, return to Council for review of the concept plan for the Rock improvements that will interface with the existing concept plan for Coleman Park.

No further action was taken on this item.

MINUTES - MORRO BAY CITY COUNCIL
REGULAR MEETING – JUNE 28, 2011

E. DECLARATION OF FUTURE AGENDA ITEMS – None.

ADJOURNMENT

The meeting adjourned at 9:35 p.m.

Recorded by:

Bridgett Kessler
City Clerk

Response to Comments Received Prior to and at Public Hearing

Received prior to the public hearing and at the Public Hearing Meeting

Comments received prior to the public hearing and at the public hearing are captured in the meeting minutes (included in this appendix). There were two verbal comments received at the meeting and those the council requested were addressed verbally prior to the adoption of the plan.

No comments were received by mail.

Appendix E
City of Morro Bay Ordinance No. 266

Morro Bay, California, Code of Ordinances >> - Appendix A >> ORDINANCE NO. 266 >>**ORDINANCE NO. 266**

AN ORDINANCE ESTABLISHING A GROWTH MANAGEMENT PROCEDURE WHICH WILL ALLOW FAIR DISTRIBUTION OF OUR SCARCE WATER RESOURCES AND PROTECT THE SMALL TOWN CHARACTER AND SURROUNDING OPEN SPACE OF THE CITY

Be it ordained by the people of the City of Morro Bay as follows:

SECTION 1. Both the Coastal Commission certified Land Use Plan and the Morro Bay city council-adopted Water Management Plan allow for a city residential population to grow from present 9600 to 12,200 by the year 2000 IF ADDITIONAL WATER RESOURCES OF ADEQUATE QUALITY AND QUANTITY ARE MADE AVAILABLE THROUGH IMPLEMENTATION OF THE WATER MANAGEMENT PLAN. In order to insure even and balanced growth during the 16 year period from January 1, 1985 through December 31, 2000, building permits will be limited to a number permitting an annual increase in population which would achieve the 12,200 person goal by the year 2000. No further residential building will be permitted after a population of 12,200 has been reached unless an increase has been approved by a majority vote at a regular or special election.

SECTION. 2. If water and wastewater treatment capacities become available allowing for a population increase beyond 12,200, the growth management procedures of this ordinance may be altered ONLY BY A MAJORITY VOTE OF THE PEOPLE AT A REGULAR OR SPECIAL ELECTION.

SECTION 3. Residential building permits in 1985 will be limited to 70 residential units. The city council with advice of the planning commission, will determine by January 15 of each calendar year thereafter the mix of multi-unit and single family residential units for that calendar year. The 70 unit ceiling may be increased or decreased by a factor not exceeding 10 percent if necessary to achieve the allotted annual population growth target. The determination of the mix will be based on a study of the historical building permit pattern for the decade prior to 1977 and the years since 1982, plus an estimate of population increase of the previous year. Final adjustment of the building permit limit in each year will be made by the city council after a public hearing.

SECTION 4. In any calendar year the commercial and industrial building permits issued shall not require more than 130% of the water allocated to residential units that year.

SECTION 5. Residential building permit approvals will follow Coastal Act priorities for water allocation required by Coastal Development Permit 4-81-309A or as revised after the Coastal Commission review scheduled for December 1984. These priorities shall be reviewed again when the pipe replacement program is completed and necessary amendments submitted to the Coastal Commission.

SECTION 6. For purposes of awarding building permits, only those development proposals which meet the definition of infill now in use for water allocations may be approved. This definition was approved by city council Resolution No. 26-84 on March 12, 1984.

SECTION 7. Land Use Plan policies 6.01 through 6.08 have been designed to preserve open space and agricultural land within the city limits. These policies and the zoning ordinances which now implement them may be amended or repealed ONLY BY A MAJORITY VOTE OF THE PEOPLE AT A REGULAR OR SPECIAL ELECTION held after final approval of an amendment or repeal by the city council and prior to submission to the Coastal Commission.

SECTION 8. Nonprofit public facilities (e.g. public buildings, libraries, senior centers, etc.) supported in whole or in part by public funds are exempted from the permit limitations in Sections 3 and 4.

SECTION 9. Severance. If any portion of this ordinance is held invalid for any reason by a decision of a court of competent jurisdiction, such portion shall be deemed a separate, distinct and severable portion thereof and such decision shall not affect the validity of the remaining portions.

SECTION 10. This ordinance shall supersede all other ordinances in conflict herewith.

I, GARY A. NAPPER, City Clerk of the City of Morro Bay, do hereby certify that the foregoing is a true and correct copy of an ordinance adopted by a majority vote of the electors voting in the general municipal election held in the City of Morro Bay on the 6th day of November, 1984.

Dated: November 30, 1984.

	GARY A. NAPPER
	City Clerk
	City of Morro Bay, California

Appendix F
Groundwater Permits

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

PERMIT FOR DIVERSION AND USE OF WATER

PERMIT 20841

Application 27477 of City of Morro Bay

595 Harbor Street, Morro Bay, CA 93442

filed on August 13, 1982, has been approved by the State Water Resources Control Board
SUBJECT TO PRIOR RIGHTS and to the limitations and conditions of this permit.

Permittee is hereby authorized to divert and use water as follows:

1. Source: Morro Creek Subterranean Stream Tributary to: Pacific Ocean

2. Location of point of diversion:	40-acre subdivision of public land survey or projection thereof	Section *	Township	Range	Base and Meridian
By California Coordinate System, Zone 5					
Well No. 1 - North 695,740 feet and East 1,148,170 feet	SW $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD
Well No. 2 - North 695,880 feet and East 1,148,090 feet	SW $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD
Well No. 3 - North 696,060 feet and East 1,149,040 feet	NE $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD
Well No. 4 - North 696,010 feet and East 1,149,040 feet	NE $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD
Well No. 13 - North 696,180 feet and East 1,149,900 feet	NE $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD
Well No. 14 - North 695,960 feet and East 1,149,060 feet	NE $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD
Well No. 15 - North 695,850 feet and East 1,149,120 feet	NE $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD

County of San Luis Obispo

* projected fractional

3. Purpose of use:	4. Place of use:	Section	Township	Range	Base and Meridian	Acres
Municipal	Within the boundaries of the City of Morro Bay's service area					

The place of use is shown on map on file with the State Water Resources Control Board.

- 5. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed 0.13 cubic foot per second to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this permit shall not exceed 91 acre-feet per year. (000005)
- 6. The amount authorized for appropriation may be reduced in the license if investigation warrants. (000006)
- 7. Complete application of the water to the authorized use shall be made by December 31, 2001. (000009)
- 8. Progress reports shall be submitted promptly by permittee when requested by the State Water Resources Control Board until a license is issued. (000010)
- 9. Permittee shall allow representatives of the State Water Resources Control Board and other parties, as may be authorized from time to time by said Board, reasonable access to project works to determine compliance with the terms of this permit. (000011)
- 10. Pursuant to California Water Code Sections 100 and 275, and the common law public trust doctrine, all rights and privileges under this permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Resources Control Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use or unreasonable method of diversion of said water.

The continuing authority of the Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to eliminating waste of water and to meeting the reasonable water requirements of permittee without unreasonable draft on the source. Permittee may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the Board also may be exercised by imposing further limitations on the diversion and use of water by the permittee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust. (0000012)

11. The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Resources Control Board if, after notice to the permittee and an opportunity for hearing, the Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges. (0000013)

12. The equivalent of the authorized continuous flow allowance for any 30-day period may be diverted in a shorter time, provided there is no interference with other rights and instream beneficial uses, and provided further that all terms and conditions protecting instream beneficial uses are observed. (0000027)

13. Permittee shall consult with the Division of Water Rights and, within one year from the date of this permit, shall submit to the State Water Resources Control Board its Urban Water Management Plan as prepared and adopted in conformance with Section 10610, et seq. of the California Water Code, supplemented by any additional information that may be required by the Board.

All cost-effective measures identified in the Urban Water Management Plan and any supplements thereto shall be implemented in accordance with the schedule for implementation found therein. (000029A)

14. The total quantity of water diverted under this permit, together with that diverted under the permit issued pursuant to Application 24246, shall not exceed 581 acre-feet per year. (0000114)

This permit is issued and permittee takes it subject to the following provisions of the Water Code:

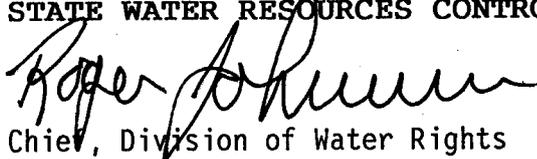
Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer.

Section 1391. Every permit shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriator of water to whom a permit is issued takes it subject to the conditions therein expressed.

Section 1392. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any permittee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Dated: May 28, 1996

STATE WATER RESOURCES CONTROL BOARD


Chief, Division of Water Rights

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

PERMIT FOR DIVERSION AND USE OF WATER

PERMIT 20840

Application 24246 of City of Morro Bay

595 Harbor Street, Morro Bay, CA 93442

filed on November 22, 1972, has been approved by the State Water Resources Control Board
SUBJECT TO PRIOR RIGHTS and to the limitations and conditions of this permit.

Permittee is hereby authorized to divert and use water as follows:

1. Source:	Tributary to:
<u>Morro Creek Subterranean Stream</u>	<u>Pacific Ocean</u>

2. Location of point of diversion:	40-acre subdivision of public land survey or projection thereof	Section *	Township	Range	Base and Meridian
By California Coordinate System, Zone 5					
Well No. 1 - North 695,740 feet and East 1,148,170 feet	SW $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD
Well No. 2 - North 695,880 feet and East 1,148,090 feet	SW $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD
Well No. 3 - North 696,060 feet and East 1,149,040 feet	NE $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD
Well No. 4 - North 696,010 feet and East 1,149,040 feet	NE $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD
Well No. 13 - North 696,180 feet and East 1,149,900 feet	NE $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD
Well No. 14 - North 695,960 feet and East 1,149,060 feet	NE $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD
Well No. 15 - North 695,850 feet and East 1,149,120 feet	NE $\frac{1}{4}$ of NW $\frac{1}{4}$	25	29S	10E	MD

County of San Luis Obispo

* projected fractional

3. Purpose of use:	4. Place of use:	Section	Township	Range	Base and Meridian	Acres
Municipal	Within the boundaries of the City of Morro Bay's service area					

The place of use is shown on map on file with the State Water Resources Control Board.

5. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed 1.07 cubic feet per second to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this permit shall not exceed 490 acre-feet per year. (0000005)

6. The amount authorized for appropriation may be reduced in the license if investigation warrants. (0000006)

7. Complete application of the water to the authorized use shall be made by December 31, 2001. (0000009)

8. Progress reports shall be submitted promptly by permittee when requested by the State Water Resources Control Board until a license is issued. (0000010)

9. Permittee shall allow representatives of the State Water Resources Control Board and other parties, as may be authorized from time to time by said Board, reasonable access to project works to determine compliance with the terms of this permit. (0000011)

10. Pursuant to California Water Code Sections 100 and 275, and the common law public trust doctrine, all rights and privileges under this permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Resources Control Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use or unreasonable method of diversion of said water.

The continuing authority of the Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to eliminating waste of water and to meeting the reasonable water requirements of permittee without unreasonable draft on the source. Permittee may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the Board also may be exercised by imposing further limitations on the diversion and use of water by the permittee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust. (0000012)

11. The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Resources Control Board if, after notice to the permittee and an opportunity for hearing, the Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges. (0000013)

12. The equivalent of the authorized continuous flow allowance for any 30-day period may be diverted in a shorter time, provided there is no interference with other rights and instream beneficial uses, and provided further that all terms and conditions protecting instream beneficial uses are observed. (0000027)

13. Permittee shall consult with the Division of Water Rights and, within one year from the date of this permit, shall submit to the State Water Resources Control Board its Urban Water Management Plan as prepared and adopted in conformance with Section 10610, et seq. of the California Water Code, supplemented by any additional information that may be required by the Board.

All cost-effective measures identified in the Urban Water Management Plan and any supplements thereto shall be implemented in accordance with the schedule for implementation found therein. (000029A)

14. The total quantity of water diverted under this permit, together with that diverted under the permit issued pursuant to Application 27477, shall not exceed 581 acre-feet per year. (0000114)

This permit is issued and permittee takes it subject to the following provisions of the Water Code:

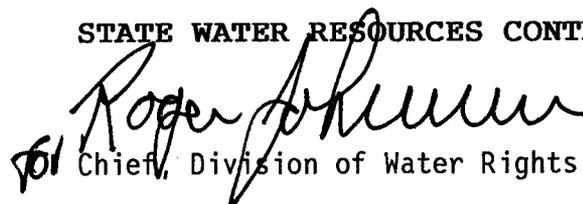
Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer.

Section 1391. Every permit shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriator of water to whom a permit is issued takes it subject to the conditions therein expressed.

Section 1392. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any permittee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Dated: May 28, 1996

STATE WATER RESOURCES CONTROL BOARD


Chief, Division of Water Rights

STATE OF CALIFORNIA
 CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
 STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

PERMIT FOR DIVERSION AND USE OF WATER

PERMIT 20868

Application 27386 of City of Morro Bay

595 Harbor Street, Morro Bay, CA 93442

filed on July 9, 1982, has been approved by the State Water Resources Control Board
 SUBJECT TO PRIOR RIGHTS and to the limitations and conditions of this permit.

Permittee is hereby authorized to divert and use water as follows:

- | | |
|---|-------------------------|
| 1. Source: | Tributary to: |
| <u>Chorro Creek Subterranean Stream</u> | <u>Morro Bay thence</u> |
| | <u>Pacific Ocean</u> |

2. Location of point of diversion:	40-acre subdivision of public land survey or projection thereof	Section *	Township	Range	Base and Meridian
By California Coordinate System, Zone 5					
Well No. 9 - North 688,080 feet and East 1,161,780 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 9A - North 688,410 feet and East 1,161,790 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 10 - North 688,160 feet and East 1,161,780 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 10A - North 688,450 feet and East 1,161,280 feet	NW $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 11A - North 685,779 feet and East 1,168,095 feet	NW $\frac{1}{4}$ of NW $\frac{1}{4}$	3	30S	11E	MD
Well No. 12 - North 687,900 feet and East 1,162,020 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 16 - North 688,400 feet and East 1,161,900 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD

County of San Luis Obispo

* projected fractional

3. Purpose of use:	4. Place of use:	Section	Township	Range	Base and Meridian	Acres
Municipal	Within the boundaries of the City of Morro Bay's service area					

The place of use is shown on map on file with the State Water Resources Control Board.

- 5. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed 0.3 cubic foot per second to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this permit shall not exceed 217.5 acre-feet per year. (0000005)
- 6. The amount authorized for appropriation may be reduced in the license if investigation warrants. (0000006)
- 7. Complete application of the water to the authorized use shall be made by December 31, 2001. (0000009)
- 8. Progress reports shall be submitted promptly by permittee when requested by the State Water Resources Control Board until a license is issued. (0000010)
- 9. Permittee shall allow representatives of the State Water Resources Control Board and other parties, as may be authorized from time to time by said Board, reasonable access to project works to determine compliance with the terms of this permit. (0000011)
- 10. Pursuant to California Water Code Sections 100 and 275, and the common law public trust doctrine, all rights and privileges under this permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Resources Control Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use or unreasonable method of diversion of said water.

The continuing authority of the Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to eliminating waste of water and to meeting the reasonable water requirements of permittee without unreasonable draft on the source. Permittee may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the Board also may be exercised by imposing further limitations on the diversion and use of water by the permittee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust. (0000012)

11. The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Resources Control Board if, after notice to the permittee and an opportunity for hearing, the Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges. (0000013)

12. The equivalent of the authorized continuous flow allowance for any 30-day period may be diverted in a shorter time, provided there is no interference with other rights and instream beneficial uses, and provided further that all terms and conditions protecting instream beneficial uses are observed. (0000027)

13. Permittee shall consult with the Division of Water Rights and, within one year from the date of this permit, shall submit to the State Water Resources Control Board its Urban Water Management Plan as prepared and adopted in conformance with Section 10610, et seq. of the California Water Code, supplemented by any additional information that may be required by the Board.

All cost-effective measures identified in the Urban Water Management Plan and any supplements thereto shall be implemented in accordance with the schedule for implementation found therein. (000029A)

14. The total quantity of water diverted under this permit, together with that diverted under the permits issued pursuant to Applications 24239 and 24245, shall not exceed 1,142.5 acre-feet per year. (0000114)

15. For the protection of fish and wildlife habitat and other public trust resources in Chorro Creek and Morro Bay, beginning when deliveries are available from the State Water Project Permittee shall:

- a. Cease all diversions from Well 11A (Romero well field), or from any wells constructed or operated as replacement wells for Well 11A, whenever surface flow measured in Chorro Creek downstream of the reach depleted by extractions of ground water from Well 11A, or other wells as described above, is less than 1.4 cubic feet per second; and
- b. Cease all diversions from Wells 9, 9A, 10, 10A, 12, and 16 (Ashurst well field), or from any wells constructed or operated as replacement wells for the Ashurst well field, whenever surface flow measured in Chorro Creek downstream of the Ashurst well field is less than 1.4 cubic feet per second. (0350900)

16. Permittee may, at its option, seek a waiver of term 15b by conducting a study and providing the Chief, Division of Water Rights, with quantitative evidence that ground water extraction from the Ashurst well field does not deplete surface flow in Chorro Creek. The evidence shall be provided in a report which also specifies the reach of the creek and portion of the alluvial aquifer studied and a description and justification of the methodology used to measure stream depletion. The State Water Resources Control Board reserves jurisdiction over this permit to determine whether to waive term 15b. Any action to waive term 15b shall be taken only after notice to interested parties and opportunity for hearing. (0000999)

17. No later than January 1, 1997, Permittee shall install devices which are capable of continuous measurements of surface flow in Chorro Creek to document compliance with the minimum surface flow conditions of this Permit. One measuring device shall be installed in Chorro Creek downstream of the Romero well field at a location sufficient to detect the full depletion effects of Permittee's diversions from the Romero well field, but upstream of the depletion effects caused by nearby pumpers on surface flow in Chorro Creek. Another measuring device shall be installed in the Chorro Creek downstream of the Ashurst well field at a location sufficient to detect the full depletion effects of Permittee's diversions from the Ashurst well field, but upstream of the depletion effects caused by nearby pumpers on surface flows in Chorro Creek. In the case of overlapping pumping effects between the City and a nearby pumper, a compromise location shall be selected. These measuring devices shall be continuously operated and properly maintained by Permittee. In the event that either of these devices is rendered inoperable due to relocation of the Chorro Creek stream channel, Permittee shall move the measuring device to a suitable location in the new stream channel within 60 days after surface flows are rediverted into the new stream channel. The measuring devices and their locations shall be approved by the Chief of the Division of Water Rights. A description and justification of the measuring devices and their locations shall be submitted for approval no later than July 1, 1996. (0060900)
(0490700)

18. By March 1 of each year, Permittee shall submit a report to the Chief, Division of Water Rights, documenting compliance with the minimum surface flow conditions of this Permit. The report shall contain:

- a. A list of dates and times during the previous calendar year when water was pumped at each of Permittee's points of diversion under this Permit; and
- b. For each of the dates and times listed in paragraph a. (above) the corresponding minimum surface flows measured in Chorro Creek at each of the surface flow measuring devices. (0060700)
(0090700)

19. Permittee shall cease all diversions from the Romero well field, or from any wells constructed or operated as replacements for wells in the Romero well field, whenever instantaneous surface flow in Chorro Creek measured at the Canet Road stream gage is less than 0.85 cubic foot per second. This term shall be in effect until deliveries are available from the State Water Project. (0350900)

20. At such time as permittee is diverting water authorized under this permit and the water level in one or more of the wells operated on the Coastal San Luis Resource Conservation District property, the Roemer/Jones property, the Gary and Joyce Williams property, or their successors in interest, for valid riparian and/or pre-1914 appropriative uses of water from the Chorro Creek subterranean stream, reaches a depth which renders the well or wells unusable, permittee shall either:

- a. Stop its diversion until conditions are such that the well or wells is/are again usable, or
- b. Deliver water to the riparian/pre-1914 appropriative place of use served by the well or wells.

The riparian/pre-1914 appropriative diverter shall bear the estimated costs which would have been incurred to pump water from the affected well or wells. In the absence of an agreement between the permittee and the other parties relative to pumping costs, the costs shall be based on an average amount per acre-foot for pumping water from the affected well or wells during the month in question over the prior three years. Permittee shall pay the cost of installing and maintaining any water conveyance facilities needed to deliver water to the riparian/pre-1914 appropriative place of use.

The State Water Resources Control Board reserves jurisdiction to modify this permit term based on findings that the methods of diversion and/or uses of water of the riparian and pre-1914 appropriative diverters identified in this term are wasteful or unreasonable pursuant to Article X, Section 2 of the California Constitution. Any modification of this term will occur only after notice to interested parties and opportunity for hearing.

(0000600)
(0350900)
(0280800)

This permit is issued and permittee takes it subject to the following provisions of the Water Code:

Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer.

Section 1391. Every permit shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriator of water to whom a permit is issued takes it subject to the conditions therein expressed.

Section 1392. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any permittee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Dated: August 21, 1996

STATE WATER RESOURCES CONTROL BOARD

Roger J. Hume
Vof Chief, Division of Water Rights

STATE OF CALIFORNIA
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

PERMIT FOR DIVERSION AND USE OF WATER

PERMIT 20867

Application 24245 of City of Morro Bay

595 Harbor Street, Morro Bay, CA 93442

filed on November 22, 1972, has been approved by the State Water Resources Control Board
SUBJECT TO PRIOR RIGHTS and to the limitations and conditions of this permit.

Permittee is hereby authorized to divert and use water as follows:

1. Source:	Tributary to:
<u>Chorro Creek Subterranean Stream</u>	<u>Morro Bay thence</u>
	<u>Pacific Ocean</u>

2. Location of point of diversion:	40-acre subdivision of public land survey or projection thereof	Section *	Township	Range	Base and Meridian
By California Coordinate System, Zone 5					
Well No. 9 - North 688,080 feet and East 1,161,780 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 9A - North 688,410 feet and East 1,161,790 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 10 - North 688,160 feet and East 1,161,780 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 10A - North 688,450 feet and East 1,161,280 feet	NW $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 11A - North 685,779 feet and East 1,168,095 feet	NW $\frac{1}{4}$ of NW $\frac{1}{4}$	3	30S	11E	MD
Well No. 12 - North 687,900 feet and East 1,162,020 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 16 - North 688,400 feet and East 1,161,900 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD

County of San Luis Obispo

* projected fractional

3. Purpose of use:	4. Place of use:	Section	Township	Range	Base and Meridian	Acres
Municipal	Within the boundaries of the City of Morro Bay's service area					

The place of use is shown on map on file with the State Water Resources Control Board.

5. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed 2.02 cubic feet per second to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this permit shall not exceed 535 acre-feet per year. (0000005)
6. The amount authorized for appropriation may be reduced in the license if investigation warrants. (0000006)
7. Complete application of the water to the authorized use shall be made by December 31, 2001. (0000009)
8. Progress reports shall be submitted promptly by permittee when requested by the State Water Resources Control Board until a license is issued. (0000010)
9. Permittee shall allow representatives of the State Water Resources Control Board and other parties, as may be authorized from time to time by said Board, reasonable access to project works to determine compliance with the terms of this permit. (0000011)
10. Pursuant to California Water Code Sections 100 and 275, and the common law public trust doctrine, all rights and privileges under this permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Resources Control Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use or unreasonable method of diversion of said water.

The continuing authority of the Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to eliminating waste of water and to meeting the reasonable water requirements of permittee without unreasonable draft on the source. Permittee may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the Board also may be exercised by imposing further limitations on the diversion and use of water by the permittee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust. (0000012)

11. The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Resources Control Board if, after notice to the permittee and an opportunity for hearing, the Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges. (0000013)

12. The equivalent of the authorized continuous flow allowance for any 30-day period may be diverted in a shorter time, provided there is no interference with other rights and instream beneficial uses, and provided further that all terms and conditions protecting instream beneficial uses are observed. (0000027)

13. Permittee shall consult with the Division of Water Rights and, within one year from the date of this permit, shall submit to the State Water Resources Control Board its Urban Water Management Plan as prepared and adopted in conformance with Section 10610, et seq. of the California Water Code, supplemented by any additional information that may be required by the Board.

All cost-effective measures identified in the Urban Water Management Plan and any supplements thereto shall be implemented in accordance with the schedule for implementation found therein. (000029A)

14. The total quantity of water diverted under this permit, together with that diverted under the permits issued pursuant to Applications 24239 and 27386, shall not exceed 1,142.5 acre-feet per year. (0000114)
15. For the protection of fish and wildlife habitat and other public trust resources in Chorro Creek and Morro Bay, beginning when deliveries are available from the State Water Project Permittee shall:
- a. Cease all diversions from Well 11A (Romero well field), or from any wells constructed or operated as replacement wells for Well 11A, whenever surface flow measured in Chorro Creek downstream of the reach depleted by extractions of ground water from Well 11A, or other wells as described above, is less than 1.4 cubic feet per second; and
 - b. Cease all diversions from Wells 9, 9A, 10, 10A, 12, and 16 (Ashurst well field), or from any wells constructed or operated as replacement wells for the Ashurst well field, whenever surface flow measured in Chorro Creek downstream of the Ashurst well field is less than 1.4 cubic feet per second. (0350900)
16. Permittee may, at its option, seek a waiver of term 15b by conducting a study and providing the Chief, Division of Water Rights, with quantitative evidence that ground water extraction from the Ashurst well field does not deplete surface flow in Chorro Creek. The evidence shall be provided in a report which also specifies the reach of the creek and portion of the alluvial aquifer studied and a description and justification of the methodology used to measure stream depletion. The State Water Resources Control Board reserves jurisdiction over this permit to determine whether to waive term 15b. Any action to waive term 15b shall be taken only after notice to interested parties and opportunity for hearing. (0000999)
17. No later than January 1, 1997, Permittee shall install devices which are capable of continuous measurements of surface flow in Chorro Creek to document compliance with the minimum surface flow conditions of this Permit. One measuring device shall be installed in Chorro Creek downstream of the Romero well field at a location sufficient to detect the full depletion effects of Permittee's diversions from the Romero well field, but upstream of the depletion effects caused by nearby pumpers on surface flow in Chorro Creek. Another measuring device shall be installed in Chorro Creek downstream of the Ashurst well field at a location sufficient to detect the full depletion effects of Permittee's diversions from the Ashurst well field, but upstream of the depletion effects caused by nearby pumpers on surface flows in Chorro Creek. In the case of overlapping pumping effects between the City and a nearby pumper, a compromise location shall be selected. These measuring devices shall be continuously operated and properly maintained by Permittee. In the event that either of these devices is rendered inoperable due to relocation of the Chorro Creek stream channel, Permittee shall move the measuring device to a suitable location in the new stream channel within 60 days after surface flows are rediverted into the new stream channel. The measuring devices and their locations shall be approved by the Chief of the Division of Water Rights. A description and justification of the measuring devices and their locations shall be submitted for approval no later than July 1, 1996. (0060900)
(0490700)

18. By March 1 of each year, Permittee shall submit a report to the Chief, Division of Water Rights, documenting compliance with the minimum surface flow conditions of this Permit. The report shall contain:

- a. A list of dates and times during the previous calendar year when water was pumped at each of Permittee's points of diversion under this Permit; and
- b. For each of the dates and times listed in paragraph a. (above) the corresponding minimum surface flows measured in Chorro Creek at each of the surface flow measuring devices. (0060700)
(0090700)

19. Permittee shall cease all diversions from the Romero well field, or from any wells constructed or operated as replacements for wells in the Romero well field, whenever instantaneous surface flow in Chorro Creek measured at the Canet Road stream gage is less than 0.85 cubic foot per second. This term shall be in effect until deliveries are available from the State Water Project. (0350900)

20. At such time as permittee is diverting water authorized under this permit and the water level in one or more of the wells operated on the Coastal San Luis Resource Conservation District property, the Roemer/Jones property, the Gary and Joyce Williams property, or their successors in interest, for valid riparian and/or pre-1914 appropriative uses of water from the Chorro Creek subterranean stream, reaches a depth which renders the well or wells unusable, permittee shall either:

- a. Stop its diversion until conditions are such that the well or wells is/are again usable, or
- b. Deliver water to the riparian/pre-1914 appropriative place of use served by the well or wells.

The riparian/pre-1914 appropriative diverter shall bear the estimated costs which would have been incurred to pump water from the affected well or wells. In the absence of an agreement between the permittee and the other parties relative to pumping costs, the costs shall be based on an average amount per acre-foot for pumping water from the affected well or wells during the month in question over the prior three years. Permittee shall pay the cost of installing and maintaining any water conveyance facilities needed to deliver water to the riparian/pre-1914 appropriative place of use.

The State Water Resources Control Board reserves jurisdiction to modify this permit term based on findings that the methods of diversion and/or uses of water of the riparian and pre-1914 appropriative diverters identified in this term are wasteful or unreasonable pursuant to Article X, Section 2 of the California Constitution. Any modification of this term will occur only after notice to interested parties and opportunity for hearing.

(0000600)
(0350900)
(0280800)

This permit is issued and permittee takes it subject to the following provisions of the Water Code:

Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer.

Section 1391. Every permit shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriator of water to whom a permit is issued takes it subject to the conditions therein expressed.

Section 1392. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any permittee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Dated: August 21, 1996

STATE WATER RESOURCES CONTROL BOARD

Roger Johnson
701 Chief, Division of Water Rights

STATE OF CALIFORNIA
 CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
 STATE WATER RESOURCES CONTROL BOARD

DIVISION OF WATER RIGHTS

PERMIT FOR DIVERSION AND USE OF WATER

PERMIT 20866

Application 24239 of City of Morro Bay

595 Harbor Street, Morro Bay, CA 93442

filed on November 3, 1972, has been approved by the State Water Resources Control Board
 SUBJECT TO PRIOR RIGHTS and to the limitations and conditions of this permit.

Permittee is hereby authorized to divert and use water as follows:

1. Source: Chorro Creek Subterranean Stream Tributary to: Morro Bay thence
Pacific Ocean

2. Location of point of diversion:	40-acre subdivision of public land survey or projection thereof	Section *	Township	Range	Base and Meridian
By California Coordinate System, Zone 5					
Well No. 9 - North 688,080 feet and East 1,161,780 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 9A - North 688,410 feet and East 1,161,790 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 10 - North 688,160 feet and East 1,161,780 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 10A - North 688,450 feet and East 1,161,280 feet	NW $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 11A - North 685,779 feet and East 1,168,095 feet	NW $\frac{1}{4}$ of NW $\frac{1}{4}$	3	30S	11E	MD
Well No. 12 - North 687,900 feet and East 1,162,020 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD
Well No. 16 - North 688,400 feet and East 1,161,900 feet	NE $\frac{1}{4}$ of SE $\frac{1}{4}$	32	29S	11E	MD

County of San Luis Obispo

* projected fractional

3. Purpose of use:	4. Place of use:	Section	Township	Range	Base and Meridian	Acres
Municipal	Within the boundaries of the City of Morro Bay's service area					

The place of use is shown on map on file with the State Water Resources Control Board.

5. The water appropriated shall be limited to the quantity which can be beneficially used and shall not exceed 0.851 cubic foot per second to be diverted from January 1 to December 31 of each year. The maximum amount diverted under this permit shall not exceed 390 acre-feet per year. (000005)

6. The amount authorized for appropriation may be reduced in the license if investigation warrants. (000006)

7. Complete application of the water to the authorized use shall be made by December 31, 2001. (000009)

8. Progress reports shall be submitted promptly by permittee when requested by the State Water Resources Control Board until a license is issued. (000010)

9. Permittee shall allow representatives of the State Water Resources Control Board and other parties, as may be authorized from time to time by said Board, reasonable access to project works to determine compliance with the terms of this permit. (000011)

10. Pursuant to California Water Code Sections 100 and 275, and the common law public trust doctrine, all rights and privileges under this permit and under any license issued pursuant thereto, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the State Water Resources Control Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use or unreasonable method of diversion of said water.

The continuing authority of the Board may be exercised by imposing specific requirements over and above those contained in this permit with a view to eliminating waste of water and to meeting the reasonable water requirements of permittee without unreasonable draft on the source. Permittee may be required to implement a water conservation plan, features of which may include but not necessarily be limited to (1) reusing or reclaiming the water allocated; (2) using water reclaimed by another entity instead of all or part of the water allocated; (3) restricting diversions so as to eliminate agricultural tailwater or to reduce return flow; (4) suppressing evaporation losses from water surfaces; (5) controlling phreatophytic growth; and (6) installing, maintaining, and operating efficient water measuring devices to assure compliance with the quantity limitations of this permit and to determine accurately water use as against reasonable water requirements for the authorized project. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such specific requirements are physically and financially feasible and are appropriate to the particular situation.

The continuing authority of the Board also may be exercised by imposing further limitations on the diversion and use of water by the permittee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust. (000012)

11. The quantity of water diverted under this permit and under any license issued pursuant thereto is subject to modification by the State Water Resources Control Board if, after notice to the permittee and an opportunity for hearing, the Board finds that such modification is necessary to meet water quality objectives in water quality control plans which have been or hereafter may be established or modified pursuant to Division 7 of the Water Code. No action will be taken pursuant to this paragraph unless the Board finds that (1) adequate waste discharge requirements have been prescribed and are in effect with respect to all waste discharges which have any substantial effect upon water quality in the area involved, and (2) the water quality objectives cannot be achieved solely through the control of waste discharges. (000013)

12. The equivalent of the authorized continuous flow allowance for any 30-day period may be diverted in a shorter time, provided there is no interference with other rights and instream beneficial uses, and provided further that all terms and conditions protecting instream beneficial uses are observed. (000027)

13. Permittee shall consult with the Division of Water Rights and, within one year from the date of this permit, shall submit to the State Water Resources Control Board its Urban Water Management Plan as prepared and adopted in conformance with Section 10610, et seq. of the California Water Code, supplemented by any additional information that may be required by the Board.

All cost-effective measures identified in the Urban Water Management Plan and any supplements thereto shall be implemented in accordance with the schedule for implementation found therein. (000029A)

14. The total quantity of water diverted under this permit, together with that diverted under the permits issued pursuant to Applications 24245 and 27386, shall not exceed 1,142.5 acre-feet per year. (0000114)

15. For the protection of fish and wildlife habitat and other public trust resources in Chorro Creek and Morro Bay, beginning when deliveries are available from the State Water Project Permittee shall:

- a. Cease all diversions from Well 11A (Romero well field), or from any wells constructed or operated as replacement wells for Well 11A, whenever surface flow measured in Chorro Creek downstream of the reach depleted by extractions of ground water from Well 11A, or other wells as described above, is less than 1.4 cubic feet per second; and
- b. Cease all diversions from Wells 9, 9A, 10, 10A, 12, and 16 (Ashurst well field), or from any wells constructed or operated as replacement wells for the Ashurst well field, whenever surface flow measured in Chorro Creek downstream of the Ashurst well field is less than 1.4 cubic feet per second. (0350900)

16. Permittee may, at its option, seek a waiver of term 15b by conducting a study and providing the Chief, Division of Water Rights, with quantitative evidence that ground water extraction from the Ashurst well field does not deplete surface flow in Chorro Creek. The evidence shall be provided in a report which also specifies the reach of the creek and portion of the alluvial aquifer studied and a description and justification of the methodology used to measure stream depletion. The State Water Resources Control Board reserves jurisdiction over this permit to determine whether to waive term 15b. Any action to waive term 15b shall be taken only after notice to interested parties and opportunity for hearing. (0000999)

17. No later than January 1, 1997, Permittee shall install devices which are capable of continuous measurements of surface flow in Chorro Creek to document compliance with the minimum surface flow conditions of this Permit. One measuring device shall be installed in Chorro Creek downstream of the Romero well field at a location sufficient to detect the full depletion effects of Permittee's diversions from the Romero well field, but upstream of the depletion effects caused by nearby pumpers on surface flow in Chorro Creek. Another measuring device shall be installed in Chorro Creek downstream of the Ashurst well field at a location sufficient to detect the full depletion effects of Permittee's diversions from the Ashurst well field, but upstream of the depletion effects caused by nearby pumpers on surface flows in Chorro Creek. In the case of overlapping pumping effects between the City and a nearby pumper, a ~~compromise~~ location shall be selected. These measuring devices shall be continuously operated and properly maintained by Permittee. In the event that either of these devices is rendered inoperable due to relocation of the Chorro Creek stream channel, Permittee shall move the measuring device to a suitable location in the new stream channel within 60 days after surface flows are rediverted into the new stream channel. The measuring devices and their locations shall be approved by the Chief of the Division of Water Rights. A description and justification of the measuring devices and their locations shall be submitted for approval no later than July 1, 1996. (0060900)

(0490700)

18. By March 1 of each year, Permittee shall submit a report to the Chief, Division of Water Rights, documenting compliance with the minimum surface flow conditions of this Permit. The report shall contain:

- a. A list of dates and times during the previous calendar year when water was pumped at each of Permittee's points of diversion under this Permit; and
- b. For each of the dates and times listed in paragraph a. (above) the corresponding minimum surface flows measured in Chorro Creek at each of the surface flow measuring devices. (0060700)
(0090700)

19. Permittee shall cease all diversions from the Romero well field, or from any wells constructed or operated as replacements for wells in the Romero well field, whenever instantaneous surface flow in Chorro Creek measured at the Canet Road stream gage is less than 0.85 cubic foot per second. This term shall be in effect until deliveries are available from the State Water Project. (0350900)

20. At such time as permittee is diverting water authorized under this permit and the water level in one or more of the wells operated on the Coastal San Luis Resource Conservation District property, the Roemer/Jones property, the Gary and Joyce Williams property, or their successors in interest, for valid riparian and/or pre-1914 appropriative uses of water from the Chorro Creek subterranean stream, reaches a depth which renders the well or wells unusable, permittee shall either:

- a. Stop its diversion until conditions are such that the well or wells is/are again usable, or
- b. Deliver water to the riparian/pre-1914 appropriative place of use served by the well or wells.

The riparian/pre-1914 appropriative diverter shall bear the estimated costs which would have been incurred to pump water from the affected well or wells. In the absence of an agreement between the permittee and the other parties relative to pumping costs, the costs shall be based on an average amount per acre-foot for pumping water from the affected well or wells during the month in question over the prior three years. Permittee shall pay the cost of installing and maintaining any water conveyance facilities needed to deliver water to the riparian/pre-1914 appropriative place of use.

The State Water Resources Control Board reserves jurisdiction to modify this permit term based on findings that the methods of diversion and/or uses of water of the riparian and pre-1914 appropriative diverters identified in this term are wasteful or unreasonable pursuant to Article X, Section 2 of the California Constitution. Any modification of this term will occur only after notice to interested parties and opportunity for hearing.

(0000600)
(0350900)
(0280800)

This permit is issued and permittee takes it subject to the following provisions of the Water Code:

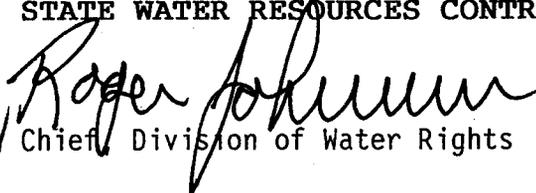
Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer.

Section 1391. Every permit shall include the enumeration of conditions therein which in substance shall include all of the provisions of this article and the statement that any appropriator of water to whom a permit is issued takes it subject to the conditions therein expressed.

Section 1392. Every permittee, if he accepts a permit, does so under the conditions precedent that no value whatsoever in excess of the actual amount paid to the State therefor shall at any time be assigned to or claimed for any permit granted or issued under the provisions of this division (of the Water Code), or for any rights granted or acquired under the provisions of this division (of the Water Code), in respect to the regulation by any competent public authority of the services or the price of the services to be rendered by any permittee or by the holder of any rights granted or acquired under the provisions of this division (of the Water Code) or in respect to any valuation for purposes of sale to or purchase, whether through condemnation proceedings or otherwise, by the State or any city, city and county, municipal water district, irrigation district, lighting district, or any political subdivision of the State, of the rights and property of any permittee, or the possessor of any rights granted, issued, or acquired under the provisions of this division (of the Water Code).

Dated: August 21, 1996

STATE WATER RESOURCES CONTROL BOARD


Chief, Division of Water Rights

Appendix G
Supply Reliability Data Provided by CCWA



May 12, 2011

Ms. Courtney Howard
County of San Luis Obispo
Public Works Department
1050 Monterey Street, Suite 207
San Luis Obispo, California 93408-6000

Subject: Central Coast Water Authority
2010 Urban Water Management Plan Update

L. J. Lavagnino
Chairman

Richard Shaikewitz
Vice Chairman

William J. Brennan
Executive Director

Brownstein Hyatt
Farber Schreck
General Counsel

Member Agencies

City of Buellton

Carpinteria Valley
Water District

City of Guadalupe

City of Santa Barbara

City of Santa Maria

Goleta Water District

Montecito Water District

Santa Ynez River Water
Conservation District,
Improvement District #1

Associate Member

La Cumbre Mutual
Water Company

Dear Ms Howard:

The California Urban Water Management Planning Act requires every urban water supplier to prepare and adopt an Urban Water Management Plan (UWMP). An urban water supplier is defined as a public water system supplying 3,000 customers or delivering 3,000 acre-feet annually. The Central Coast Water Authority (CCWA) is classified as a wholesale urban water supplier. As such, CCWA is required to prepare an UWMP and is also required to provide projections of the volume of water to be delivered in the future to the retail urban water suppliers for a range of water-year types.

CCWA staff has reviewed the Department of Water Resources (DWR) report entitled "The State Water Project Delivery Reliability Report 2009" and obtained reliability data from DWR that is specific to San Luis Obispo County. Following the estimation protocol described in the UWMP Guidelines and the DWR Reliability Report, CCWA prepared an estimated projection for future water deliveries for a variety of water-year types. This estimate is attached for your use. An excel file will also be emailed to you separately for your use in developing your own projections, if you need to utilize different scenarios than provided in the CCWA estimate.

If you have any question, please call me at 805-688-2292, ext 228.

Sincerely,

A handwritten signature in black ink, appearing to read "John Brady".

John Brady
Operations Manager/Engineer

cc: Syllas Cranor

255 Industrial Way
Buellton, CA 93427-9565
(805) 688-2292
FAX: (805) 686-4700



Table 1 CCWA Table A Reliability Estimate

Year	Long Term Average	Single Dry Year 1977	2-year drought 1990-1991	4-year drought 1929-1932	4-year drought 1989-1992	6-year drought 1987-1992
2010	64%	6%	24%	34%	36%	34%
2015	63%	7%	24%	34%	35%	33%
2020	62%	8%	24%	35%	34%	32%
2025	61%	9%	24%	35%	34%	32%
2030	61%	10%	24%	36%	33%	31%
2035	60%	11%	24%	36%	32%	30%

Table 2 Maximum Table A Amount in Selected Drought Conditions

Drought Condition	2010	2015	2020	2025	2030	2035
Long Term Average	3,074	3,037	3,000	2,963	2,926	2,889
Single Dry Year 1977	270	317	365	413	461	509
2-year drought 1990-1991	1,152	1,151	1,151	1,150	1,150	1,150
4-year drought 1929-1932	1,627	1,651	1,675	1,698	1,722	1,746
4-year drought 1989-1992	1,728	1,691	1,655	1,619	1,582	1,546
6-year drought 1987-1992	1,629	1,597	1,566	1,535	1,504	1,473

San Luis Obispo County

Contractor Table A Amount:	4,830
----------------------------	-------

Appendix H
City of Morro Bay 2010 Water Quality Report

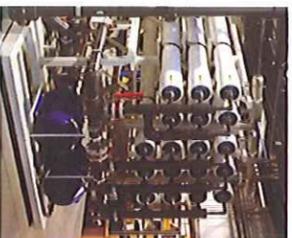
Continuing Our Commitment

The City of Morro Bay presents our annual water quality report. This report shows the results from all of our water quality testing completed from January through December 2010.

For more information about this report, or for any questions relating to your drinking water, you may call Dylan Wade, the Utilities/Capital Projects Manager, at the City of Morro Bay Public Services Department: (805) 772-6261.

Where Does My Water Come From?

The City of Morro Bay's primary source of water is surface water from the state water system. The state system is administered locally by the Central Coast Water Authority (www.cocwa.com). The water is treated at the Polonio Pass Water Treatment Plant, which is near the junction of Highways 41 and 46. The water is then pumped to Morro Bay. The state water supply is augmented by and blended with water pumped from wells located near Keiser Park (Morro Basin) and Chorro Creek Road (Chorro Basin). Some of the well water has nitrate contaminant levels that require treatment through either blending or filtration. In addition, wells in both the Morro and Chorro basins have had periodic episodes of bacteriological contamination. All well water has a disinfectant added prior to use. The City also has a desalination plant, which is utilized as a standby source. During 2010, state water provided 72% of the City's drinking water and the wells provided the remaining 28%, with much of this well water being treated by the Brackish Water Reverse Osmosis plant to reduce nitrate levels.



Drinking water source assessments for the Morro and Chorro wells were completed during the 2001 fiscal year, an assessment was completed in 2009 for additional wells in the Morro basin that are being used as irrigation and feed water for the desalination plant. The results of these assessments are available to the public by contacting the Public Services Department or by visiting the California Department of Public Health's website at <http://www.cdph.ca.gov/certific/drinkingwater/Pages/DWSAP.aspx>

Overall, the wells had a risk assessment of low to medium. The Morro Basin wells are considered most vulnerable to the following activities not associated with any detected contaminants: gas stations, known contaminant plumes, and agricultural drainage. The Chorro Basin wells are considered most vulnerable to the following activities not associated with any detected contaminants: agricultural drainage, septic systems, wells (agricultural, irrigation), and other animal operations. Both groundwater basins have been impacted by nitrate contamination and periodic episodes of bacteriological contaminants. The City has made significant investments in providing treatment for the Morro groundwater basin.

Substances That Might Be in Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Department of Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at: 1-800-426-4791.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. U.S. EPA/Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at: 1-800-426-4791.

Nitrates in Drinking Water

Nitrate in drinking water at levels above 45 ppm is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 ppm may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity.

Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Morro Bay is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at: 1-800-426-4791 or <http://www.epa.gov/safewater/lead>.

Water Conservation Tips

Water conservation measures are an important first step in protecting our water supply. Such measures not only save the supply of our source water, but can also save you money by reducing your water bill.

Information on ways to conserve water can be found at:
<http://www.epa.gov/owrr/water-efficiency/index.htm>

Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

Inorganic Contaminants, such as salts and metals that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

Pesticides and Herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

Organic Chemical Contaminants, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems.

Radioactive Contaminants that can be naturally occurring or be the result of oil and gas production and mining activities.

PWS ID#: CA4010011
Water Testing
Performed in
2010

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

City of Morro Bay
Annual Consumer Confidence Report



955 Shasta Avenue
Morro Bay, CA 93442

PRSR7 STD
U.S. POSTAGE
PAID
San Luis Obispo, CA
Permit No. 7

POSTAL CUSTOMER

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. We are happy to report that for 2010 we were not in violation at any time. While the range of contamination in the raw well water may have exceeded the drinking water standards, all of the water delivered to your home had contaminant levels reduced through either blending or treatment. The table below lists all of the drinking water contaminants that were detected during the most recent sampling for the constituent. If a contaminant was tested for and not found in the system or source water, it is not included in this report. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.

PRIMARY DRINKING WATER STANDARD (Regulated In Order To Protect Against Possible Adverse Health Effects)

SUBSTANCE (UNITS)	YEAR SAMPLED	MCL	State Water		Well Water ⁴		VIOLATION	TYPICAL SOURCE	
			PHG (MCLg)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED			RANGE LOW-HIGH
Aluminum (ppb)	2010	1000	600	90	ND - 180	0	0	No	Erosion of natural deposits; residue from water treatment processes
Arsenic (ppb)	2009	10	0.004	ND	ND	2.5 ¹	2 - 3 ¹	No	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Asbestos (MFL)	2010	7	7	ND	ND	1,167	2 - 2	No	Internal corrosion of asbestos cement water mains; erosion of natural deposits
Barium (ppb)	2010	1000	2000	ND	ND	100	100	No	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits
Chromium (ppb)	2010	50	100	ND	ND	20	20	No	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Fluoride (ppb)	2010	2000	1000	ND	ND	300	300	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Hexachlorobenzene (ppb)	2010	1	0.03	ND	ND	0.16	0.16	No	Result found in inactive well
Nitrate (as nitrate, NO ₃) (ppm) ⁴	2010	45	45	2.5	2.5	33.2	3.8 - 110	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Radium 226 (pCi/L)	2008	1	0.019	NC	NC	0.725 ¹	0.55 - 0.80 ¹	No	Erosion of natural deposits

City of Morro Bay Distribution System

SUBSTANCE (UNITS)	YEAR SAMPLED	MCL (MRDL)	PHG (MCLg) (MRDLg)	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE	
								Haloacetic Acids (ppb)
TTHMs [Total Trihalomethanes] (ppb)	2010	80	NA	NA	36.7	15 - 67	No	By-product of drinking water disinfection
Chloramines (ppm)	2010	[4 (as Cl ₂)]	[4 (as Cl ₂)]	1.39	.17 - 2.5	No	No	By-product of drinking water disinfection

Tap water samples were collected for lead and copper analyses from 20 homes throughout the distribution system

SUBSTANCE (UNITS)	YEAR SAMPLED	ACTION LEVEL	PHG (MCLg)	AMOUNT DETECTED	HOMES ABOVE ALL 90TH% TILE	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2009	1.3	0.17	0.18	0	No	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (ppb) ²	2009	15	2	11	1	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

SECONDARY DRINKING WATER STANDARD (Regulated In Order To Protect The Odor, Taste And Appearance Of Drinking Water)

SUBSTANCE (UNITS)	YEAR SAMPLED	SMCL	State Water		Well Water ⁴		VIOLATION	TYPICAL SOURCE	
			PHG (MCLg)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED			RANGE LOW-HIGH
Chloride (ppm)	2010	500	NA	83	43-162	51.2	35 - 64	No	Runoff/leaching from natural deposits; seawater influence
Color (units)	2010	15	NA	ND	ND	12	10 - 20	No	Naturally occurring organic materials
Corrosivity	2010	non-corrosive	NA	ND	ND	.12	-1 - .4	No	Balance of hydrogen, carbon & oxygen in water; affected by temperature & other factors
Iron (ppb)	2010	300	NA	ND	ND	197	90 - 400	No	Runoff/leaching from natural deposits; industrial wastes
Manganese (ppb)	2010	50	NA	ND	ND	20	20	No	Runoff/leaching from natural deposits
Odor (units)	2010	3	NA	1	1	1 ⁶	1 ⁶	No	Naturally-occurring organic materials
Selenium (ppm)	2010	0.05	0.03	ND	ND	0.009	.006 - .012	No	Discharge from petroleum, glass, and metal refineries; erosion of natural deposits; discharge from mines and chemical manufacturers; runoff from livestock lots (feed additive)
Specific Conductance (umhos/cm)	2010	1600	NA	527	319-1042	872.8	662 - 1080	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2010	500	NA	93	93	75.6	55.2 - 93.9	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids [TDS] (ppm)	2010	1000	NA	328	200 - 615	519.2	393 - 637	No	Runoff/leaching from natural deposits
Turbidity (NTU) ³	2009	5	NA	0.06	0.03 - 0.2	0.13	0.12 - 0.14	No	Soil runoff

UNREGULATED AND OTHER SUBSTANCES (Used To Monitor Certain Contaminant Occurrences)

SUBSTANCE (UNITS)	YEAR SAMPLED	AMOUNT DETECTED	State Water		Well Water ⁴		TYPICAL SOURCE
			RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	
Alkalinity (ppm)	2010	77	56 - 100	310	240 - 430		Runoff/leaching from natural deposits; seawater influence
Calcium (ppm)	2010	52	34 - 76	57.02	45.3 - 65.5		Runoff/leaching from natural deposits; seawater influence
Hardness (ppm)	2010	107	70 - 170	401.6	286 - 533		Runoff/leaching from natural deposits
Magnesium (ppm)	2010	17	17	0.02	0.02		Runoff/leaching from natural deposits; seawater influence
pH (units)	2010	8.2	7.2 - 8.9	7.38	7.3 - 7.5		Runoff/leaching from natural deposits
Potassium (ppb)	2010	3.2	3.2	.62	.5 - .7		Runoff/leaching from natural deposits; seawater influence
Sodium (ppm)	2010	82	82	42.18	35.8 - 48.7		Runoff/leaching from natural deposits; seawater influence
Total Organic Carbon (ppm)	2010	2.1	.7 - 3.6	NA	NA		Various natural and manmade sources

Footnotes:

- Sample results reported are from previous years sampling events.
- Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and/or flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the U.S. EPA Safe Drinking Water Hotline at (800) 426-4791.
- Turbidity (NTU) is a measure of the cloudiness of the water and it is a good indicator of the effectiveness of a treatment plant's filtration system.
- Sampling from well water is for raw water results. Samples are taken prior to either treatment or blending.
- Reported results are for the distribution system, not well water as indicated by the table.

Table Definitions

Regulatory Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Amount Detected: The amount detected, or when a range of values is shown, the average detected.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Million Fibers per Liter (MFL): EPA has established a maximum contaminant level (MCL) for asbestos in drinking water: 7 MFL (million fibers per liter) in drinking water.

Primary Drinking Water Standards (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

NA: Not applicable

NC: Not collected

ND: Not detected

NS: No standard

Nephelometric Turbidity Units (NTU): Measurement of the clarity, or turbidity, of water.

Picocuries per liter (pCi/L): A measure of radioactivity.

Public Health Goal (PHG): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Parts per billion (ppb): One part substance per billion parts water (or micrograms per liter).

Parts per million (ppm): One part substance per million parts water (or milligrams per liter).

Information on the Internet

The California Department of Public Health (<http://www2.cdph.ca.gov>), the U.S. EPA Office of Water (www.epa.gov/safewater), and the Centers for Disease Control and Prevention (www.cdc.gov) web sites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health.



Community Participation

The Morro Bay City Council meets the second and fourth Tuesday of each month at the Veterans Hall on Surf Street at 6:00 p.m. If you have concerns you wish to express about our drinking water, time is set-aside at the beginning of each meeting for public input.

Appendix I
City of Morro Bay Draft Water Shortage
Contingency Plan and Draft Resolution

DRAFT

Water Shortage Contingency Plan – City of Morro Bay



June 2011
City of Morro Bay
Utilities and Finance Departments

Water Shortage Contingency Plan

The purpose of the Water Shortage Contingency Plan is to provide a plan of action to be followed during the various stages of a water shortage. The plan includes the following elements: action stages, estimate of minimum supply available, actions to be implemented during a catastrophic interruption of water supplies, prohibitions, penalties and consumption reduction methods, revenue impacts of reduced sales, and water use monitoring procedures.

The Urban Drought Guidebook, 2008 updated edition, prepared by DWR, Office of Water Use Efficiency and Transfers was used as a resource in preparing this plan. The City has developed this draft Water Shortage Contingency Plan which documents City's water supply and demand conditions. This plan has been developed in collaboration with a Water Shortage Response Team that consists of City staff from the Utilities and Finance Departments, along with assistance from the City Attorney's Office.

The City has initiated water conservation programs to reduce the water demand. These programs to reduce the water demands are in effect at all times within the City. The City's water conservation policies promote the more efficient use of the existing water resources. Since the City adopted its water conservation program in the late 1980's, water demand in the City has declined substantially (e.g., from 168 gpcd in 1981 to 121 gpcd in 1992).

Since its inception, the City's water conservation program mandated that developers provide water for new construction by funding retrofits of existing facilities to offset two times the developer's estimated water demand. A new voluntary Ultra Low Flow Toilet (ULFT) rebate program has also been started. In addition to the retrofitting program, the City adopted mandatory water conservation measures intended to reduce overall water consumption by existing customers. These mandatory water conservation measures are described in the City's Municipal Code Sections 13.04.320 to 13.04.345, which are provided in the City's Municipal Code. Section 13.04.320 grants the City Council authority to declare when a low water level condition exists. Section 13.04.330 identifies the water conservation powers of the City Council when it is deemed necessary to conserve water during low water level periods. Section 13.04.340 identifies the legal authority of the Public Works Director to enforce water conservation measures if the City Council adopts a resolution declaring a low water level or water system emergency.

The previously adopted ordinance (Ord. 417 § 2, 1992) which is a part of City's Municipal Code contains the City's existing water shortage contingency plan. The City prepared this revised draft Water Shortage Contingency Plan and a draft resolution which can be adopted in an event of shortage.

Section 13.04.345 of the Municipal Code identifies the mandatory water conservation requirements for the five increasing levels of conservation as the City's water supplies are reduced during drought conditions. The five classifications for mandatory water restrictions are as noted in the following subsection and are enforceable through financial penalties and/or loss of service.

The City’s policy is to maximize use of all of its water resources, each to its best application, to maintain water supply under varying levels of availability, with a focus on ensuring public health and safety.

Action Stages

The Act requires documentation of actions to be undertaken during a water shortage. The City of Morro Bay has developed actions to be undertaken in response to water supply shortages, including up to a 50 percent reduction in water supply.

The following section discusses the actions that might be taken depending on the severity of the shortage. The City Council may impose water-rationing requirements as it deems appropriate. Table 1 describes the water supply shortage stages and conditions. The stages will be implemented during water supply shortages according to shortage level, ranging from less than 5 percent shortage in Stage 1 to greater than 50 percent shortage in Stage 5. The stage determination and declaration during a water supply shortage will be made by the City.

Table 1
Water Shortage Contingency – Rationing Stages to Address Water Supply Shortages

Stage No.	Water Shortage Supply Conditions	% Shortage
1	Normal Water Supply Conditions	less than 5
2	Moderately Restricted Water Supply Conditions	5 to 15
3	Severely Restricted Water Supply Conditions	15 to 25
4	Critical Water Supply Conditions	25 to 50
5	Emergency Water Supply Conditions	greater than 50

Stage 1

The activities performed by the City during this stage include, but are not limited to:

- Spring-loaded shut-off nozzles are required for outdoor water use.
- Outdoor irrigation resulting in excessive runoff is prohibited.
- Water may be used as needed for washing and cleaning paved surfaces.
- Water is supplied to customers at restaurants only upon request.

Under Stage 1, no additional conservation action is required due to availability of adequate supplies to meet the demand.

Stage 2

Stage 2 will include actions undertaken in Stage 1. The actions to be undertaken by the City during this stage include, but are not limited to:

- Any use that results in excessive gutter runoff is prohibited.

- Water may be used for washing vehicles, boats and buildings with spring-loaded shut-off nozzles, but spraying paved areas is prohibited except for public health or safety.
- Outdoor irrigation is restricted between 10:00 a.m. and 4:00 p.m. and is to be performed only on designated days, except for newly planted landscaping that requires additional water to survive. Excessive gutter runoff is prohibited.
- Water is supplied to customers at restaurants only upon request

Stage 3

Stage 3 is a severely restricted shortage condition that includes all steps taken in prior stages regarding allotments and mandatory conservation rules. The actions to be undertaken by the City include, but are not limited to:

- Washing boats, marinas, buildings and outdoor paved areas is prohibited except for public health or safety reasons.
- Washing cars may be performed only with the use of a bucket and sponge.
- Emptying and refilling swimming pools and commercial spas is prohibited.
- The use of potable water for compaction, dust control and construction purposes is prohibited.
- Dysfunctional or leaking water fixtures in public or commercial facilities are required to be repaired within three days.
- All visitor-serving facilities shall prominently display water conservation educational materials and provide handouts, which outline the mandatory conservation measures being taken.

Stage 4

This is a critical shortage condition that includes all steps taken in prior stages regarding allotments and mandatory conservation. The actions to be undertaken by the City include, but are not limited to:

- Any water use that results in gutter runoff is prohibited.
- Any water cleanup for public health and safety shall be performed with a bucket and brush. No use of hoses, even if equipped with a shut-off nozzle is permitted.
- Irrigation is to be performed only once per week, and is not allowed between 9:00 a.m. and 5:00 p.m.
- Use of fresh water to wash down boats or docks or for other incidental activities is prohibited. All hoses shall have spring-loaded shut-offs or similar devices and may be used only to fill water tanks of boats or to flush outboard engines.
- Restaurants shall serve water only in response to specific requests by a customer.
- Emptying and refilling all pools and spas is prohibited.

- Use of potable water for compaction or dust control purposes in construction activities is prohibited.
- Dysfunctional or leaking water fixtures shall be repaired immediately.
- All visitor-serving facilities in the city shall prominently display these mandatory water conservation requirements for the benefit and education of visitors to the community.

Stage 5

This is a emergency water supply condition that includes all steps taken in prior stages regarding allotments and mandatory conservation. The actions to be undertaken by the City include, but are not limited to:

- The City Council may impose water-rationing requirements as it deems appropriate.

In addition to the mandatory water conservation program detailed above, the City has implemented a leakage detection and repair program and is planning to further reduce water losses by calibrating production meters, replacing water meters, and coordinating billing information. An extensive pipe replacement program has also been undertaken such that aged pipe is no longer considered to be a major contributor to the unaccounted for water losses.

The combination of steps outlined in the stages from 1 through 5 will help the City ensure that sufficient supply is available to meet demands with a comfortable margin of safety. For example, the resulting supply at Stage 4 with 50 percent shortage in supply in 2035 would result in supply of 2,041 ac-ft/yr which is higher than the anticipated demand in 2035 of 1,548 ac-ft/yr . As a result, it is not anticipated that the City of Morro Bay will face a chronic shortage condition at which the City would need to implement any additional measures to reduce the demand.

Catastrophic Supply Interruption Plan

The Act requires documentation of actions to be undertaken by the water supplier to prepare for, and implement during a catastrophic interruption of water supplies. A catastrophic interruption constitutes a proclamation of a water shortage and could be any event (either natural or man-made) that causes a water shortage severe enough to classify as a Stage 5 water supply shortage condition. Table 2 provides a summary of actions to be undertaken during catastrophic events such as power outage, earthquake, and malevolent acts.

A catastrophic supply interruption can occur when the City loses one or more of its main water supplies. The likelihood of experiencing a simultaneous loss of more than one supply is low. For instance, local power outages may limit use of groundwater, but will not affect imported water delivery.

If the available supply is insufficient to meet the demand and water quality requirements, an emergency notification will be sent to all water customers, to inform

them of the condition. The message will include the expected duration of the condition, and restrictions on water use for the duration of the condition.

Table 2
Summary of Actions for Catastrophic Events

Possible Catastrophe	Summary of Actions
Regional Power outage	<ul style="list-style-type: none"> • Assess the condition and ensure demands can be met. For example, continue supply water from its some of its largest wells using generator power if the State Water is not available • Depending on the expected length of the outage, evaluate the amount of storage available, production with available supplies, and the projected demand to determine whether existing demands can be met while the outage persists. • Contact the largest water users, including the City's Parks and Recreation Department, to determine if demand on large meters, such as for large irrigated landscapes like parks and schools, can be reduced sufficiently to last through the expected outage. • Arrange to provide emergency water. • Assess areas that will take the longest to repair. • Establish water distribution points and ration water if necessary. • Depending on the length of outage, assess and conduct bacteriological tests to determine possible contamination. • Arrange for alternate power supply to operate pumps. The City may request aid from adjacent water agencies for use of portable generators to power additional production wells to meet higher demands • If water service is restricted, attempt to provide potable water tankers or bottled water to the area
Earthquake	<ul style="list-style-type: none"> • Assess the condition of the water supply system. Arrange to provide emergency water (e.g., use of groundwater supplies in the event of non-availability of the SWP water). • Identify priorities including hospitals, schools and other emergency operation centers. • Complete the damage assessment checklist for reservoirs, water treatment plants, wells and boosters, system transmission and distribution. • Coordinate with fire district to identify immediate fire fighting needs. • Determine any health hazard of the water supply and issue any notification to the customers, if necessary. • Make arrangements to conduct bacteriological tests, in order to determine possible contamination.

Table 2
Summary of Actions for Catastrophic Events

Possible Catastrophe	Summary of Actions
Other Disasters (e.g., Malevolent acts)	<ul style="list-style-type: none"> • Assess threat or actual intentional contamination of the water system. • Notify local law enforcement to investigate the validity of the threat. • Get notification from public health officials of potential water contamination • Determine any health hazard of the water supply and issue any notification to the customers, if necessary • Isolate areas affected and assess any structural damage to the facility/water distribution system. Arrange to provide emergency water

Prohibitions, Penalties, and Consumption Reduction Methods

The Act requires an analysis of mandatory prohibitions, penalties, and consumption reduction methods against specific water use practices, which may be considered excessive during water shortages.

The City can set forth water use violation fines, charges for removal of flow restrictors, as well as establish the period during which mandatory conservation and rationing measures will be in effect. In addition to the restrictions placed on metered water use, other water use practices that will be prohibited during water shortages include the City’s systematic water main flushing. In addition, street sweeping will be prohibited from using the City’s domestic supply. Table 3 summarizes the various prohibitions and the stages during which the prohibition becomes mandatory.

Table 3
Water Shortage Contingency – Mandatory Prohibition

Examples of Prohibitions	Stage When Prohibition Becomes Mandatory
Outdoor irrigation resulting in excessive runoff	1
Using potable water for street washing	2
Any use that results in excessive gutter runoff	2
Washing boats, marinas, buildings and outdoor paved areas	3
Emptying and refilling swimming pools and commercial spas	3
The use of potable water for compaction, dust control and construction purposes	3
Any water use that results in gutter runoff	4

Based on the requirements of the Act, Table 5-12 summarizes the methods that can be used by the City to enforce a reduction in consumption, where necessary. As mentioned earlier, various water conservation programs have been initiated the City and the County to reduce the water demand. Additional measures can be phased in to provide additional demand reductions and increase public awareness of the need to conserve water. Conservation is a permanent and long-term application used within the City at all times.

**Table 4
Water Shortage Contingency – Consumption Reduction Methods**

Consumption Reduction Method	Stage when Method Takes Effect	Projected Reduction (%)
Water is supplied to customers at restaurants only upon request	1	1
Outdoor irrigation is restricted between 10 am and 4 pm and is to be performed only on designated days	2	2
Washing cars may only be performed only with the use of a bucket and sponge	3	5
Any water cleanup for public health and safety shall be performed with a bucket and brush	4	10
No use of hoses, even if equipped with a shut-off nozzle is permitted	4	10
Public education/information programs	All Stages	N/A
Demand reduction program	All Stages	N/A
Upgrade irrigation systems	All Stages	2
Plumbing fixture replacement	All Stages	4
Replace antiquated lines, heads, and valves	All Stages	N/A
Install high-efficiency retrofit kits	All Stages	N/A
Water conservation kits	All Stages	N/A
Conduct audits	All Stages	N/A

The City sets forth penalties for violations of prohibited uses. Table 5 summarizes the penalties and charges and the stage during which they take effect. The City adopts two processes through which complaints of water wasting are handled: (1) the code enforcement process and (2) the Water Division work order process. If a code enforcement complaint is received it will be logged and investigated. The Public Services Director has the ability after providing written warning to terminate water service per section 13.04.330 of the Morro Bay Municipal Code. If a complaint is received directly by the Water Division a work order is issued. Water Division staff then investigate the issue. This occurs on average several times per year. In the case of an

actual waste of water, the case would be forwarded on for code enforcement. Termination of water service with a fee to subsequently reinstate the service is the sole remedy outlined in the code for violating the water conservation provisions. There are several complaints about water that have been resolved through the work order process during 2009-2010. Note that in those years no complaint was resolved through the code enforcement process, although there was one in 2011. The penalties consist of a written warning and a surcharge for the violation. A flow-restrictor or possible shutoff may be imposed after the violation notice, depending on the amount of water use.

Table 5
Water Shortage Contingency – Penalties and Charges

Penalties or Charges	Stage When Penalty Takes Effect
Flow restriction orifices for customers not meeting Stage 4 allocations	4
Flow restriction orifices for customers not meeting Stage 3 allocations	3
Termination of Supplies through code enforcement process	All stages

Revenue Impacts

Revenue reduction due to reduced water usage will cut into reserves during the shortage, and will be reflected in future rate setting discussions to re-establish acceptable water fund reserve levels after the water shortage period is over. The City’s existing pro forma already reflects the resulting revenue drop associated with past conservation and therefore is already accounted for in establishing future rate adjustments. The City has taken measures to provide the financial ability to respond to a water shortage emergency by placing into reserves excess revenues. Using reserves as a water shortage reserve fund will cover potential impacts of a water shortage such as:

- Offsetting decreases in water sales income if water consumption declines due to mandated water conservation measures.
- Paying for higher cost emergency water supplies.

Since additional water supplies are either purchased or pumped and require only disinfection and fluoridation, there are little additional operations and maintenance costs to augment water supplies.

Monitoring Plan Effectiveness

The City tracks the actual reductions in water use based on the Water Shortage Contingency analysis, by monitoring system demands at each of the City’s five water tank sites. The City’s Supervisory Control and Data Acquisition (SCADA) system allows the Water Division to track current production as well as tank levels giving information on demands. Water use analysis could be performed on a daily, weekly basis depending on monitoring needs.

RESOLUTION NO. ___

***A RESOLUTION OF THE CITY COUNCIL
OF THE CITY OF MORRO BAY, CALIFORNIA, APPROVING
AND ADOPTING THE WATER SHORTAGE CONTINGENCY PLAN***

WHEREAS, Section 10632 of the California Water Code requires the City of Morro Bay to maintain a draft water shortage contingency plan as part of its Urban Water Management Plan, for the purpose of having the document prepared to implement in the event of a water supply shortage; and

WHEREAS, the City maintains this draft Water Shortage Contingency Plan to provide a guidance document for management of water shortages within the City; and

WHEREAS, The City offered opportunity for public comment on the draft Water Shortage Contingency Plan as part of its development of the 2010 Urban Water Management Plan; and,

WHEREAS, the draft Water Shortage Contingency Plan may be adjusted to address a specific shortage if needed prior to adoption; and

WHEREAS, The City of Morro Bay has not made substantive changes to Water Shortage Contingency Plan since its preparation and public review,

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Morro Bay does hereby:

1. Approve and adopt the Water Shortage Contingency Plan.
2. Authorize the City Manager, and/or his designee, to implement the requirement elements of the plan in order to carry out the effective and equitable allocation of water resources during the current water shortage.

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Morro Bay held this (date).

Mayor

ATTEST:

Chief Deputy City Clerk

APPROVED AS TO FORM:

BY: _____

City Attorney

CONTENTS:

BY: _____

Department Head

BY: _____

City Manager

Appendix J
City of Morro Bay Retrofit upon Sale Ordinance

14.07.020 - Retrofitting with water-saving devices required.

- A.** Every property owner, prior to the sale or transfer of any real property upon which is located any structure connected to the city's water supply shall retrofit the structure with the water-saving devices required for new construction as set forth in this title. In cases where the building official determines the use of such fixtures in existing structures would fail to meet the requirements of the plumbing code, fixtures using the least amount of water which do meet the requirements of the plumbing code shall be utilized.
- B.** In cases where a buyer intends to demolish all structures on such property within ninety days from the date of transfer, the structure need not be retrofitted prior to transfer; provided a covenant and a bond are filed with the city as follows:
- 1.** The property owner shall file with the city clerk a notarized covenant agreeing to either demolish all structures located on the property connected to the city water system, within ninety days from the date of transfer or to perform the retrofit required in subsection A of this section, together with a faithful performance bond, in a form satisfactory to the city in an amount equal to one hundred and fifty percent of the full cost of retrofitting all such structures securing faithful performance of the agreement.
 - 2.** The agreement shall also authorize and grant the city permission to enter onto the property and to perform such retrofit in the event the property owner fails to do so. Further, the property owner shall agree to reimburse the city for all cost incurred by the city in the event the bond is insufficient.
- C.** Determination of compliance with the requirements of subsection A shall be made by the building official after an inspection performed by the building official or a qualified plumbing contractor under the supervision of the building official, who shall issue a certificate indicating same to the seller or title company involved. Seller shall pay the fee set forth in the Master Fee Schedule for such retrofit inspection at the time seller submits the request for the retrofit inspection. No property transfer shall be recorded until such certificate has been received by the seller and transferred with the title to the buyer. If noncompliance is found, the property owner (both seller and buyer) and any title company involved in the transfer shall be in violation of this code and subject to those penalties as prescribed in [Title 1](#) of the Morro Bay Municipal Code.

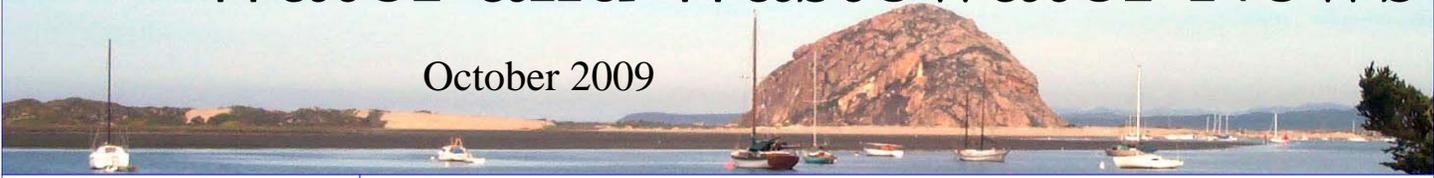
(Ord. No. 564, 11-8-10)

Appendix K
City of Morro Bay Utility Newsletter



Water and Wastewater News

October 2009



Household Hazardous Waste Drop-off

Residents can bring household hazardous waste materials to the Waste Water Treatment Plant located at 160 Atascadero Road, for disposal, open Saturday 11AM to 3PM. For more information, please call the San Luis Obispo Integrated Waste Management Authority at 782-8530.

Composted Biosolids Are Available

Composted biosolids are currently available at the Waste Water Treatment Plant at no charge. Please contact plant staff at 772-6274 to make arrangements for picking up compost.

Who to Call

Ever wondered who to ask for at Public Services to get your Water and Wastewater questions answered? Here's your guide to the Public Services Department Utility Management Staff.

Phone: 772-6261
Fax: 772-6268

Director
Bruce Ambo

Utilities/Capital Projects
Dylan Wade
Michael Randall
Kay Merrill

Water System
Jamie James

Wastewater Collections
Jim Hayes

Wastewater Treatment
Bruce Keogh

Water Billing
Bonnie Johnson
Phone: 772-6222

Mandatory Water Conservation

The main source of water for the City of Morro Bay is the State Water Project, which conveys water from Northern California to many communities in California. Each fall, the State Water Project System is shutdown for inspection and maintenance for about 2 weeks.

On September 28, 2009 the City of Morro Bay has declared a water emergency, and will be enacting mandatory water conservation beginning October 19, 2009, to conserve water during this year's State Water Project shut down. Mandatory conservation measures will be in accordance with section 13.04.345C Severely Restricted Water Supply Condition of the Municipal Code. All of the requirements can be found in the Municipal Code, which is available on the City's website at <http://www.morro-bay.ca.us/municipalcode> or at the counter of the Public Services Department located at 955 Shasta Ave. (805) 772-6261

The City will be sending you a notice, detailing water use restrictions during the water emergency. If you do not receive this notice prior to October 19th, please contact the Public Services Department. Visitor-serving businesses are urged to contact Public Services to request notices to distribute to visitors, during the water emergency.

At-Home Leak Detection

About Leaks

As your water supplier, we work hard to eliminate leaks in the water distribution system. Many leaks occur on the customer's side of the water meter, and are the responsibility of the homeowner. Finding leaks and repairing them not only saves water, but money as well.

Leaks waste tremendous amounts of water. A toilet that "keeps running" or a dripping faucet can easily waste thousands of gallons of water a year. Reducing the amount of water that leaks from your water system, may lower your monthly water bill.

We recommend that homeowners familiarize themselves with their home water system. Locate your water meter and your master water supply shut-off valve. Make sure everyone in your family knows how to turn off

the master water shut-off valve in the event of an emergency. Audit your entire household, and repair any leaks. Additionally, we encourage you to evaluate your water usage and make changes where you can conserve water.

Meet Your Meter

Your water meter is the best detective in your home, and can tell if you have leaks. All you have to do is learn its language.

Your water meter is typically located near the street, under a metal, plastic, or concrete lid. Find it. This meter is your indicator of water usage. Meters measure water usage in cubic feet and record water usage just as your car's odometer records mileage. One unit of water equals approximately one hundred cubic foot of water or 748 gallons. To find how much water you have used in any

given billing period, just subtract the number on your last bill from the current meter reading.

Checking For Leaks

A simple procedure can detect leaks that may exist anywhere on your property.

1. Locate your water meter.
2. Turn off all water faucets inside and outside.
3. Read your meter and write down the reading. (If your meter has a low flow indicator  and it is spinning, with all your water facilities off, you have a leak.)
4. Wait 15 to 20 minutes, then read your meter again.
5. If the reading has changed, there is a leak somewhere. Your next step is to find it. If you have a leak you can attempt to find it yourself or contact a plumber.



Average Water Use

Due to extensive water conservation efforts in the early 1990s by the residents of Morro Bay, the City has one of the lowest average water usage, per household communities, in the State. The State's monthly average water use, per occupied household, is approximately 9 billings units, while the City of Morro Bay's monthly average water use, per occupied household, is approximately 7 units (700 cubic feet). Depending on your landscape area, household size, and other factors, water usage can vary greatly. Your water bill will give you your personal average use. If your average use changes rapidly from one month to the next, you probably have a leak.

Awareness of Aging Infrastructure

Buildings that were constructed in the 1970s or earlier may have problems that are hidden from view. Structures of this age may have steel service lines running from the water meter to the house. Over time, steel lines deteriorate, and leaks develop that may not be readily noticeable above ground. These homes may also have Orangeburg sewer laterals that over time break down, and lead to sewer blockages. Homeowners are responsible for waterlines from the meter and the sewer line from the house to the main. Homeowners can be unaware of these maintenance issues, and are encouraged to investigate on their own or contact a plumber to determine the condition of their infrastructure.

Water Bill Account Privacy and Identity Protection

The City of Morro Bay has developed an Identity Theft Prevention Program pursuant to the Federal Trade Commission's "Red Flags" Rule that requires all creditors and financial institutions to adopt identity theft prevention programs. The City of Morro Bay cannot release information to any third party, including relatives of the account holder listed on the account, without prior written consent from the account holder to do so.

Please contact the City of Morro Bay Utility Billing Department located at 595 Harbor Street or visit our website (www.morro-bay.ca.us) for a water service identity theft prevention form, should you desire to allow others to access your account information.



City of Morro Bay
955 Shasta Avenue
Morro Bay, CA 93442

PRSR STD
U.S. POSTAGE
PAID
San Luis Obispo, CA
Permit No. 7

POSTAL CUSTOMER

Learn More About Your Wastewater Plant

Tours of the plant are available at any time, and are highly encouraged. Learn about the plant, and what happens to the materials you put down your drain. Individuals, schools, and/or group tours of all sizes can be accommodated. Plant staff requests that you call for an appointment. If you would like more information about the plant or have questions, please contact Bruce Keogh, Wastewater Division Manager, at 772-6272.

Composted Biosolids Are Available

Composted biosolids are currently available at the Waste Water Treatment Plant at no charge. Please contact plant staff at 772-6274 to make arrangements for picking up compost.

Who to Call

Ever wondered who to ask for at Public Services to get your Water and Wastewater questions answered? Here's your guide to the Public Services Department Utility Management Staff.

Phone: 772-6261

Fax: 772-6268

Interim Director

Rob Livick

Utilities/Capital Projects

Dylan Wade

Michael Randall

Kay Merrill

Water System

Jamie James

Wastewater Collections

Jim Hayes

Wastewater Treatment

Bruce Keogh

Water Billing

Bonnie Johnson

Phone: 772-6222

Back on State Water

The City of Morro Bay will be back on State Water in April 2010. The City has been using local sources of water since November 2009, due to reduced State Water Project deliveries and shutdowns.

The active disinfectant in the water system will be changing back to chloramines, as part of the return to State Water. System disinfection maintains water quality by killing potentially harmful organisms that may get in the water as it

moves through the pipes. The City historically uses chloramines disinfectants, and switches to chlorine disinfectants, depending on the available sources of water. In early April, the system will be switching back from chlorine to chloramines for disinfection.

Water utilities switching from chlorine to chloramines report fewer consumer concerns about the taste and odor of water.

Important Information for Kidney Dialysis Patients-

Chlorine and chloramines must be removed from water used in dialysis machines because this water comes into direct contact with blood. Dialysis patients should consult with their physicians if they have concerns about using chlorinated or chloraminated water in their dialysis machines. Dialysis patients can safely drink and bathe with chlorinated or chloraminated water.

What You Flush Down Your Toilet Can Impact the Environment

Recent discussions about the City's wastewater treatment plant upgrade project, and needed repairs to the sewer collection system, have raised awareness about sewage disposal, and its potential impacts upon the environment. You can make a difference by following these "best management practices" for the proper disposal of cat litter, pet wastes and unused medications:

- **Never flush cat feces or litter down the toilet.** Recent scientific studies have shown a link between sea otters and the feline disease, *toxoplasma gondii*. *T. gondii* is the tiny, single celled parasite linked to many of the otter strandings in our region and across the state. The parasite is known to originate in domestic cats and other felines, who spread it through their feces. In order to minimize the risk of this disease to otters, used cat litter should be placed in the garbage for disposal at the landfill. To minimize the risk of pollution from runoff water into storm drains, creeks and eventually the ocean, it is recommended that people pick up after their outdoor cats (and dogs) whenever possible. **It is especially important to remember that pregnant women should not handle cat litter or feces, due to potential health risks from *T. gondii* to their unborn child.**
- **Do not flush unwanted medications down the drain.**

Water Conservation

Effective January 1, 2010, the mandatory water conservation level was changed from Severely Restricted to Moderately Restricted. Mandatory conservation measures will be in accordance with section 13.04.345B Moderately Restricted Water Supply Condition of the Municipal Code. All of the requirements can be found in the Municipal Code, which is available on the City's website at <http://www.morro-bay.ca.us/municipalcode> or at the counter of the Public Services Department located at 955 Shasta Ave. (805) 772-6261. For more information on water conservation you can visit the City's website or the h2ouse website at: <http://www.h2ouse.org/>





Utility News Update

Online Water Billing– You can now pay your water bill online! To pay your bill online, go to <https://esuite.morro-bay.ca.us/esuite.utilities/>. To log onto your account, you will need the 11 digit account number that is on your utility bill, phone number (without dashes) and your name, exactly how it appears on your utility bill. Once you log into your online account, you can view and pay your bill, past bills, past transactions and consumption. As we continue to upgrade the system, we will have the ability for people to sign up for paperless billing. For more information, please visit the City’s website, or contact the Utility Billing Clerk, Bonnie Johnson, at 772-6222.

Wastewater Treatment Plant Upgrade Update– The City and Cayucos Sanitary District awarded a contract for Engineering Design Services for the WWTP Upgrade Project to Montgomery, Watson, Harza (MWH) at the February 16, 2010 JPA meeting. The upgrade project utilizes an oxidation ditch, with filtration, to produce a high quality, tertiary-treated effluent prior to discharge to the ocean. A copy of the Facility Master Plan, which describes the project, is available on the City website under Wastewater Treatment Plant. The estimated cost of the upgrade project is \$28M and is scheduled for completion in March 2014.

Water Division Activities– The Water Division is continually conducting maintenance throughout the distribution system. During these routine maintenance activities, intermittent interruptions in water service maybe experienced. The Water Division aims to minimize system interruptions, but these interruptions are necessary to maintain a clean and reliable water system. Please be patient with our crews when they contact you regarding outages.

If you notice any irregularities in your service, do not hesitate contact the Public Services Department at 772-6261.

Collections Division Work– The Wastewater Collections Division is working to implement the recently adopted Sewer System Management Plan. As part of this plan, the Collections Division will be continuing source control monitoring, line cleaning, video inspection, repairs and maintenance. The Wastewater Collections Division has recently completed a project, replacing 180 feet of gravity sewer on Whidbey Way in North Morro Bay. Over the next several years, we will be making repairs throughout our collections system.

POSTAL CUSTOMER

City of Morro Bay
955 Shasta Avenue
Morro Bay, CA 93442



PRSR1 STD
U.S. POSTAGE
PAID
San Luis Obispo, CA
Permit No. 7

Appendix L
Water Rate Structure

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
0		16.43
1		16.43
2		16.43
3		16.43
4	5.56	21.99
5	5.59	27.58
6	5.62	33.20
7	5.65	38.85
8	5.68	44.53
9	5.71	50.24
10	5.74	55.98
11	5.77	61.75
12	5.80	67.55
13	5.83	73.38
14	5.86	79.24
15	5.89	85.13
16	5.93	91.06
17	5.95	97.01
18	5.98	102.99
19	6.01	109.00
20	6.04	115.04
21	6.13	121.17
22	6.22	127.39
23	6.31	133.70
24	6.37	140.07
25	6.47	146.54
26	6.55	153.09
27	6.61	159.70
28	6.67	166.37
29	6.73	173.10
30	6.83	179.93
31	6.88	186.81
32	6.94	193.75
33	7.00	200.75
34	7.07	207.82
35	7.12	214.94
36	7.15	222.09
37	7.22	229.31
38	7.27	236.58
39	7.30	243.88
40	7.36	251.24
41	7.43	258.67
42	7.45	266.12
43	7.52	273.64
44	7.54	281.18
45	7.60	288.78

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
46	7.64	296.42
47	7.66	304.08
48	7.72	311.80
49	7.76	319.56
50	7.81	327.37
51	7.85	335.22
52	7.87	343.09
53	7.91	351.00
54	7.93	358.93
55	7.99	366.92
56	8.03	374.95
57	8.05	383.00
58	8.09	391.09
59	8.11	399.20
60	8.15	407.35
61	8.17	415.52
62	8.21	423.73
63	8.23	431.96
64	8.30	440.26
65	8.32	448.58
66	8.36	456.94
67	8.35	465.29
68	8.39	473.68
69	8.41	482.09
70	8.45	490.54
71	8.47	499.01
72	8.51	507.52
73	8.53	516.05
74	8.57	524.62
75	8.59	533.21
76	8.63	541.84
77	8.66	550.50
78	8.65	559.15
79	8.69	567.84
80	8.71	576.55
81	8.75	585.30
82	8.78	594.08
83	8.77	602.85
84	8.81	611.66
85	8.83	620.49
86	8.87	629.36
87	8.90	638.26
88	8.89	647.15
89	8.93	656.08
90	8.95	665.03
91	8.96	673.99

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
92	8.99	682.98
93	9.01	691.99
94	9.05	701.04
95	9.04	710.08
96	9.08	719.16
97	9.11	728.27
98	9.10	737.37
99	9.14	746.51
100	9.17	755.68
101	9.16	764.84
102	9.20	774.04
103	9.23	783.27
104	9.22	792.49
105	9.26	801.75
106	9.26	811.01
107	9.28	820.29
108	9.32	829.61
109	9.32	838.93
110	9.34	848.27
111	9.35	857.62
112	9.38	867.00
113	9.41	876.41
114	9.40	885.81
115	9.44	895.25
116	9.44	904.69
117	9.46	914.15
118	9.47	923.62
119	9.50	933.12
120	9.53	942.65
121	9.52	952.17
122	9.56	961.73
123	9.56	971.29
124	9.58	980.87
125	9.59	990.46
126	9.62	1000.08
127	9.62	1009.70
128	9.64	1019.34
129	9.65	1028.99
130	9.68	1038.67
131	9.68	1048.35
132	9.70	1058.05
133	9.71	1067.76
134	9.74	1077.50
135	9.74	1087.24
136	9.76	1097.00
137	9.77	1106.77
138	9.80	1116.57

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
139	9.80	1126.37
140	9.83	1136.20
141	9.82	1146.02
142	9.86	1155.88
143	9.86	1165.74
144	9.86	1175.60
145	9.89	1185.49
146	9.88	1195.37
147	9.92	1205.29
148	9.92	1215.21
149	9.95	1225.16
150	9.94	1235.10
151	9.98	1245.08
152	9.98	1255.06
153	9.98	1265.04
154	10.01	1275.05
155	10.01	1285.06
156	10.03	1295.09
157	10.04	1305.13
158	10.07	1315.20
159	10.07	1325.27
160	10.07	1335.34
161	10.09	1345.43
162	10.10	1355.53
163	10.13	1365.66
164	10.13	1375.79
165	10.13	1385.92
166	10.16	1396.08
167	10.15	1406.23
168	10.19	1416.42
169	10.19	1426.61
170	10.19	1436.80
171	10.22	1447.02
172	10.22	1457.24
173	10.22	1467.46
174	10.24	1477.70
175	10.25	1487.95
176	10.28	1498.23
177	10.28	1508.51
178	10.28	1518.79
179	10.31	1529.10
180	10.31	1539.41
181	10.30	1549.71
182	10.34	1560.05
183	10.34	1570.39
184	10.37	1580.76
185	10.37	1591.13

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
186	10.37	1601.50
187	10.40	1611.90
188	10.40	1622.30
189	10.39	1632.69
190	10.43	1643.12
191	10.43	1653.55
192	10.43	1663.98
193	10.46	1674.44
194	10.46	1684.90
195	10.46	1695.36
196	10.49	1705.85
197	10.49	1716.34
198	10.48	1726.82
199	10.52	1737.34
200	10.52	1747.86
201	10.52	1758.38
202	10.55	1768.93
203	10.55	1779.48
204	10.55	1790.03
205	10.58	1800.61
206	10.58	1811.19
207	10.58	1821.77
208	10.61	1832.38
209	10.60	1842.98
210	10.61	1853.59
211	10.64	1864.23
212	10.64	1874.87
213	10.64	1885.51
214	10.64	1896.15
215	10.67	1906.82
216	10.67	1917.49
217	10.67	1928.16
218	10.70	1938.86
219	10.70	1949.56
220	10.70	1960.26
221	10.73	1970.99
222	10.73	1981.72
223	10.73	1992.45
224	10.72	2003.17
225	10.76	2013.93
226	10.76	2024.69
227	10.76	2035.45
228	10.79	2046.24
229	10.79	2057.03
230	10.79	2067.82
231	10.79	2078.61
232	10.82	2089.43

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
233	10.82	2100.25
234	10.82	2111.07
235	10.85	2121.92
236	10.85	2132.77
237	10.85	2143.62
238	10.85	2154.47
239	10.88	2165.35
240	10.88	2176.23
241	10.88	2187.11
242	10.91	2198.02
243	10.91	2208.93
244	10.91	2219.84
245	10.91	2230.75
246	10.94	2241.69
247	10.94	2252.63
248	10.94	2263.57
249	10.94	2274.51
250	10.97	2285.48
251	10.97	2296.45
252	10.96	2307.41
253	10.97	2318.38
254	11.00	2329.38
255	11.00	2340.38
256	11.00	2351.38
257	11.00	2362.38
258	11.03	2373.41
259	11.03	2384.44
260	11.03	2395.47
261	11.06	2406.53
262	11.06	2417.59
263	11.06	2428.65
264	11.06	2439.71
265	11.09	2450.80
266	11.09	2461.89
267	11.09	2472.98
268	11.09	2484.07
269	11.09	2495.16
270	11.12	2506.28
271	11.12	2517.40
272	11.12	2528.52
273	11.13	2539.65
274	11.15	2550.80
275	11.15	2561.95
276	11.15	2573.10
277	11.15	2584.25
278	11.18	2595.43
279	11.18	2606.61

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of	
	water	total cost of water
280	11.18	2617.79
281	11.18	2628.97
282	11.21	2640.18
283	11.21	2651.39
284	11.21	2662.60
285	11.21	2673.81
286	11.24	2685.05
287	11.24	2696.29
288	11.24	2707.53
289	11.24	2718.77
290	11.24	2730.01
291	11.27	2741.28
292	11.27	2752.55
293	11.27	2763.82
294	11.27	2775.09
295	11.30	2786.39
296	11.30	2797.69
297	11.30	2808.99
298	11.30	2820.29
299	11.30	2831.59
300	11.33	2842.92
301	11.33	2854.25
302	11.33	2865.58
303	11.34	2876.92
304	11.36	2888.28
305	11.36	2899.64
306	11.36	2911.00
307	11.36	2922.36
308	11.36	2933.72
309	11.39	2945.11
310	11.39	2956.50
311	11.39	2967.89
312	11.39	2979.28
313	11.39	2990.67
314	11.42	3002.09
315	11.42	3013.51
316	11.42	3024.93
317	11.42	3036.35
318	11.45	3047.80
319	11.46	3059.26
320	11.45	3070.71
321	11.45	3082.16
322	11.45	3093.61
323	11.48	3105.09
324	11.48	3116.57
325	11.48	3128.05
326	11.48	3139.53

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
327	11.48	3151.01
328	11.51	3162.52
329	11.51	3174.03
330	11.51	3185.54
331	11.51	3197.05
332	11.52	3208.57
333	11.54	3220.11
334	11.54	3231.65
335	11.54	3243.19
336	11.54	3254.73
337	11.57	3266.30
338	11.57	3277.87
339	11.57	3289.44
340	11.57	3301.01
341	11.57	3312.58
342	11.57	3324.15
343	11.58	3335.73
344	11.60	3347.33
345	11.60	3358.93
346	11.60	3370.53
347	11.60	3382.13
348	11.60	3393.73
349	11.63	3405.36
350	11.63	3416.99
351	11.63	3428.62
352	11.63	3440.25
353	11.64	3451.89
354	11.66	3463.55
355	11.66	3475.21
356	11.66	3486.87
357	11.66	3498.53
358	11.66	3510.19
359	11.66	3521.85
360	11.69	3533.54
361	11.69	3545.23
362	11.70	3556.93
363	11.69	3568.62
364	11.69	3580.31
365	11.72	3592.03
366	11.72	3603.75
367	11.72	3615.47
368	11.72	3627.19
369	11.72	3638.91
370	11.73	3650.64
371	11.75	3662.39
372	11.75	3674.14
373	11.75	3685.89

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
374	11.75	3697.64
375	11.75	3709.39
376	11.78	3721.17
377	11.78	3732.95
378	11.79	3744.74
379	11.78	3756.52
380	11.78	3768.30
381	11.78	3780.08
382	11.81	3791.89
383	11.81	3803.70
384	11.81	3815.51
385	11.81	3827.32
386	11.82	3839.14
387	11.81	3850.95
388	11.84	3862.79
389	11.84	3874.63
390	11.84	3886.47
391	11.84	3898.31
392	11.84	3910.15
393	11.85	3922.00
394	11.87	3933.87
395	11.87	3945.74
396	11.87	3957.61
397	11.87	3969.48
398	11.87	3981.35
399	11.87	3993.22
400	11.91	4005.13
401	11.90	4017.03
402	11.90	4028.93
403	11.90	4040.83
404	11.90	4052.73
405	11.90	4064.63
406	11.94	4076.57
407	11.93	4088.50
408	11.93	4100.43
409	11.93	4112.36
410	11.93	4124.29
411	11.93	4136.22
412	11.97	4148.19
413	11.96	4160.15
414	11.96	4172.11
415	11.96	4184.07
416	11.96	4196.03
417	11.96	4207.99
418	11.97	4219.96
419	11.99	4231.95
420	11.99	4243.94

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
421	11.99	4255.93
422	11.99	4267.92
423	11.99	4279.91
424	12.00	4291.91
425	12.02	4303.93
426	12.03	4315.96
427	12.02	4327.98
428	12.02	4340.00
429	12.02	4352.02
430	12.02	4364.04
431	12.05	4376.09
432	12.04	4388.13
433	12.05	4400.18
434	12.04	4412.22
435	12.05	4424.27
436	12.04	4436.31
437	12.05	4448.36
438	12.09	4460.45
439	12.09	4472.54
440	12.09	4484.63
441	12.09	4496.72
442	12.09	4508.81
443	12.09	4520.90
444	12.09	4532.99
445	12.12	4545.11
446	12.11	4557.22
447	12.12	4569.34
448	12.11	4581.45
449	12.12	4593.57
450	12.11	4605.68
451	12.14	4617.82
452	12.13	4629.95
453	12.14	4642.09
454	12.14	4654.23
455	12.14	4666.37
456	12.13	4678.50
457	12.14	4690.64
458	12.18	4702.82
459	12.19	4715.01
460	12.18	4727.19
461	12.19	4739.38
462	12.18	4751.56
463	12.18	4763.74
464	12.19	4775.93
465	12.20	4788.13
466	12.21	4800.34
467	12.21	4812.55

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
468	12.20	4824.75
469	12.21	4836.96
470	12.21	4849.17
471	12.20	4861.37
472	12.23	4873.60
473	12.23	4885.83
474	12.23	4898.06
475	12.23	4910.29
476	12.23	4922.52
477	12.23	4934.75
478	12.24	4946.99
479	12.23	4959.22
480	12.26	4971.48
481	12.26	4983.74
482	12.27	4996.01
483	12.26	5008.27
484	12.26	5020.53
485	12.26	5032.79
486	12.26	5045.05
487	12.30	5057.35
488	12.29	5069.64
489	12.29	5081.93
490	12.29	5094.22
491	12.30	5106.52
492	12.29	5118.81
493	12.29	5131.10
494	12.32	5143.42
495	12.32	5155.74
496	12.33	5168.07
497	12.32	5180.39
498	12.32	5192.71
499	12.32	5205.03
500	12.33	5217.36
501	12.32	5229.68
502	12.35	5242.03
503	12.35	5254.38
504	12.36	5266.74
505	12.35	5279.09
506	12.35	5291.44
507	12.35	5303.79
508	12.35	5316.14
509	12.36	5328.50
510	12.35	5340.85
511	12.38	5353.23
512	12.38	5365.61
513	12.39	5378.00
514	12.38	5390.38

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
515	12.38	5402.76
516	12.38	5415.14
517	12.39	5427.53
518	12.41	5439.94
519	12.41	5452.35
520	12.41	5464.76
521	12.42	5477.18
522	12.41	5489.59
523	12.41	5502.00
524	12.41	5514.41
525	12.45	5526.86
526	12.44	5539.30
527	12.44	5551.74
528	12.44	5564.18
529	12.45	5576.63
530	12.44	5589.07
531	12.44	5601.51
532	12.44	5613.95
533	12.48	5626.43
534	12.47	5638.90
535	12.47	5651.37
536	12.47	5663.84
537	12.48	5676.32
538	12.47	5688.79
539	12.47	5701.26
540	12.47	5713.73
541	12.48	5726.21
542	12.50	5738.71
543	12.50	5751.21
544	12.50	5763.71
545	12.51	5776.22
546	12.50	5788.72
547	12.50	5801.22
548	12.50	5813.72
549	12.54	5826.26
550	12.53	5838.79
551	12.53	5851.32
552	12.54	5863.86
553	12.53	5876.39
554	12.53	5888.92
555	12.53	5901.45
556	12.54	5913.99
557	12.53	5926.52
558	12.56	5939.08
559	12.56	5951.64
560	12.57	5964.21
561	12.56	5976.77

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
562	12.56	5989.33
563	12.57	6001.90
564	12.56	6014.46
565	12.56	6027.02
566	12.56	6039.58
567	12.60	6052.18
568	12.59	6064.77
569	12.59	6077.36
570	12.59	6089.95
571	12.60	6102.55
572	12.59	6115.14
573	12.59	6127.73
574	12.60	6140.33
575	12.62	6152.95
576	12.62	6165.57
577	12.62	6178.19
578	12.63	6190.82
579	12.62	6203.44
580	12.62	6216.06
581	12.63	6228.69
582	12.62	6241.31
583	12.62	6253.93
584	12.65	6266.58
585	12.66	6279.24
586	12.65	6291.89
587	12.65	6304.54
588	12.66	6317.20
589	12.65	6329.85
590	12.65	6342.50
591	12.65	6355.15
592	12.66	6367.81
593	12.68	6380.49
594	12.68	6393.17
595	12.69	6405.86
596	12.68	6418.54
597	12.68	6431.22
598	12.68	6443.90
599	12.69	6456.59
600	12.68	6469.27
601	12.68	6481.95
602	12.72	6494.67
603	12.71	6507.38
604	12.71	6520.09
605	12.72	6532.81
606	12.71	6545.52
607	12.71	6558.23
608	12.71	6570.94

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
609	12.72	6583.66
610	12.71	6596.37
611	12.74	6609.11
612	12.75	6621.86
613	12.74	6634.60
614	12.74	6647.34
615	12.75	6660.09
616	12.74	6672.83
617	12.74	6685.57
618	12.75	6698.32
619	12.74	6711.06
620	12.74	6723.80
621	12.77	6736.57
622	12.78	6749.35
623	12.77	6762.12
624	12.77	6774.89
625	12.78	6787.67
626	12.77	6800.44
627	12.77	6813.21
628	12.78	6825.99
629	12.77	6838.76
630	12.80	6851.56
631	12.81	6864.37
632	12.80	6877.17
633	12.80	6889.97
634	12.81	6902.78
635	12.80	6915.58
636	12.80	6928.38
637	12.80	6941.18
638	12.81	6953.99
639	12.80	6966.79
640	12.83	6979.62
641	12.84	6992.46
642	12.83	7005.29
643	12.83	7018.12
644	12.84	7030.96
645	12.83	7043.79
646	12.83	7056.62
647	12.84	7069.46
648	12.83	7082.29
649	12.83	7095.12
650	12.87	7107.99
651	12.86	7120.85
652	12.86	7133.71
653	12.87	7146.58
654	12.86	7159.44
655	12.86	7172.30

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
656	12.87	7185.17
657	12.86	7198.03
658	12.86	7210.89
659	12.87	7223.76
660	12.89	7236.65
661	12.89	7249.54
662	12.90	7262.44
663	12.89	7275.33
664	12.89	7288.22
665	12.90	7301.12
666	12.89	7314.01
667	12.89	7326.90
668	12.90	7339.80
669	12.89	7352.69
670	12.92	7365.61
671	12.93	7378.54
672	12.92	7391.46
673	12.92	7404.38
674	12.93	7417.31
675	12.92	7430.23
676	12.92	7443.15
677	12.93	7456.08
678	12.92	7469.00
679	12.92	7481.92
680	12.96	7494.88
681	12.95	7507.83
682	12.95	7520.78
683	12.96	7533.74
684	12.95	7546.69
685	12.95	7559.64
686	12.96	7572.60
687	12.95	7585.55
688	12.95	7598.50
689	12.96	7611.46
690	12.98	7624.44
691	12.98	7637.42
692	12.99	7650.41
693	12.98	7663.39
694	12.98	7676.37
695	12.99	7689.36
696	12.98	7702.34
697	12.99	7715.33
698	12.98	7728.31
699	12.98	7741.29
700	12.99	7754.28
701	13.01	7767.29
702	13.01	7780.30

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
703	13.02	7793.32
704	13.01	7806.33
705	13.01	7819.34
706	13.02	7832.36
707	13.01	7845.37
708	13.01	7858.38
709	13.02	7871.40
710	13.01	7884.41
711	13.01	7897.42
712	13.05	7910.47
713	13.04	7923.51
714	13.05	7936.56
715	13.04	7949.60
716	13.04	7962.64
717	13.05	7975.69
718	13.04	7988.73
719	13.04	8001.77
720	13.05	8014.82
721	13.04	8027.86
722	13.07	8040.93
723	13.08	8054.01
724	13.07	8067.08
725	13.08	8080.16
726	13.07	8093.23
727	13.07	8106.30
728	13.08	8119.38
729	13.07	8132.45
730	13.07	8145.52
731	13.08	8158.60
732	13.07	8171.67
733	13.10	8184.77
734	13.11	8197.88
735	13.10	8210.98
736	13.11	8224.09
737	13.10	8237.19
738	13.10	8250.29
739	13.11	8263.40
740	13.10	8276.50
741	13.10	8289.60
742	13.11	8302.71
743	13.10	8315.81
744	13.11	8328.92
745	13.13	8342.05
746	13.13	8355.18
747	13.14	8368.32
748	13.13	8381.45
749	13.13	8394.58

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
750	13.14	8407.72
751	13.13	8420.85
752	13.14	8433.99
753	13.13	8447.12
754	13.13	8460.25
755	13.14	8473.39
756	13.16	8486.55
757	13.16	8499.71
758	13.17	8512.88
759	13.16	8526.04
760	13.17	8539.21
761	13.16	8552.37
762	13.16	8565.53
763	13.17	8578.70
764	13.16	8591.86
765	13.16	8605.02
766	13.17	8618.19
767	13.16	8631.35
768	13.20	8644.55
769	13.19	8657.74
770	13.19	8670.93
771	13.20	8684.13
772	13.19	8697.32
773	13.20	8710.52
774	13.19	8723.71
775	13.19	8736.90
776	13.20	8750.10
777	13.19	8763.29
778	13.20	8776.49
779	13.22	8789.71
780	13.22	8802.93
781	13.23	8816.16
782	13.22	8829.38
783	13.22	8842.60
784	13.23	8855.83
785	13.22	8869.05
786	13.23	8882.28
787	13.22	8895.50
788	13.22	8908.72
789	13.23	8921.95
790	13.22	8935.17
791	13.23	8948.40
792	13.22	8961.62
793	13.22	8974.84
794	13.23	8988.07
795	13.25	9001.32
796	13.26	9014.58

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of water	total cost of water
797	13.25	9027.83
798	13.25	9041.08
799	13.26	9054.34
800	13.25	9067.59
801	13.26	9080.85
802	13.28	9094.13
803	13.28	9107.41
804	13.29	9120.70
805	13.28	9133.98
806	13.29	9147.27
807	13.28	9160.55
808	13.28	9173.83
809	13.29	9187.12
810	13.28	9200.40
811	13.29	9213.69
812	13.28	9226.97
813	13.28	9240.25
814	13.29	9253.54
815	13.28	9266.82
816	13.32	9280.14
817	13.31	9293.45
818	13.31	9306.76
819	13.32	9320.08
820	13.31	9333.39
821	13.32	9346.71
822	13.31	9360.02
823	13.31	9373.33
824	13.32	9386.65
825	13.31	9399.96
826	13.32	9413.28
827	13.31	9426.59
828	13.35	9439.94
829	13.34	9453.28
830	13.34	9466.62
831	13.35	9479.97
832	13.34	9493.31
833	13.35	9506.66
834	13.34	9520.00
835	13.34	9533.34
836	13.35	9546.69
837	13.34	9560.03
838	13.35	9573.38
839	13.34	9586.72
840	13.35	9600.07
841	13.37	9613.44
842	13.37	9626.81
843	13.38	9640.19

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of	
	water	total cost of water
844	13.37	9653.56
845	13.38	9666.94
846	13.37	9680.31
847	13.37	9693.68
848	13.38	9707.06
849	13.37	9720.43
850	13.38	9733.81
851	13.37	9747.18
852	13.38	9760.56
853	13.37	9773.93
854	13.40	9787.33
855	13.41	9800.74
856	13.40	9814.14
857	13.41	9827.55
858	13.40	9840.95
859	13.41	9854.36
860	13.40	9867.76
861	13.40	9881.16
862	13.41	9894.57
863	13.40	9907.97
864	13.41	9921.38
865	13.40	9934.78
866	13.40	9948.18
867	13.44	9961.62
868	13.43	9975.05
869	13.44	9988.49
870	13.43	10001.92
871	13.44	10015.36
872	13.43	10028.79
873	13.44	10042.23
874	13.43	10055.66
875	13.43	10069.09
876	13.44	10082.53
877	13.43	10095.96
878	13.44	10109.40
879	13.43	10122.83
880	13.47	10136.30
881	13.46	10149.76
882	13.46	10163.22
883	13.47	10176.69
884	13.46	10190.15
885	13.47	10203.62
886	13.46	10217.08
887	13.47	10230.55
888	13.46	10244.01
889	13.46	10257.47
890	13.47	10270.94

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of	
	water	total cost of water
891	13.46	10284.40
892	13.47	10297.87
893	13.49	10311.36
894	13.50	10324.86
895	13.49	10338.35
896	13.50	10351.85
897	13.49	10365.34
898	13.49	10378.83
899	13.50	10392.33
900	13.49	10405.82
901	13.50	10419.32
902	13.49	10432.81
903	13.50	10446.31
904	13.49	10459.80
905	13.49	10473.29
906	13.50	10486.79
907	13.52	10500.31
908	13.53	10513.84
909	13.52	10527.36
910	13.53	10540.89
911	13.52	10554.41
912	13.53	10567.94
913	13.52	10581.46
914	13.53	10594.99
915	13.52	10608.51
916	13.52	10622.03
917	13.53	10635.56
918	13.52	10649.08
919	13.53	10662.61
920	13.52	10676.13
921	13.56	10689.69
922	13.55	10703.24
923	13.56	10716.80
924	13.55	10730.35
925	13.55	10743.90
926	13.56	10757.46
927	13.55	10771.01
928	13.56	10784.57
929	13.55	10798.12
930	13.56	10811.68
931	13.55	10825.23
932	13.56	10838.79
933	13.55	10852.34
934	13.56	10865.90
935	13.58	10879.48
936	13.58	10893.06
937	13.59	10906.65

CITY OF MORRO BAY WATER RATES

units of water	cost per unit of	
	water	total cost of water
938	13.58	10920.23
939	13.59	10933.82
940	13.58	10947.40
941	13.59	10960.99
942	13.58	10974.57
943	13.59	10988.16
944	13.58	11001.74
945	13.59	11015.33
946	13.58	11028.91
947	13.58	11042.49
948	13.59	11056.08
949	13.61	11069.69
950	13.62	11083.31
951	13.61	11096.92
952	13.62	11110.54
953	13.61	11124.15
954	13.62	11137.77
955	13.61	11151.38
956	13.62	11165.00
957	13.61	11178.61
958	13.62	11192.23
959	13.61	11205.84
960	13.61	11219.45
961	13.62	11233.07
962	13.61	11246.68
963	13.62	11260.30
964	13.64	11273.94
965	13.65	11287.59
966	13.64	11301.23
967	13.65	11314.88
968	13.64	11328.52
969	13.65	11342.17
970	13.64	11355.81
971	13.65	11369.46
972	13.64	11383.10
973	13.65	11396.75
974	13.64	11410.39
975	13.65	11424.04
976	13.64	11437.68
977	13.64	11451.32
978	13.68	11465.00
979	13.67	11478.67
980	13.68	11492.35
981	13.67	11506.02
982	13.68	11519.70
983	13.67	11533.37
984	13.68	11547.05

Appendix M
Waste Water Prohibition

13.04.280 Fraud and abuse.

The water department shall have the right to refuse or to discontinue water service to any premises to protect itself against fraud or abuse. (Ord. 13 § 1 (part), 1965: prior code § 9112D)

13.04.290 Noncompliance.

The water department may, unless otherwise provided, discontinue water service to a customer for noncompliance with any of these regulations if the customer fails to comply with them within five days after receiving written notice of the water department's intention to discontinue service. If such noncompliance affects matters of health and safety, and conditions warrant, the water department may discontinue water service immediately. (Ord. 13 § 1 (part), 1965: prior code § 9112E)

13.04.300 Customer's request for discontinuance.

A customer may have his water service discontinued by notifying the water department reasonably well in advance of the desired date of discontinuance. He will be required to pay all water charges until the date of such discontinuance. (Ord. 13 § 1 (part), 1965: prior code § 9112F)

13.04.310 Restoration—Reconnection charges.

The water department shall charge for restoring water service discontinued for noncompliance with these regulations. The city council shall, by resolution, establish the amount of the charge. (Ord. 213 § 1, 1981: Ord. 13 § 1 (part), 1965: prior code § 9112G)

VII. Emergencies**13.04.320 Determination of low water level.**

The city council shall have the power and authority to declare the water level low within the city water system whenever in its judgment sufficient facts exist. Said facts may consist of, but are not limited to, any of the following: failure of pumps or motors; broken water mains; failure or shortage of water supply; increase beyond allowable limits (under State Board of Public Health rules) of mineral content of water; failure of major storage facilities. (Ord. 13 § 1 (part), 1965: prior code § 9126A (part))

13.04.330 Council water conservation powers.

When deemed necessary in the judgment of the city council to conserve water during low water level months, or during flood water conditions, which may contaminate city wells, the city council may by resolution declare an emergency condition and do any or all of the following which in its judgment is deemed advisable after publication of notice thereof is given by the city to users:

- A. Limit irrigation within the city water service area to specified hours, or prohibit irrigation entirely within the service area;
- B. Hold all customers inside the water service area of the city to specified maximum usages of water for each category of users;
- C. Provide adequate water to customers for all purposes except drinking and cooking, and require users to supply their own drinking and cooking water;
- D. Take any other action which the city council deems necessary to protect the public health or safety, prevent contamination of city wells or other sources of city water, or ensure an adequate city water supply;
- E. The council may provide for exemptions to any conservation measure or other adopted pursuant to this section.

It is unlawful for any person to violate any conservation or other measure imposed by the city council pursuant to this section. Violation of any such conservation or other measure, shall constitute a violation of this section. Failure to comply with any conservation or other measure adopted pursuant to this section may result in termination of water service. No water service shall be terminated until the public works director has notified in writing the customer the reasons for the proposed termination,

13.04.330

and given the customer an opportunity to respond, either orally or in writing. (Ord. 336 § 2, 1988: Ord. 13 § 1 (part), 1965: prior code § 9126A (part))

13.04.340 Public works director powers.

If the city council adopts a resolution declaring the water level low or any emergency in the water system as set out in Sections 13.04.320 and 13.04.330, the public works director is authorized and directed to take any or all of the following actions which in his judgment will best conserve water during the duration of the emergency:

A. Specify the days and/or hours during which water users may irrigate, to take effect after publication of notice thereof in a newspaper of general circulation distributed in the city or after written notice thereof is given by the city to users;

B. If there is failure to comply with the limitation on irrigation, the public works department shall turn off the water of any such violator; provided, the public works director shall not terminate any water service until the director gives notice in writing to the customer of the reasons for the proposed termination, and gives the customer an opportunity to respond either orally or in writing;

C. If in the judgment of the Public works director, there is flagrant waste of water (such as but not limited to water running down gutters), the public works department shall turn off the water of said user; provided, the public works director shall not terminate any water service until the director gives notice in writing to the customer of the reasons for the proposed termination, and gives the customer an opportunity to respond either orally or in writing;

D. If an owner of property is notified in writing by the public works director of leaks in the water line on the owner's property and has not repaired such leaks within three days after the notification, the public works department shall turn off the water on the property until the leak is repaired;

E. If specified maximum usages of water are set by the city council during low water months or other emergency conditions in the water system, and if any customer uses more than the specified maximum usage for his category, then such a violation shall result in the penalty applied to the customer in the amount of three dollars per one hundred cubic feet of water used over the specified maximum usage for his category during the period of emergency conditions;

F. Prohibit the filling or refilling of swimming pools, hot tubs or spas, to take effect upon written notification thereof by the city to users. (Ord. 336 § 3, 1988: Ord. 13 § 1 (part), 1965: prior code § 9126B)

13.04.345 Mandatory water conservation requirements.

A. Normal Water Supply Conditions.

1. Outdoor water use for washing vehicles, boats, paved surfaces, buildings or other similar uses shall be attended and have hand-controlled water devices, typically including spring-loaded shutoff nozzles.

2. Outdoor irrigation resulting in excessive gutter runoff is prohibited.

3. Marinas and waterfront installations: all hoses shall have spring-loaded shutoff nozzles or similar controlling devices.

4. Restaurants shall serve drinking water only in response to a specific request by the customer.

5. Newly planted landscaping or newly seeded lawns installed prior to the date these mandatory conservation requirements are imposed may be temporarily exempted from the provisions of subsection A2 of this section; provided, the owner/tenant establishes documentation satisfactory to the city conclusively proving the planting date. Any temporary exemption shall expire when the planting is sufficiently established to survive without excessive gutter runoff. All other conservation measures remain applicable during the temporary exemption.

B. Moderately Restricted Water Supply Conditions.

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

2. Outdoor water use for washing vehicles, boats, buildings or other similar uses shall be attended and have hand-controlled water devices, typically including spring-loaded shutoff nozzles.

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

4. Outdoor Irrigation.

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

b. All consumers are directed to use no more water than necessary to maintain landscaping.

5. Marinas and Waterfront Installations.

a. Use of fresh water to wash down boats, docks, or other incidental activities shall be attended and have hand-controlled devices, typically including spring-loaded shutoff nozzles.

b. All hoses shall have spring-loaded shutoff nozzles or similar controlling devices.

6. Restaurants shall serve drinking water only in response to a specific request by a customer.

7. Newly planted landscaping or newly seeded lawns installed prior to the date these mandatory conservation requirements are imposed may be temporarily exempted from the provisions of subsection B1 of this section; provided, the owner/tenant establishes documentation satisfactory to the city conclusively proving the planting date. Any temporary exemption shall expire when the planting is sufficiently established to survive without excessive gutter runoff. All other conservation measures remain applicable during the temporary exemption.

C. Severely Restricted Water Supply Conditions.

1. Outdoor Water Use (Except Irrigation).

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

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

c. Washing cars by use of a hose is prohibited. Use of a bucket is permitted subject to nonwasteful applications.

2. Outdoor Irrigation.

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

b. Irrigation of private and public landscaping, turf areas, and gardens is permitted at even-numbered addresses only on Wednesdays and Sundays, and at odd-numbered addresses only on Tuesdays and Saturdays. All consumers are directed to use no more water than necessary to maintain landscaping.

c. Newly planted landscaping or newly seeded lawns installed prior to the date these mandatory conservation requirements are imposed may be temporarily exempted from the provisions of subsection (C)(2)(b) of this section; provided, the owner/tenant establishes documentation satisfactory to the city conclusively proving the planting date. Any temporary exemption shall expire when the planting is sufficiently established to survive with twice per week watering. All other conservation measures remain applicable during the temporary exemption.

3. Marinas and Waterfront Installations.

a. Use of fresh water to wash down boats, docks, or other incidental activities is prohibited.

b. All hoses shall have spring-loaded shutoff nozzles or similar controlling devices.

4. Restaurants shall serve water only in response to a specific request by a customer.

5. Emptying and refilling of swimming pools and commercial spas is prohibited except to prevent structural damage and/or to comply with public health regulations.

6. Use of potable water for compaction or dust control purposes in construction activities is prohibited.

7. Any dysfunctional water fixtures in public or commercial facilities shall be repaired within three days of receipt of notification by the city.

8. All visitor-serving facilities in the city shall prominently display these mandatory water conservation requirements for the benefit and education of visitors to the community. Such display shall be done in a permanent vandal-resistant manner. Visitor-serving facilities shall include, but not be limited to, all motels, restaurants, campgrounds, recreational vehicle parks, mobilehome parks, service stations, public restrooms, etc. The owners or managers of such facilities shall distribute to all customers a printed handout or flyer describing these mandatory water conservation requirements. Such handouts or flyers shall be provided to the owners or managers of such facilities by the city free of charge.

D. Critical Water Supply Conditions.

1. Outdoor Water Use (Except Irrigation).

a. Use of water which results in gutter runoff is prohibited.

b. No water shall be used for cleaning driveways, patios, parking lots, sidewalks, streets or other such uses, except where necessary to protect the public health or safety, and then only by use of a bucket of water and brush.

c. Washing cars or other mobile vehicles and equipment, including trailers and boats on trailers, is permitted only by the use of a bucket of water. No use of hoses, even if equipped with a shut-off nozzle, is permitted. Commercial car washes are exempt from these provisions.

d. Use of potable water to wash buildings, houses or mobilehomes is prohibited.

2. Outdoor Irrigation.
 - a. Outdoor irrigation is prohibited between the hours of nine a.m. and five p.m.
 - b. Irrigation of landscaping and gardens is permitted at even-numbered addresses only on Wednesdays, and at odd-numbered addresses only on Tuesdays. Noncommercial food-crop gardens are exempt from these restrictions.
 3. Marinas and Waterfront Installations.
 - a. Use of fresh water to wash down boats or docks, or for other incidental activities, is prohibited.
 - b. All hoses shall have spring-loaded shutoffs or similar devices, and may be used only to fill water tanks of boats or to flush outboard engines.
 4. Restaurants shall serve water only in response to a specific request by a customer.
 5. Emptying and refilling swimming pools and spas is prohibited except to prevent structural damage and/or to comply with public health regulations.
 6. Use of potable water for compaction or dust-control purposes in construction activities is prohibited.
 7. Any dysfunctional water fixtures in public commercial facilities shall be repaired immediately.
 8. All visitor-serving facilities in the city shall prominently display these mandatory water conservation requirements for the benefit and education of visitors to the community. Such display shall be done in a permanent, vandal-resistant manner. Visitor-serving facilities shall include, but not be limited to, all motels, restaurants, campgrounds, recreational vehicle parks, mobilehome parks, service stations, public restrooms, etc. The owners or managers of such facilities shall distribute to all customers a printed handout or flyer describing these mandatory water conservation requirements. Such handouts or flyers shall be provided to the owners or managers of such facilities by the city free of charge.
- E. Emergency Water Supply Conditions. The city council may impose water rationing requirements as it deems appropriate in accordance with Sections 13.04.330 and 13.04.340. (Ord. 417 § 2, 1992; Ord. 381, 1990; Ord. 374 §§ 2 — 4, 1990; Ord. 347 § 3, 1989)

VIII. Fire Hydrants

13.04.350 Damaging and tampering with hydrants.

No person, other than those designated and authorized by the proper authority, or by the water department, shall open any fire hydrant, attempt to draw water from it or in any manner damage or tamper with it. Any violation of this section will be prosecuted according to law. (Ord. 13 § 1 (part), 1965; prior code § 9117A)

