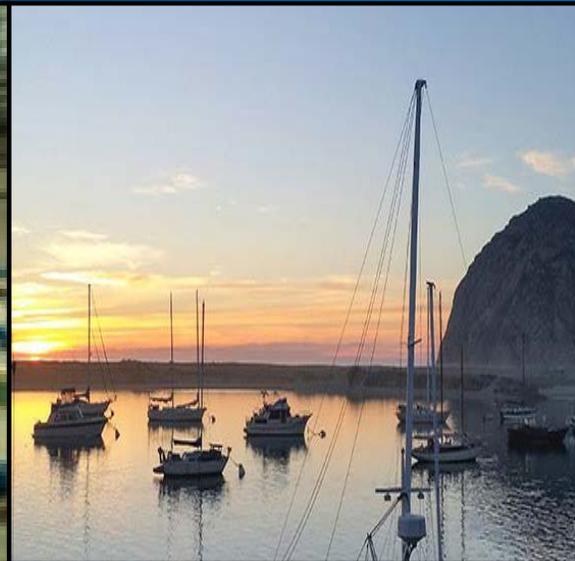


City of Morro Bay 2015 Urban Water Management Plan



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June 24, 2016

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LIST OF ABBREVIATIONS AND ACRONYMS

AF	Acre-feet	Morro Bay	City of Morro Bay Public Works Department
AFY	Acre-feet per Year	MWR	Master Water Report
BMP	Best Management Practice	NOAA	National Oceanic and Atmospheric Administration
BWRO	Brackish Water Reverse Osmosis	NPDES	National Pollutant Discharge Elimination System
cfs	Cubic Feet per Second	PPWTP	Polonio Pass Water Treatment Plant
CCC	California Coastal Commission	RUWMP	Regional Urban Water Management Plan
CCWA	Central Coast Water Authority	RWQCB	Regional Water Quality Control Board
CDCR	California Department of Corrections and Rehabilitation	SBCFCWCD	Santa Barbara County Flood Control and Water Conservation District
CMC	California Men's Colony	SBR	Sequencing Batch Reactor
CSD	Community Services District or Cayucos Sanitary District	SBX 7-7	Senate Bill
CSIP	Catastrophic Supply Interruption Plan	SCADA	Supervisory Control and Data Acquisition
CUWCC	California Urban Water Conservation Council	SLO	San Luis Obispo
CWC	California Water Code	SLOCOG	San Luis Obispo Council of Governments
DDW	Division of Drinking Water	SLOCFCWCD	San Luis Obispo County Flood Control and Water Conservation District
DMM	Demand Management Measure	SWP	State Water Project
DOF	Department of Finance	SWRCB	State Water Resources Control Board
DWR	Department of Water Resources	TDS	Total Dissolved Solids
GPCD	Gallons per Capita per Day	UWMP	Urban Water Management Plan
GRRP	Groundwater Recharge Reuse Project	WPA	Water planning areas
hcf	Hundred cubic feet	WRF	Water Reclamation Facility
JPA	Joint Powers Authority	WSCP	Water Shortage Contingency Plan
MBR	Membrane Bio-reactor	WWTP	Wastewater Treatment Plant
MGD	Million gallons per day		
mg/L	Milligrams per liter		



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Section 1. Introduction and Overview

1.1. Background and Purpose

The mission of the City of Morro Bay Public Works Department is to enhance the quality of life for its residents by developing and maintaining the City's infrastructure in a safe and environmentally sensitive manner. To that end, the City of Morro Bay Public Works Department (Morro Bay) operates a retail water distribution system to provide the citizens with a source of safe and reliable drinking water. The operational area and key facilities associated with the Morro Bay System are illustrated in Figure 1-1. Maintaining a reliable and safe drinking water supply is a significant effort for Morro Bay which requires continual planning and upkeep as the resources and technologies available to Morro Bay change.

The purpose of this Urban Water Management Plan (UWMP) is to provide the public, stakeholders, and Morro Bay with an updated status and plan for the Morro Bay Water System including:

- Water deliveries and uses
- Water supply sources
- Efficient water uses
- Demand management measures
- Water shortage contingency planning

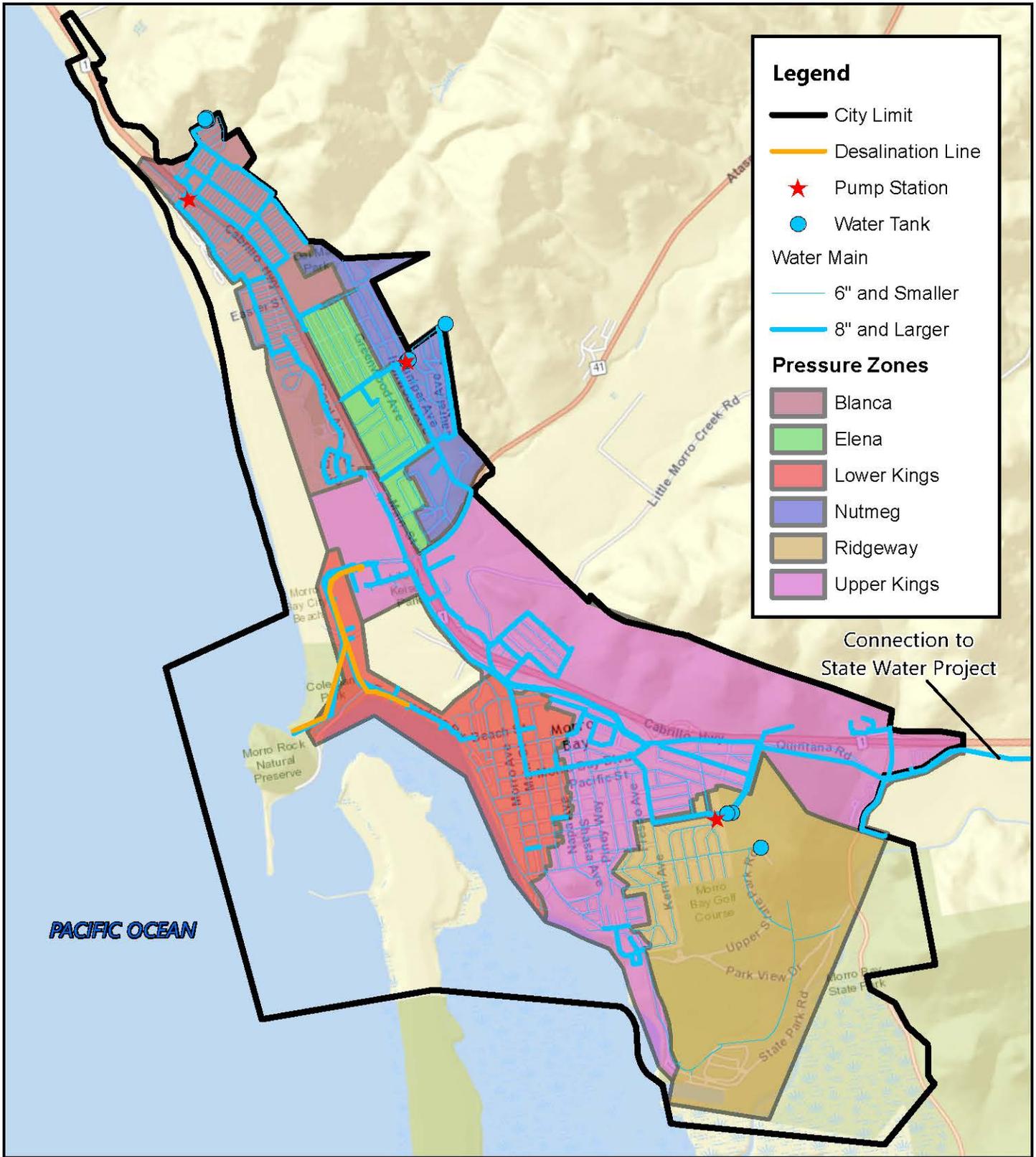
This UWMP was prepared in compliance with the Water Conservation Act of 2009, also known as SBX 7-7, under the authorization of Morro Bay. Morro Bay has undertaken several planning efforts since the 2010 UWMP as documented in the *2012 Recycled Water Feasibility Study*, the *New Water Reclamation Facility Technical Memorandum* by Michael K. Nunley and Associates, and the *2015 City of Morro Bay Water & Sewer Rate Study*. The information presented in this 2015 UWMP was prepared to reflect the City's latest planning efforts.

Notification letters sent to agencies are provided in Appendix A.

Public notice for the 2015 UWMP public hearing is provided in Appendix B.

The Adopting Resolution passed by the City Council on June 14, 2016 is provided in Appendix C.





Legend

- City Limit
- Desalination Line
- ★ Pump Station
- Water Tank

Water Main

- 6" and Smaller
- 8" and Larger

Pressure Zones

- Blanca
- Elena
- Lower Kings
- Nutmeg
- Ridgeway
- Upper Kings

Connection to State Water Project

PACIFIC OCEAN

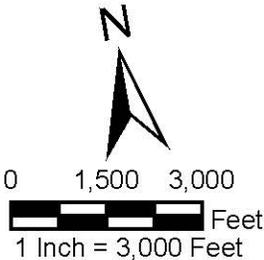


Figure 1-1
City of Morro Bay Water Service
Operational Facilities

Section 2. Plan Preparation

2.1. Basis for Preparing a Plan

Urban water suppliers with 3,000 or more service connections or supplying more than 3,000 acre-feet of water per year (AFY) are required to prepare an UWMP every five years to be in compliance with the California Water Code (CWC). The Morro Bay system exceeds the 3,000 service connections threshold requirements for an UWMP.

2.1.1. Public Water Systems

The number of connections and total supplied volume for the Morro Bay system is summarized in Table 2-1.

Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2015	Volume of Water Supplied 2015 (AF)
CA4010011	City of Morro Bay	5,474	1,074
TOTAL		5,474	1,074
NOTES:			

2.1.2. Agencies Serving Multiple Service Areas/Public Water Systems

This section is not applicable to the City of Morro Bay, which operates as a single public water system.

2.2. Regional Planning

This document was not prepared as part of a Regional UWMP. Coordination of this UWMP with other water agencies is described in Section 2.5 of this document.

2.3. Individual or Regional Planning and Compliance

As shown in Table 2-2, this document was prepared as an Individual UWMP.

2.3.1. Regional UWMP

This document was not prepared as a Regional UWMP. Coordination of this UWMP with other water agencies is described in Section 2.5 of this document.

2.3.2. Regional Alliance

This document was not prepared as part of a Regional Alliance. Coordination of this UWMP with other water agencies is described in Section 2.5 of this document.



Table 2-2: Plan Identification (Select One)	
<input checked="" type="checkbox"/>	Individual UWMP
<input type="checkbox"/>	Regional UWMP (RUWMP)
	Select One:
<input type="checkbox"/>	RUWMP includes a Regional Alliance
<input type="checkbox"/>	RUWMP does not include a Regional Alliance
NOTES:	

2.4. Fiscal or Calendar Year and Units of Measure

2.4.1. Fiscal or Calendar Year

The 2015 UWMP for the Morro Bay system has been prepared on a calendar year basis as indicated in Table 2-3.

2.4.2. Units of Measure

Volumes reported in this UWMP are in acre-feet (AF).

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



2.5. Coordination and Outreach

This section summarizes coordination and outreach efforts related to the development of this UWMP.

2.5.1. Wholesale and Retail Coordination

Table 2-4 summarizes organizations contacted in the development of this UWMP and their associated level of participation.

Table 2-4 Retail: Water Supplier Information Exchange
The retail supplier has informed the following wholesale supplier(s) of projected water use in accordance with CWC 10631.
Wholesale Water Supplier Name
County of San Luis Obispo, Flood Control and Water Conservation District
NOTES:

2.5.2. Coordination with Other Agencies and the Community

Morro Bay has actively sought participation from:

- Central Coast Water Authority (CCWA)

2.5.3. Notice to Cities and Counties

A notice of preparation of the 2015 UWMP was distributed to:

- County of San Luis Obispo
- San Luis Obispo Council of Governments (SLOCOG)



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Section 3. System Description

3.1. General Description

Morro Bay was incorporated in 1964 and is governed by a five-member City Council. The Public Works Department manages the potable water and wastewater systems. The water system primarily includes a mix of residential and commercial customers with only a small portion of industrial customers.

The service area of the Morro Bay Water System generally corresponds to the City boundary and is approximately four square miles. The City currently serves about ten residences outside the City limits in the Chorro Valley. Coastal mountain ranges limit the development extents of the City. A graphical illustration of the Morro Bay service area and associated service area regions is provided in Section 3.2. The wastewater service area is discussed in Section 6.5.2.

3.2. Service Area Boundary Maps

A graphical illustration of the service area is provided as Figure 3-1. There have been no changes to Morro Bay's service area since the 2010 UWMP.

3.3. Service Area Climate

The Morro Bay service area has a dry, sub-tropical, climate that is heavily influenced by its proximity to the Pacific Ocean. Ocean breezes keep temperatures cool in the summer and warmer in the winter. The total yearly average rainfall is 16.74 inches.¹ The majority of the rainfall occurs in the winter months, with January and February having the highest average rainfall.

¹ Data from NOAA, Morro Bay Fire Dept. Station, 02/01/1959 to 01/01/2015, <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5866>



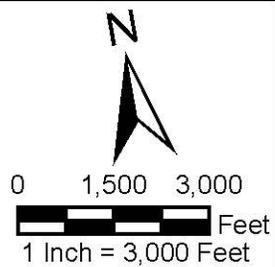
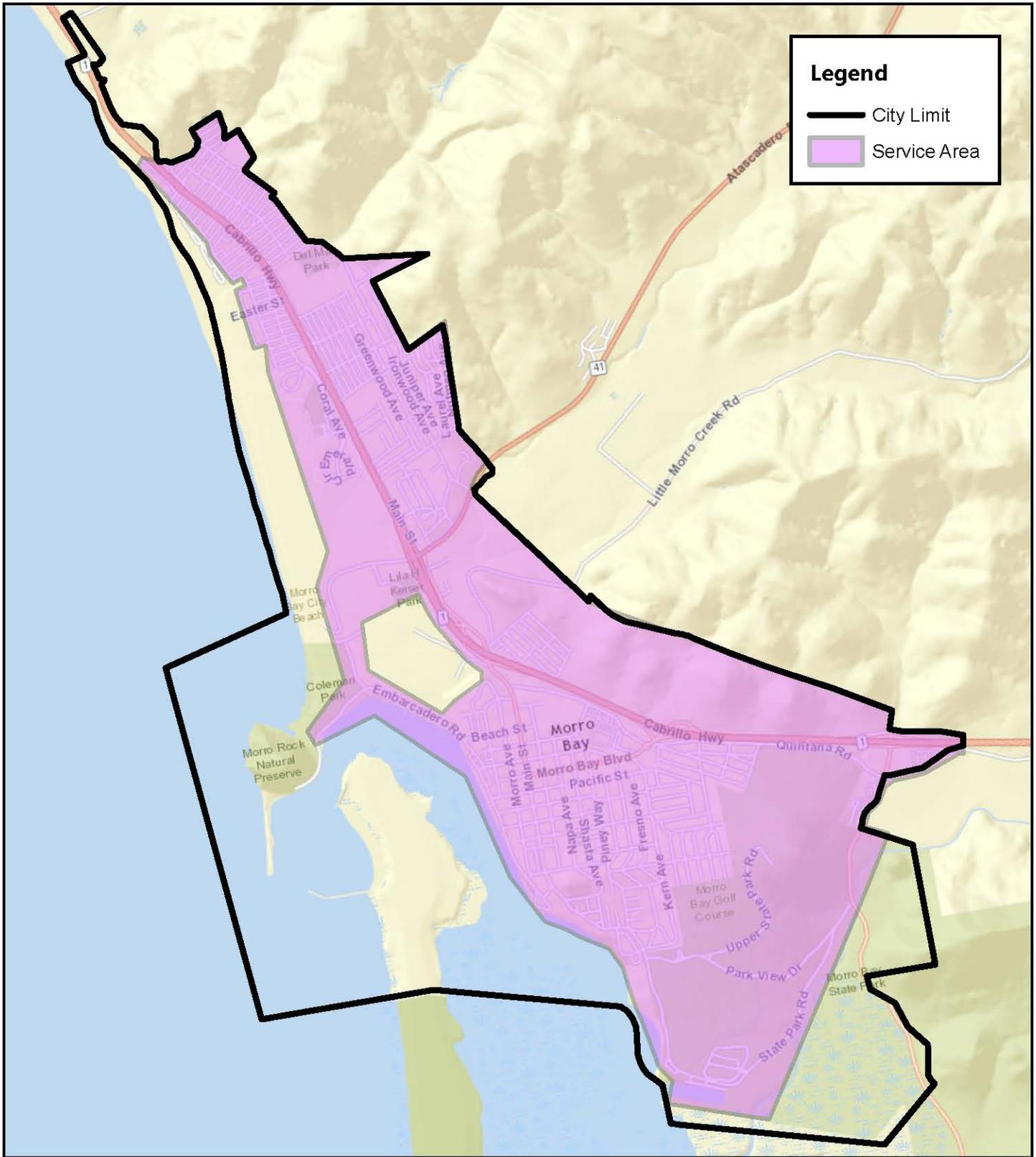


Figure 3-1
City of Morro Bay Water Service
Service Area

3.4. Service Area Population and Demographics

The Department of Water Resources (DWR) Population tool was used to estimate the 2015 population. Current and estimated population projections for the service area through the year 2040 are provided in Table 3-1. Population projections were obtained from the San Luis Obispo Council of Governments (SLOCOG) *2040 Population, Housing & Employment Forecast*, dated August 11, 2011. The “Mid” population projection was selected for use, which is consistent with the *City of Morro Bay 2014-2019 Housing Element Update*.

Table 3-1 Retail: Population - Current and Projected						
Population Served	2015	2020	2025	2030	2035	2040(opt)
	10,224	10,244	10,482	10,778	11,078	11,381
NOTES: Population projections obtained from SLOCOG 2011 mid-range population estimate. 2015 Population obtained from U.S. Census Blocks using the DWR population tool and service connection data.						

3.4.1. Other Demographic Factors

Tourism is a key economic factor for Morro Bay and the City does experience increased water demand during the main tourism season, primarily in the months of July, August and September. Population changes associated with tourism are temporary and vary from year to year. As such, population changes due to tourism are not captured in census data and populations used in this UWMP. Increased water demands associated with tourism are accounted for in the yearly water demands described in Section 4.0.



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Section 4. System Water Use

4.1. Recycled versus Potable and Raw Water Demand

To provide clarity between potable and recycled water sources, these water sources have been discussed in separate sections of this document. A detailed description of recycled water is provided in Section 6.5. A summary of both potable and recycled water demands has been provided in Table 4-3 of Section 4.2.

4.2. Water Uses By Sector

Current system demands are summarized, by sector, in Table 4-1. Projected demands are based on the population growth and expected development of the service area and future demand reduction targets.

4.2.1. Demand Sectors Listed in Water Code

A breakdown of potable and raw water demands is provided in Table 4-1.

Table 4-1 Retail: Demands for Potable and Raw Water - Actual			
Use Type	2015 Actual		
	Additional Description	Level of Treatment When Delivered	Volume
Single Family		Drinking Water	562
Multi-Family		Drinking Water	128
Commercial		Drinking Water	250
Institutional/Governmental		Drinking Water	97
Losses		Drinking Water	37
TOTAL			1,074
NOTES: Other uses included "Vacant Land", "Industrial" and "Hydrant Flushing and Testing" were less than 1 AF.			



Table 4-2 Retail: Demands for Potable and Raw Water - Projected						
Use Type	Additional Description (as needed)	Projected Water Use Report To the Extent that Records are Available				
		2020	2025	2030	2035	2040- opt
Single Family		683	699	718	738	759
Multi-Family		156	159	164	168	173
Commercial		304	311	320	328	337
Institutional/Governmental		118	121	124	127	131
Losses		37	37	37	37	37
TOTAL		1,298	1,327	1,363	1,398	1,437
NOTES: Projected water use was scaled from 2013 demands based on future population projections relative to 2015 population.						

Table 4-3 Retail: Total Water Demands						
	2015	2020	2025	2030	2035	2040 (opt)
Potable and Raw Water From Tables 4-1 and 4-2	1,074	1,298	1,327	1,363	1,398	1,437
Recycled Water Demand From Table 6-4	0	0	650	650	650	650
TOTAL WATER DEMAND	1,074	1,298	1,977	2,013	2,048	2,087
NOTES:						

4.2.2. Demand Sectors in Addition to Those Listed in Water Code

4.2.2.1. Exchanges

In the past, the City has utilized emergency supply agreements with the California Department of Corrections and Rehabilitation (CDCR) California Men's Colony (CMC) Water Treatment Plant and Whale Rock Reservoir. These agreements require that borrowed water be returned after the emergency has ended. The Whale Rock Reservoir agreement is not active, so emergency exchange with the CMC would be utilized. The City is currently working with CDCR to update and formalize the exchange agreement with CMC.

The 2010 UWMP included an optional emergency exchange with the Dynegy Power Plant, an agreement which was not formalized. The closure of the plant in February of 2014 makes an emergency exchange with the plant less likely.

4.2.2.2. Surface Water Augmentation

Morro Bay does not use recycled water to augment stored surface water at this time.



4.2.2.3. Transfers

The City of Morro Bay does not temporarily sell or lease water rights to other agencies. Water sent to other agencies is not done on a wholesale basis but on an emergency exchange basis, as described in Section 4.2.2.1.

4.2.2.4. Wetlands or Wildlife Habitat

The City of Morro Bay includes essential coastal habitat, including California's first State Estuary. The marine resources do not require a City-provided potable or raw water demand.

4.2.2.5. Other

There are no other water use categories to report.

4.3. Distribution System Water Losses

System water losses occur as a result of leaks and ruptures in the existing distribution network, system flushing and cleaning, and pump pressure relief at wells. Total system losses for 2015 are provided in Tables 4-1 and 4-4.

Table 4-4 Retail: Water Loss Summary Most Recent 12 Month Period Available <i>(as calculated in Appendix D worksheet)</i>	
Reporting Period Start Date (Month/Year)	Loss
January 2015	37
NOTES: Does not include seal losses nor pressure relief losses.	

4.4. Estimating Future Water Savings

The current demand projections are conservative in that they do not account for reductions in demand due to public outreach efforts, codes and ordinances limiting water use during periods of drought, or other “passive” water savings gained through public policy. Morro Bay has several ordinance, codes, and outreach efforts tailored for water conservation. A detailed description of these policies is described in Sections 8.3 and 8.4.

4.5. Water Use For Lower Income Households

Morro Bay does not actively monitor demand for lower income households for billing purposes. Current and projected water demands for low income households are included in Tables 4-1 and 4-2, respectively.

Table 4-5 Retail Only: Inclusion in Water Use Projections	
Future Water Savings Included Y/N	No
If "Yes" to above, state the section or page number where citations of the codes, ordinances, etc.... utilized in demand projections are found.	Location in UWMP _____
Lower Income Residential Demands Included	Yes
NOTES:	



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Section 5. Baselines and Targets

SB X7-7 mandates a 20 percent reduction in urban water use in the State of California by the year 2020. To achieve this goal, each retail urban water supplier is required to establish a baseline water use, set target water use goals for 2015 and 2020, and demonstrate the 2015 target is achieved based on actual water use.

The process for establishing baseline, target, and actual water use has been standardized by the DWR in the SB X7-7 Verification Form. Water use measurements and targets are reviewed and reported based on a gallons per capita day (GPCD) basis. This chapter of the UWMP documents the data and methods used to establish baseline, target, and actual GPCD use within the framework of the SB X7-7 Verification Form.

5.1. Guidance for Wholesale Agencies

This section is not applicable to the City of Morro Bay, which is a retail agency.

5.2. Updating Calculations from 2010 UWMP

5.2.1. Update of Target Method

Since the 2010 UWMP, the methods for selecting water use targets have been revised. Additional data has also become available for estimating population since the development of the 2010 UWMP. This 2015 UWMP updates SB X7-7 calculations based on the availability of new data and additional guidance from DWR.

5.2.2. Required Use of 2010 U.S. Census Data

Due to significant discrepancies between reported Department of Finance (DOF) population estimates and 2010 Census population estimates, all population estimates used to determine GPCD must be based on U.S. Census data. Population estimates and projections listed in the 2010 UWMP from 2001 to 2035 were based on 2000 U.S. Census Data and DOF population estimates because the completed 2010 U.S. Census Data was not available.

5.2.3. SBX7-7 Verification Form

A copy of the completed standard SBX7-7 Forms is included in Appendix E and was uploaded to the DWR site.

5.3. Baseline Periods

Two historic water use periods, a 10-15 year baseline and a 5-year baseline, were used as the basis for establishing the 2015 compliance GPCD and the 2020 target GPCD. The 10-15 year baseline period is used to compute the “Baseline” GPCD and the 5-year baseline is used to determine the “Target Confirmation” GPCD.

5.3.1. Determination of the 10 – 15 Year Baseline Period (Baseline GPCD)

A 10-year baseline is mandated for retail water suppliers with less than 10 percent of the 2008 demand met by recycled water. In 2008, the City of Morro Bay did not produce nor import recycled water. For the 2015 UWMP a 10-year baseline from 1995 to 2004 was selected to establish the “Baseline” GPCD. This baseline period is consistent with the 2010 UWMP for the City of Morro Bay.

5.3.2. Determination of the 5-Year Baseline Period (Target Confirmation)

A 5-year baseline from 2003 to 2007 was selected to establish the “Target Confirmation” GPCD for the 2015 UWMP. The selected 5-year baseline period does not differ from that used in the 2010 UWMP for the City of Morro Bay.

5.4. Service Area Population

Population data is required to establish a GPCD for each year in both the 10-year and the 5-year baselines.



5.4.1. Population Methodologies

For this 2015 UWMP, population estimates through 2015 have been revised based on U.S. Census Data in accordance with guidance by the DWR.

5.5. Gross Water Use

Gross water use includes all treated or untreated water entering the distribution system of a water supplier. Historic gross water use was utilized to compute the GPCD for each year of the 10-year and the 5-year baselines. Except for the addition of 2015 actual gross water use, historic gross water use data has not changed from that used in the 2010 UWMP. The 2015 actual gross water use was used to determine the actual 2015 GPCD.

5.5.1. Gross Water Tables

5.5.1.1. Indirect Recycled Water Use Deduction

In 2015 recycled water was not used by the City of Morro Bay for groundwater recharge nor surface water augmentation. No deductions to historic and 2015 gross water use could be made based on indirect recycled water use.

5.5.1.2. Process Water Use Deduction

Deductions to historic and 2015 gross water were not made based on industrial process water use.

5.6. Baseline Daily Per Capita Water Use

Baseline GPCD was determined as the average GPCD computed from the 10-year baseline.

5.7. 2015 and 2020 Targets

GPCD Targets for 2015 and 2020 are provided in Table 5-1. The targets differ from those listed in the 2010 UWMP due to changes in the population numbers used to compute GPCD.

5.7.1. Select and Apply a Target Method

Method 3, reduction to 95 percent of the applicable State Hydrologic Region Target, was selected for use. This methodology was selected based on the data available as well as the ability of the City to meet the resultant GPCD target. The 2010 UWMP also used Method 3 to establish the GPCD targets. The service area of the City is located entirely in the South Coast Hydrologic Region. The 2020 target using Method 3 for the Central Coast Hydrologic Region is 117 GPCD.

5.7.2. 5-Year Baseline – 2020 Target Confirmation

The 5-year baseline, described in Section 5.3.2, is used to establish a minimum 2020 GPCD target that must be achieved regardless of the selected target method. This minimum 2020 GPCD is referred to as the 2020 Target Confirmation and is computed as 95 percent of the 5-year baseline GPCD and applies to retail agencies with a baseline GPCD greater than 100. The 2020 Target Confirmation, based on the 5-year baseline, is 116 GPCD.

5.7.3. Calculate the 2015 Interim Urban Water Use Target

Since the 5-year 2020 Target Confirmation of 116 GPCD is lower than the Method 3 Target of 117 GPCD, the 5-year 2020 Target Confirmation of 116 GPCD governs. Using this “Confirmed” 2020 Target, the 2015 Interim Target is 122 GPCD.

5.7.4. Baselines and Targets Summary

GPCD Targets for 2015 and 2020 are provided in Table 5-1. The targets differ from those listed in the 2010 UWMP due to changes in the population numbers used to compute GPCD.



Table 5-1 Baselines and Targets Summary					
Baseline Period	Start Year	End Year	Average Baseline GPCD*	2015 Interim Target *	Confirmed 2020 Target*
10-15 year	1995	2004	128	122	116
5 Year	2003	2007	122		
*All values are in Gallons per Capita per Day (GPCD)					
NOTES:					

5.8. 2015 Compliance Daily per Capita Water Usage (GPCD)

The City of Morro Bay’s actual 2015 GPCD is 95 GPCD. The actual 2015 GPCD and 2015 Interim Target GPCD are included in Table 5-2.

5.8.1. Meeting the 2015 Target

The results of the SB X7-7 GPCD calculations, summarized in Table 5-2, indicate the City of Morro Bay has achieved the 2015 Interim Target GPCD and is on track to meet the 2020 GPCD Target.

5.8.2. 2015 Adjustments to 2015 Gross Water Use

Retail suppliers have the option to correct the compliance 2015 GPCD using DWR Methodology 8 to account for extraneous circumstances that may have occurred in 2015. Since the City of Morro Bay is meeting its 2015 Interim Target, optional adjustments were not applied to the 2015 GPCD calculation.

5.9. Regional Alliance

The GPCD values listed in Table 5-2 apply only to the City of Morro Bay and were not prepared as part of a Regional Alliance.

Table 5-2: 2015 Compliance								
<i>Retail Agency or Regional Alliance Only*</i>								
Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments to 2015 GPCD adjustments not used					2015 GPCD (Adjusted if applicable)	Did Supplier Achieve Targeted Reduction for 2015? Y/N
		Extraordinary Events	Economic Adjustment	Weather Normalization	TOTAL Adjustments	Adjusted 2015 GPCD		
95	122				0	95	95	Yes
*All values are in Gallons per Capita per Day (GPCD)								
NOTES:								



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Section 6. System Supplies

Morro Bay relies upon three sources of water supply: groundwater from Chorro Basin and Morro Valley, imported water from State Water Project (SWP) via contract with County of San Luis Obispo, and the Morro Bay desalination facility. Morro Bay does not currently utilize supplier produced surface water, stormwater, or recycled water. However, Morro Bay's Water Reclamation Facility is currently under development. Morro Bay's existing and future system supplies are summarized in Tables 6-8 and 6-9. The Consumer Confidence Report for Morro Bay's water supplies can be found at the following web address: <http://www.morro-bay.ca.us/CCR2015>

6.1. Purchased or Imported Water

Morro Bay purchases imported water from the SWP via contract with the County of San Luis Obispo. By contract, Morro Bay is limited to 1,313 AFY of SWP water. Morro Bay has two existing contracts with the San Luis Obispo County Flood Control and Water Conservation District (SLOCFCWCD), both executed in 1992, to receive SWP water.

The Morro Bay water supply relies on imported water from the SWP and local groundwater. Morro Bay's desalination plant supplements the water supply at times during SWP shutdowns and emergencies. The groundwater basins are in overdraft due to the extended drought. Therefore, Morro Bay's existing water supplies currently consist primarily of SWP water. Contractually, Morro Bay is entitled to 1,313 AFY of SWP water, plus an additional 174 percent "drought buffer" to ensure reliability when the SWP reduces deliveries during dry years. The "drought buffer", detailed in the Drought Buffer Water Agreement for 2,290 AFY, allows Morro Bay to receive its full 1,313 AFY allocation when the SWP can deliver at least 36.44 percent of contracted allocations.

California Department of Water Resources (DWR) - DWR owns and operates the SWP, which is the largest state-built water and power project in the United States. The SWP first started delivering water to Californians in the 1960s. In 1963, the SLOCFCWCD contracted with DWR for 25,000 AFY of SWP water. However, the Central Coast was not served State Water until 1997 when the Coastal Branch conveyance and treatment facilities serving Santa Barbara and San Luis Obispo counties were completed.

The 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 Central Coast Water Authority (CCWA) Polonio Pass Water Treatment Plant (PPWTP). Morro Bay receives SWP water from PPWTP via the Chorro Valley Pipeline.

To deliver SWP water through the Coastal Branch, DWR has contracts with two of the 29 SWP Contractors, SLOCFCWCD and Santa Barbara County Flood Control and Water Conservation District (SBCFCWCD) via CCWA. The SWP Contractors then have water supply agreements with individual subcontractors to deliver SWP water to users.

Central Coast Water Authority (CCWA) - In 1991, CCWA formed as a joint powers agency (JPA) among nine public agencies in Santa Barbara County to construct the facilities needed to deliver SWP water. In addition to supplying water to its participants, CCWA has operational relationships and agreements with the DWR and SLOCFCWCD. CCWA operates and maintains DWR's pipeline from the PPWTP outlet to Tank 5. CCWA treats and conveys water for SLOCFCWCD.

San Luis Obispo County Flood Control and Water Conservation District (SLOCFCWCD) – SLOCFCWCD was established in 1945 to provide flood control for the County and expanded to perform water resources management. In addition to supplying water to its eleven purveyors, SLOCFCWCD has operational relationships and agreements with the DWR and CCWA. SLOCFCWCD obtains its water supply and conveyance capacity from DWR. Since CCWA operates and maintains the conveyance system for DWR from the PPWTP to Tank 5, SLOCFCWCD interacts with CCWA for water delivery requests. In addition, CCWA provides water treatment services to SLOCFCWCD at PPWTP.



Morro Bay Contracts - Maintenance schedules and repair requirements can cause reduced SWP deliveries or a complete shutdown of the delivery system. Since delivery to the Central Coast began, the SWP has provided between 50 and 100 percent of the contracted allocations, but recently, drought conditions coupled with pumping restrictions in consideration of endangered species habitat, lowered that amount to 35 percent in 2008, 40 percent in 2009, and 0 percent at the start of 2014. To supplement their contracted amount during these shortages, most agencies have entered into Drought Buffer Water Agreements. For example, when the SWP can only deliver 50 percent of contracted allocations, an agency with 100 AFY contract allocation and 100 AFY drought buffer allocation can still receive 100 AFY. (Fifty percent of 100 AFY contract allocation plus 50 percent of 100 AFY drought buffer allocation equals 100 AFY.)

Morro Bay executed two contracts in 1992 with SLOFCWCD for receipt of the SWP water. The first contract, the Water Treatment and Local Facility Agreement, involves the CCWA PPWTP and local facilities such as the Chorro Valley Pipeline. The second contract, Water Supply Agreement, covers receipt of SWP water and payment for State facilities.

Morro Bay's SWP entitlement is 1,313 AFY. Morro Bay 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 AFY when SWP water deliveries are reduced due to drought conditions. When the SWP shuts down for annual maintenance activities each fall/winter, Morro Bay uses alternative water supplies, including untreated groundwater, treated groundwater using the brackish water reverse osmosis trains (BWRO), and water transfers.

6.2. Groundwater

Morro Bay's groundwater sources include the Chorro and Morro Bay groundwater basins, from which they have been assigned 1,142.5 AFY and 581 AFY, respectively, in their groundwater permits. The Groundwater Permits from the California State Water Resources Control Board (SWRCB) Division of Water Rights are provided in Appendix F.

Morro Bay produces groundwater from the Chorro Basin² and the Morro Valley Basin³. Prior to the SWP water deliveries, Morro Bay relied solely on groundwater from these basins as its primary source of water. The Chorro and Morro Valley Basins are shallow alluvial basins which behave similar to an underground stream. Rainfall in the watershed percolates into the ground and flows underground to the ocean. If the groundwater is determined as riparian underflow, the use of such water resources is controlled by the SWRCB. In 1972, Morro Bay applied for permits to appropriate water from the Chorro and Morro Valley Basins. In 1982, SWRCB issued findings stating the Chorro Basin is supplied by riparian underflow. In 1994, Morro Bay reapplied for appropriative water rights. In 1995, SWRCB approved water right permits for up to 1.2 cubic feet per second (cfs) and 581 AFY from the Morro Valley Basin and up to 3.171 cfs and 1,142.5 AFY of Chorro Creek underflow⁴. In accordance with water right permits, Morro Bay may pump up to 1,723.5 AFY of groundwater in normal years, but only 1,150 AFY in severe drought years.

6.2.1. Basin Description

The Chorro and Morro Basins are described in the following subsections.

CHORRO BASIN

Chorro Basin encompasses approximately 3,200 acres (five square miles), although the effective extent of saturated basin deposits covers an estimated 1,900 acres (approximately three square miles). The basin is bounded by the Morro Bay estuary and elsewhere by impermeable rock units. Most of the basin area is within unincorporated San Luis Obispo County, with the Morro Bay overlying the basin area near the Morro Bay estuary. Recharge to the basin comes primarily from seepage of surface flows in Chorro Creek and tributaries (including the California Men's Colony wastewater treatment plant discharges and releases from Chorro Reservoir), deep percolation of precipitation, and residential/agricultural return flows. The water supply aquifers are alluvial deposits drained by Chorro Creek, which are comprised of gravel, sand, silt, and clay. These alluvial deposits are 50 to 70 feet thick downstream of Canet Road.

² Chorro Basin is Chorro Groundwater Basin No. 3-42 in the DWR Bulletin 118.

³ Morro Valley Basin is Morro Valley Groundwater Basin No. 3-41 in the DWR Bulletin 118.

⁴ Analysis indicates the 3.171 cfs requirement will limit extractions to 569 AFY in severe drought conditions.



Chorro Basin groundwater pumpers include Morro Bay, San Luis Obispo County, California State Parks, California Polytechnic State University, California National Guard, California Men's Colony, and residential and agricultural overlying users.

The perennial yield of Chorro Valley basin is estimated for planning purposes at 2,210 AFY. Safe yield under drought conditions is estimated at 566 AFY through the SWRCB. Nitrate concentrations are a concern for water quality in the lower portion of this basin. Sea water intrusion has been documented historically and is a potential future concern in the Chorro Flats area, should pumping patterns change significantly. In 2008, total dissolved solids (TDS) concentrations were measured typically between 500 and 700 milligrams per liter (mg/L).

Constraints on groundwater availability in this basin include physical limitations, water quality issues, environmental demand, and water rights. In the Chorro Valley upstream of the Chorro Creek discharge point for the California Men's Colony wastewater treatment plant (WWTP), water level and well capacity declines during drought continue to limit the availability of the resource. The WWTP discharges enter the basin as imported water sources, and therefore provide additional available water for basin wells and environmental demand below the discharge point. In the lower valley area, seawater intrusion is the primary constraint, especially during drought conditions. The elevated nitrates are a constraint for drinking water availability at Morro Bay's well field where production is also limited by permitted appropriative water right. Morro Bay's underflow production permits are also limited to minimum surface flows in Chorro Creek for Steelhead habitat protection.

MORRO VALLEY BASIN

Morro Valley Basin encompasses approximately 1,200 acres (1.9 square miles). The basin is bounded by the Pacific Ocean, the Morro Bay estuary, and by impermeable rock units. Most of the basin area is within unincorporated San Luis Obispo County, with Morro Bay overlying the basin area southwest of the narrows near Highway 1. Recharge to the basin comes primarily from seepage of surface flows in Morro Creek and Little Morro Creek, deep percolation of precipitation, and residential/agricultural return flows. The water supply aquifers are predominantly within alluvial deposits drained by Morro Creek, which are comprised of gravel, sand, silt and clay. The alluvial deposits are typically up to 80 feet thick.

Morro Valley Basin groundwater pumpers include Morro Bay, Morro Bay Mutual Water Company, a cement plant, a small public water system (mobile home park), and residential and agricultural overlying users. Morro Bay pumps seawater and Morro Creek underflow from the basin, the latter with a permitted allocation of 581 AFY from the SWRCB.

The perennial yield of Morro Valley Basin is estimated at 1,500 AFY. Analysis indicates during drought conditions, concurrent operation of Morro Bay's seawater and fresh water supply wells could subject fresh water wells to seawater intrusion. Seawater intrusion and nitrates are the predominant concerns for water quality in this basin. In the mid-1980's, TDS concentrations in groundwater downstream of the narrows near Highway 1 began to exceed 1,000 mg/L seasonally due to seawater intrusion and tidal influences. In 2007, basin TDS concentrations were typically between 400 and 800 mg/L and increasing toward the coast, except for an area beneath agricultural fields in the lower valley where TDS concentrations reached 1,000 mg/L, and nitrate concentrations reached 220 mg/L as nitrate.

Constraints on water availability in this basin include physical limitations, water quality issues, and water rights. Shallow alluvial deposits are typically more susceptible to drought impacts. For the upper Morro Valley, water level and well capacity declines during drought would limit the availability of the resource; while in the lower valley area, seawater intrusion is the primary constraint. Elevated nitrates are a constraint for drinking water availability at Morro Bay's well field where production is also limited by permitted appropriative water right.

6.2.2. Groundwater Management

The SWRCB issues permits for the Chorro and Morro Basins as they are considered riparian underflow.

Groundwater management of Chorro and Morro Valley Basins is not judicially designated as with the Los Osos Basin adjudication. However, since both basins are supplied by riparian underflow, SWRCB issues water right permits for groundwater extraction, thus effectively managing groundwater resources.



Additionally, the water agencies in the region manage the groundwater resources through cooperative planning, with SLOFCWCD as the lead agency. With input from water agencies, SLOFCWCD updated the county's Master Water Report (MWR) in 2012 to detail a regional water resources plan. The analysis was divided by water planning areas (WPAs), which recognize jurisdictions that overlie groundwater basins and interconnected watersheds in order to assess their relationship. The MWR water management strategies are consistent with local purveyor water demand projections and planned water supply projects. The MWR was developed with input from all interested parties including the county's seven cities, eight community service districts (CSDs), agricultural, developer and environmental organizations, institutions (California Men's Colony, Cuesta College, etc.), and a member from each supervisorial district.

The Morro Bay WPA includes Morro Bay, the Chorro Valley Water System (California Men's Colony, Cuesta College, Camp San Luis Obispo (National Guard), County Operations Center/Office of Education), and agricultural and other rural overlying users. The only groundwater supplies within the WPA are Chorro and Morro Valley Basins. (Other major supply sources include the State Water Project, desalination (City of Morro Bay), Whale Rock Reservoir, Chorro Reservoir, and recycled water.) The issues in this WPA include drought impacts to groundwater supplies and groundwater quality, plus the availability/reliability of SWP Water from year to year.

6.2.3. Overdraft Conditions

The Chorro and Morro Basins are not listed as critically overdrafted basins by the California Department of Water Resources (DWR) as of January 2016.

6.2.4. Historical Groundwater Pumping

Morro Bay's pumped groundwater volume for the period 2011 to 2015 is shown in Table 6-1.

Table 6-1 Retail: Groundwater Volume Pumped						
Groundwater Type	Location or Basin Name	2011	2012	2013	2014	2015
Alluvial Basins	Chorro/Morro Valley	119	110	152	61	168
TOTAL		119	110	152	61	168
NOTES: Total extractions listed include water that does not enter the distribution system, such as for testing purposes. For groundwater system supply volumes, see Table 6-8 and Table 6-9.						

6.3. Surface Water

Morro Bay does not use water directly from any surface water source. Indirectly, Morro Bay uses surface water via SWP as detailed in Section 6.1 and via groundwater riparian underflow as defined by RWQCB and detailed in Section 6.2.

6.4. Stormwater

Morro Bay does not currently have any stormwater recovery systems as a water supply source.

6.5. Wastewater and Recycled Water

Morro Bay, in conjunction with Cayucos Sanitary District (CSD), operates a wastewater treatment plant (WWTP) under National Pollutant Discharge Elimination System (NPDES) Permit No.R3-2008-0065. An application to renew the NPDES was submitted to the SWRCB in August 2013, which would permit the WWTP as a full secondary treatment facility with interim effluent limits. The WWTP discharges, on average, 1.10 million gallons per day (MGD) (3.4 AFY) with a design capacity of 2.06 MGD. The WWTP discharges via an outfall to Estero Bay and thence to the Pacific Ocean.



The California Coastal Commission (CCC) has denied a Coastal Development Permit for an upgraded WWTP at the existing location and therefore, Morro Bay and CSD are individually pursuing the planning, design, and construction of separate WWTPs at different location(s).

Morro Bay's planning efforts include maximizing the beneficial use of recycled water produced from a new Water Reclamation Facility (WRF).

6.5.1. Recycled Water Coordination

Morro Bay will coordinate with other agencies, community groups, and other stakeholders throughout the planning process for a new recycled water system.

Recycled water has been used since 2006 in the region for non-potable demands including irrigation and groundwater recharge. Several water retailers in San Luis Obispo County recycle municipal wastewater, including the City of San Luis Obispo, Nipomo CSD, California Men's Colony, Templeton CSD, City of Atascadero, Rural Water Company, and Woodlands Mutual Water Company. Additionally, a number of agencies have undertaken recycled water feasibility studies to determine the viability of developing recycled water projects. Such agencies include San Simeon CSD, Cambria CSD, City of Paso Robles, City of Pismo Beach, City of Arroyo Grande, and Los Osos CSD.

Morro Bay and Cayucos Sanitary District investigated upgrading their jointly operated Morro Bay - Cayucos Sanitary District WWTP to produce tertiary effluent thereby increasing the possibility for a future water recycling program. However, in 2013, the California Coastal Commission denied Morro Bay's Coastal Development Permit to construct a new wastewater treatment facility adjacent to its existing facility for a number of reasons, including lack of a major recycled water component and site suitability. Based on the California Coastal Commission's direction and community input, Morro Bay and the Cayucos Sanitary District have separately embarked on planning a new WRF to treat wastewater and serve recycled water to its customers, to augment groundwater supplies if feasible, and to supply agricultural users in the Morro Valley. Cayucos Sanitary District has chosen to pursue a project independently.

Morro Bay is currently developing a WRF Master Reclamation Plan to identify improvements to meet future flows and loads, and provide tertiary treatment with disinfection. The Master Reclamation Plan will build upon work developed in the market surveys and will result in more detailed project alternatives, including consideration of treatment options, alternative alignments for distribution pipelines, and siting of pump stations. This plan is expected to be completed in late 2016.

6.5.2. Wastewater Collection, Treatment, and Disposal

6.5.2.1. Wastewater Collected Within Service Area

In 2012, Morro Bay and Cayucos Sanitary District investigated upgrading their jointly operated Morro Bay - Cayucos Sanitary District WWTP. The analysis indicated the influent average daily flow was 1.25 MGD; average daily maximum month flow was 2.66 MGD; and peak season dry weather flow was 2.49 MGD. The WWTP received over 80 percent return flow from the potable water system. This represents influent from both Morro Bay and Cayucos Sanitary District.

Morro Bay's recent Technical Memorandum prepared by Black & Veatch calculates flows from Morro Bay alone as average annual daily flows of 81 gallons per capita per day with an average max month flow factor of peaking factor of 1.19 and a peak seasonal dry weather flow peaking factor of 1.05.

Data on wastewater collected within Morro Bay's service area is shown in Table 6-2.



Table 6-2 Retail: Wastewater Collected Within Service Area in 2015

<input type="checkbox"/>	There is no wastewater collection system. The supplier will not complete the table below.					
	Percentage of 2015 service area covered by wastewater collection system <i>(optional)</i>					
	Percentage of 2015 service area population covered by wastewater collection system <i>(optional)</i>					
Wastewater Collection			Recipient of Collected Wastewater			
Name of Wastewater Collection Agency	Wastewater Volume Metered or Estimated?	Volume of Wastewater Collected in 2015	Name of Wastewater Treatment Agency Receiving Collected Wastewater	Treatment Plant Name	Is WWTP Located Within UWMP Area?	Is WWTP Operation Contracted to a Third Party? <i>(optional)</i>
City of Morro Bay/Cayucos	Metered	835	City of Morro Bay and Cayucos Sanitary District	Morro Bay/Cayucos WWTP	Yes	No
Total Wastewater Collected from Service Area in 2015:		835				
NOTES: The volume of wastewater is only Morro Bay's volume.						

6.5.2.2. Wastewater Treatment and Discharge Within Service Area

The WWTP employs a centralized wastewater treatment strategy in which wastewater is collected from residences and industries throughout the Morro Bay and Cayucos Sanitary District service areas and conveyed via a wastewater collection system to the WWTP. The WWTP serves Morro Bay and the community of Cayucos located in unincorporated San Luis Obispo County. The WWTP is currently designed for an average annual daily flow of 1.5 MGD, average daily maximum month flow of 2.9 MGD, and peak season dry weather flow of 2.7 MGD. Flows from the WWTP are discharged through a 27-inch diameter pipeline that extends 2,900 feet offshore into the Pacific Ocean. Table 6-3 provides WWTP treatment and discharge volumes in units of acre-feet.

The WWTP has a secondary treatment⁵ design capacity of 0.97 MGD. Flows in excess of 0.97 MGD receive primary treatment only before blending with secondary effluent, disinfection, and discharge to the Pacific Ocean. With an average annual daily flow at the existing facility of 1.25 MGD, the majority of WWTP effluent currently receives secondary treatment during most of the year. The existing treatment processes include:

Liquid treatment processes:

- Primary sedimentation
- Trickling filters
- Secondary clarifiers
- Disinfection (sodium hypochlorite)

Solids treatment processes:

- Anaerobic digestion
- Drying beds

⁵ Morro Bay and Cayucos Sanitary District had reached a settlement agreement with the Regional Water Quality Control Board (RWQCB) to upgrade the WWTP to full secondary treatment in anticipation of losing the 301(h) waiver for ocean discharge. However, the California Coastal Commission denied the Coastal Development Permit needed to upgrade the facility. Therefore, the WWTP is unable to provide tertiary treatment that would meet recycled water standards as defined in the Code of Regulations under Title 22.



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

<input type="checkbox"/> No wastewater is treated or disposed of within the UWMP service area. The supplier will not complete the table below.										
Wastewater Treatment Plant Name	Discharge Location Name or Identifier	Discharge Location Description	Wastewater Discharge ID Number <i>(optional)</i>	Method of Disposal	Does This Plant Treat Wastewater Generated Outside the Service Area?	Treatment Level	2015 volumes			
							Wastewater Treated	Discharged Treated Wastewater	Recycled Within Service Area	Recycled Outside of Service Area
Morro Bay/Cayucos WWTP	1	Lat 35, 23',11" N; Long 120, 52', 29" W	NPDES No. CA0047881	Ocean outfall	Yes	Secondary, Disinfected - 23	835	835	0	0
Total							835	835	0	0
NOTES: Morro Bay currently has a 301H waiver, which allows for less than secondary										

6.5.3. Recycled Water System

Morro Bay does not currently have a recycled water system. Section 6.5.4.1 describes the planned recycled water system.

6.5.4. Recycled Water Beneficial Uses

6.5.4.1. Current and Planned Uses of Recycled Water

Morro Bay's development of a recycled water system began with the very long process of replacing its existing WWTP. In 2006, Morro Bay started to consider renovating the existing plant. By 2010, it focused on rebuilding the plant on the existing oceanfront site. That effort was halted in 2013 when the Coastal Commission denied a permit to rebuild on the existing site. As such, Morro Bay began to determine the best location and technology for a new plant. Both the California Coastal Commission and Morro Bay's General Plan require the new WWTP to produce recycled water. The new WRF is projected to produce 1.0 MGD of recycled water. Based upon the current analysis, the plant is anticipated to use either a Membrane Bio-Reactor (MBR) or Sequencing Batch Reactor (SBR), with microfiltration and ultraviolet disinfection for water reclamation. Continuing with project planning and permitting, Morro Bay is preparing its WRF Master Plan while pursuing acquisition of a new site for the plant.

To utilize a WRF, the existing WWTP will be decommissioned and the influent wastewater will be distributed to the newly constructed WRF. The WRF will treat the influent to meet Title 22 regulations and produce recycled water for distribution.

The WRF Master Plan will include development of the conceptual project and will examine advanced treatment requirements. Pipeline alternatives such as pipeline networks or storage facilities will also be examined. Morro Bay will develop a recycled water market survey as an initial step to identify the potential regional market for recycled water and investigate project alternatives.

A recycled water market assessment will be completed to assess potential to utilize recycled water in-lieu of imported water for irrigation and/or industrial processes. Also, the market assessment will evaluate environmental uses for recycled water (e.g. to improve fresh water available for wetlands in the service area.) The strategy for developing market assurances will be investigated and a customer connection schedule will be developed.

Previous analysis provided a preliminary market assessment with the following conclusions:

- The potential to offset potable water used for irrigation within the service area is low since less than 20 percent of the potable supply is used for irrigation purposes. Also, the potential irrigation use is predominantly residential landscape irrigation which is expensive to serve with recycled water.
- Any inland discharge to groundwater basins will require the development of a Salt and Nutrient Management Plan. Considering the historic groundwater characteristics, low salt and nitrogen limits should be expected, indicating the need for advanced water treatment.
- Agricultural irrigation offers the largest potential use at an estimated 1,000 AFY. However, requirements for high quality water results in high production costs. Highly treated recycled water is much more expensive than privately produced groundwater. Additionally, there are potential legal and regulatory issues for Morro Bay to serve recycled water to irrigated lands outside its service area.
- The feasibility of implementing a Groundwater Recharge Reuse Project (GRRP) may be limited due to the physical constraints of the groundwater basins which consist of thin alluvial aquifers offering only seasonal storage capacity during drier periods. Additionally, the required California Division of Drinking Water (DDW) well spacing between injection wells and potable wells may preclude siting GRRP wells. The cost of advanced water treatment required for GRRP programs may prohibit such a project.
- A stream enhancement project at Chorro Creek could be implemented to maintain a baseline creek discharge of 1.4 cfs, allowing withdrawal of Morro Bay's full allocation even during dry seasons. However, as with GRRP, the cost of advanced water treatment required may prohibit such a project.



Despite the cost of recycled water exceeding the cost of groundwater, the reliability of recycled water deliveries coupled with the rising costs of SWP water and desalination water ensure that Morro Bay's WRF will provide a new necessary and dependable water supply.

Table 6-4 shows the current and projected recycled water direct beneficial uses within the service area for Morro Bay.



Table 6-4 Retail: Current and Projected Recycled Water Direct Beneficial Uses Within Service Area

<input type="checkbox"/>	Recycled water is not used and is not planned for use within the service area of the supplier. The supplier will not complete the table below.							
Name of Agency Producing (Treating) the Recycled Water:								
Name of Agency Operating the Recycled Water Distribution System:								
Supplemental Water Added in 2015								
Source of 2015 Supplemental Water								
Beneficial Use Type	General Description of 2015 Uses	Level of Treatment	2015	2020	2025	2030	2035	2040 (opt)
Agricultural irrigation								
Landscape irrigation (excludes golf courses)								
Golf course irrigation								
Commercial use								
Industrial use		0						
Geothermal and other energy production								
Seawater intrusion barrier								
Recreational impoundment								
Wetlands or wildlife habitat								
Groundwater recharge (IPR)		Advanced			650	650	650	650
Surface water augmentation (IPR)								
Direct potable reuse								
Other	Type of Use							
			Total:	0	0	650	650	650
<i>IPR - Indirect Potable Reuse</i>								
NOTES:								

6.5.4.2. Planned versus Actual Use of Recycled Water

The 2010 UWMP did not project any recycled water use for Morro Bay, as indicated by the checkbox in Table 6-5.

Table 6-5 Retail: 2010 UWMP Recycled Water Use Projection Compared to 2015 Actual		
<input checked="" type="checkbox"/>	Recycled water was not used in 2010 nor projected for use in 2015. The supplier will not complete the table below.	
Use Type	2010 Projection for 2015	2015 actual use
Agricultural irrigation		
Landscape irrigation (excludes golf courses)		
Golf course irrigation		
Commercial use		
Industrial use		
Geothermal and other energy production		
Seawater intrusion barrier		
Recreational impoundment		
Wetlands or wildlife habitat		
Groundwater recharge (IPR)		
Surface water augmentation (IPR)		
Direct potable reuse		
Other	Required for this use	
Total:	0	0
NOTES:		

6.5.5. Actions to Encourage and Optimize Future Recycled Water Use

Morro Bay is currently developing a market analysis of potential uses and customers for recycled water as part of the Master Plan, which is expected to be complete at the end of 2016. Additionally, Morro Bay is planning to investigate the potential for groundwater recharge for a potential indirect potable reuse project. Table 6-6 summarizes the City's immediate planning efforts to encourage and optimize recycled water use.



Table 6-6 Retail: Methods to Expand Future Recycled Water Use			
<input type="checkbox"/>	Supplier does not plan to expand recycled water use in the future. Supplier will not complete the table below but will provide narrative explanation.		
	Provide page location of narrative in UWMP		
Name of Action	Description	Planned Implementation Year	Expected Increase in Recycled Water Use
Market Survey	Identify recycled water customers and demands	2016	unknown
Hydrogeological study	Evaluate groundwater recharge potential	2017	unknown
Total			unknown
NOTES:			

6.6. Desalinated Water Opportunities

Morro Bay's desalination plant was originally permitted and constructed in 1992 to provide seawater desalination during a drought emergency. In 2009, it was expanded to treat brackish groundwater. The two treatment trains, seawater reverse osmosis and brackish water reverse osmosis, can produce 645 AFY and 581 AFY, respectively. The latter treatment train is capable of treating the entire 581 AFY of Morro Basin groundwater that the Morro Bay can extract by permit.

The desalination plant served as Morro Bay's primary source of water supply for a few months of 2010 due to an extended State Water shutdown and is currently used on a very limited basis to treat high-nitrate groundwater from the Morro Valley Basin, in order to supplement SWP supply. The plant provides a source of backup and emergency water supply in case of future SWP supply reductions or service outages. Once the City has gone through the permitting process with California Coastal Commission and the Water Board, the plant could potentially serve as a primary source of supply, replacing the SWP water. The City has recently submitted an application to re-permit the desalination plant for permanent use of saltwater wells, outfall line, and appurtenant piping previously authorized for temporary use by the California Coastal Commission. With the treatment upgrade in 2009, the desalination plant can serve as a reliable source of water for Morro Bay in emergencies and perhaps as a regular source of supply.

As part of the City's strategic planning, Morro Bay is initiating a supply diversification study entitled "One Water". As part of this planning effort, Morro Bay will complete Master Plans for stormwater, wastewater collection, water system, and water supply. These activities, in conjunction with re-permitting the desalination plant and evaluation options to relocate the desalination plant, are part of the City's overall goal to improve water supply diversification.

6.7. Exchanges or Transfers

If Morro Bay's standard water sources become unavailable, Morro Bay has had agreements to transfer/exchange water with adjacent water purveyors. In 2008, the SWP shutdown took place when groundwater quality issues were limiting Morro Bay's use of groundwater. The shortfall was made up for through an agreement with the California Men's Colony to provide the City with water during that period.



Available on an as-needed basis, Morro Bay has water transfer/exchange opportunities with adjacent purveyors as discussed below.

- California Men’s Colony (CMC): The CMC has a water filtration plant with a rated capacity of 3.0 MGD that operates approximately eight 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 Morro Bay. In the past, Morro Bay 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. Morro Bay has received water from this agreement in the past during SWP system shutdowns. City is currently working with CDCR to update and formalize the exchange agreement with CMC.
- Whale Rock: In the past, 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 was an emergency only agreement. The Whale Rock Reservoir agreement is not currently active.
- Morro Bay Power Plant: Morro Bay 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 Morro Bay to exchange.

6.8. Future Water Projects

While Morro Bay constructs capital improvement projects, as needed, as part of its maintenance of existing water supply, these projects do not increase Morro Bay’s water supply and therefore are not included here. However, Morro Bay plans to construct a water recycling treatment plant and distribution system as described in Sections 6.5.3 through 6.5.5. The proposed water reclamation facility is listed in Table 6-7, which summarizes future water supply projects.

Table 6-7 Retail: Expected Future Water Supply Projects or Programs

<input type="checkbox"/>	No expected future water supply projects or programs that provide a quantifiable increase to the agency's water supply. Supplier will not complete the table below.					
<input type="checkbox"/>	Some or all of the supplier's future water supply projects or programs are not compatible with this table and are described in a narrative format. LOCATION OF THE NARRATIVE _____					
Name of Future Projects or Programs	Joint Project with other agencies?		Description (if needed)	Planned Implementation Year	Planned for Use in Year Type	Expected Increase in Water Supply to Agency
	Yes/No	If Yes, Agency Name				
Water Reclamation Facility	No			2020	Average Year, Single Dry Year, Multiple Dry Year	650

NOTES: The recycled water market assessment survey has not been completed.



6.9. Summary of Existing and Planned Sources of Water

The actual water supplied to Morro Bay in 2015 is summarized in Table 6-8 and is lower than average primarily due to statewide mandatory conservation. Table 6-9 summarizes Morro Bay's water supply projected available through 2040.

Water Supply	Additional Detail on Water Supply	2015		
		Actual Volume	Water Quality	Total Right or Safe Yield (optional)
Purchased or Imported Water		952	Drinking Water	
Groundwater	Treated brackish groundwater	138	Drinking Water	
Desalinated Water		0		
Transfers		0		
Exchanges		0		
Surface water		0		
Other		0		
Total		1,090		0

NOTES: Morro Basin groundwater treated at RO plant.



Table 6-9 Retail: Water Supplies — Projected

Water Supply	Additional Detail on Water Supply	Projected Water Supply Report To the Extent Practicable									
		2020		2025		2030		2035		2040 (opt)	
		Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)	Reasonably Available Volume	Total Right or Safe Yield (optional)
Groundwater		1,724		2,374		2,374		2,374		2,374	
Surface water		1,313		1,313		1,313		1,313		1,313	
Transfers		0		0		0		0		0	
Exchanges		0		0		0		0		0	
Recycled Water		0		650		650		650		650	
Desalinated Water		645		645		645		645		645	
Other		0		0		0		0		0	
Total		3,682	-	4,982	-	4,982	-	4,982	-	4,982	-

NOTES: Groundwater sources include 1,724 AFY from well extraction and starting in 2025, 650 AFY recycled water supply from groundwater recharge. Surface water based on the SWP contractual entitlement and drought buffer of 1,313 AFY. Desalinated water includes 645 AFY of treated seawater.

Section 7. Water Supply Reliability Assessment

The CWC requires urban water suppliers to assess water supply reliability that compares total projected water used with the expected water supply over the next twenty years in five-year increments. The CWC also requires an assessment for a single dry year and multiple dry years. This chapter presents the reliability assessment for Morro Bay's service area.

It is the stated goal of Morro Bay to deliver a reliable and high quality water supply for its customers, even during dry periods. Based on conservative water supply and demand assumptions over the next 25 years, in combination with conservation of non-essential demand during certain dry years, the Plan successfully achieves this goal.

7.1. Constraints on Water Sources

Morro Bay has various water supply sources available (groundwater, SWP water, and desalination water) to meet demands during normal, single-dry, and multiple-dry years. In the future, recycled water will also become part of Morro Bay's water supply portfolio. The reliability of these sources is discussed below.

Groundwater: The Chorro Basin and the Morro Valley Basin are intended as the primary sources of water supplying Morro Bay's service area in the years to come. Both basins are managed through permitted allocations and they should continue to be utilized to their fullest extent as a source of water.

SWP Water: Morro Bay should continue to purchase its full SWP allotment by utilizing its contractual entitlement and drought buffer until a viable alternative source of supply has been established.

Desalination Water: While desalination water is expensive to produce, it is a highly reliable water source. With the treatment upgrade in 2009 and the water rate surcharge implemented in 2015, the desalination plant will serve as a reliable source of water for Morro Bay.

Recycled Water: Once Morro Bay's WRF is constructed and delivering recycled water, this recycled water supply may not be affected by drought conditions because irrigation demand does not contribute to wastewater flows. For this reason drought does not influence flows from the wastewater system, and therefore does not affect the availability of recycled water. Recycled water is commonly viewed as a drought proof supply and is assumed to be 100 percent reliable within the limits of water conservation.

7.2. Reliability by Type of Year

In order to determine Morro Bay's water supply reliability, an assessment was developed that includes a comparison of total projected water demand with the supply available on a "type of year" basis. The results for the assessment are described in the following sections.

7.2.1. Type of Years

The reliability assessment was developed for the following conditions: (1) normal/average water year, (2) single-dry water year, and (3) three-year dry period. The basis of the water supply and demand assessment are summarized in Table 7-1.



Table 7-1 Retail: Basis of Water Year Data			
Year Type	Base Year	Available Supplies if Year Type Repeats	
		Agency may provide volume only, percent only, or both	
		Volume Available	% of Average Supply
Average Year	2010	3,682	100%
Single-Dry Year	2015	3,682	100%
Multiple-Dry Years 1st Year	2015	3,682	100%
Multiple-Dry Years 2nd Year	2015	3,198	87%
Multiple-Dry Years 3rd Year	2015	1,622	44%

NOTES: Multiple Dry Year 2nd Year is based on 23% SWP water and Multiple Dry Year 3rd Year is based on 11% of SWP water and no water from Chorro Basin.

7.2.2. Agencies with Multiple Sources of Water

The terms of single-dry year and multiple-dry years refer to years when water supplies are the lowest. This occurs primarily when precipitation is lower than the long-term average precipitation. The impact of low precipitation in a given year on a particular supply may differ based on how low the precipitation is, or whether the year follows a high-precipitation year or another low-precipitation year. For example, with imported supplies, a low precipitation year may or may not affect supplies, depending on how much SWP water has been stored at the beginning of the year. However, the continuing drought conditions and statewide mandated water conservation have established 2015 as a dry year for all of Morro Bay’s water supply sources.

7.3. Supply and Demand Assessment

As shown in Tables 7-2 through 7-4, Morro Bay will have sufficient water supply to meet its demands for normal, single-dry, and multiple-dry years through 2035.

Table 7-2 Retail: Normal Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals (autofill from Table 6-9)	3,682	4,982	4,982	4,982	4,982
Demand totals (autofill from Table 4-3)	1,298	1,977	2,013	2,048	2,087
Difference	2,384	3,005	2,969	2,934	2,895

NOTES: The supply shown includes groundwater sources of 1,724 AFY from well extraction, 645 AFY treated brackish groundwater and starting in 2025, 650 AFY recycled water supply from groundwater recharge. Surface water based on the SWP contractual entitlement and drought buffer of 1,313 AFY.



	2020	2025	2030	2035	2040 (Opt)
Supply totals	3,682	4,982	4,982	4,982	4,982
Demand totals	1,298	1,977	2,013	2,048	2,087
Difference	2,384	3,005	2,969	2,934	2,895
NOTES:					

7.4. Regional Supply Reliability

Based on projected water supply and demands over the next 25 years, Morro Bay has supply capabilities that would be sufficient to meet expected demands through 2040 under single-dry-year and multiple-dry year conditions.

		2020	2025	2030	2035	2040 (Opt)
First year	Supply totals	3,682	4,982	4,982	4,982	4,982
	Demand totals	1,298	1,977	2,013	2,048	2,087
	Difference	2,384	3,005	2,969	2,934	2,895
Second year	Supply totals	3,203	4,503	4,503	4,503	4,503
	Demand totals	1,298	1,977	2,013	2,048	2,087
	Difference	1,905	2,526	2,490	2,455	2,416
Third year	Supply totals	1,620	2,920	2,920	2,920	2,920
	Demand totals	1,298	1,977	2,013	2,048	2,087
	Difference	322	943	907	872	833
NOTES:						



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Section 8. Water Shortage Contingency Planning

Water supply may be interrupted or reduced significantly in a number of ways, such as a drought which limits supplies, an earthquake which damages water delivery or storage facilities, or a regional power outage which inhibits water delivery. This section describes the actions which Morro Bay will implement in such situations.

Morro Bay's Water Shortage Contingency Plan (WSCP) is found in Morro Bay's municipal code of ordinances within Chapter 13.04 Water Service and Rates. Within Chapter 13.04, Section VII Emergencies includes the four subsections which comprise Morro Bay's WSCP. As the WSCP, the four subsections are discussed further in Section 8.7 of this report. The WSCP is divided into five stages which are discussed in Section 8.1 of this report.

In addition to the WSCP ordinance, the City Council adopted Morro Bay's WSCP by resolution. When Morro Bay's 2010 UWMP was adopted in Resolution 46-11, the WSCP was included as the 2010 UWMP Appendix I. The term "WSCP" is often used interchangeably when referring to the ordinance, the resolution, or the 2010 UWMP Appendix I, as the content is duplicative.

The purpose of the WSCP is to detail actions and restrictions to be followed during the various stages of a water shortage. Morro Bay has established diverse approaches to meeting future water demands including: facility improvements and deliveries of local groundwater; deliveries of imported water; utilizing supply from desalination facility; and supporting water demand management programs. This has allowed Morro Bay to meet most demands in spite of drought conditions. However, water shortages can be triggered by a hydrologic limitation in supply, limitations or failure of supply and treatment infrastructure, or both. Hydrologic or drought limitations tend to develop and abate more slowly, whereas infrastructure failure tends to happen quickly and relatively unpredictably. Morro Bay's WSCP ensures that water demands are met promptly and equitably.

When the State implemented mandatory water conservation measures in 2014, Morro Bay was already operating at Stage 2 (moderately restricted water use) of its WSCP. Therefore, Morro Bay increased its mandatory water conservation measures to Stage 3 (severely restricted water use) of its WSCP. The plan details Morro Bay's actions implemented during the various stages of a water shortage and includes the water conservation requirements for customers during each stage.

8.1. Stages of Action

In order to reduce water demands during critical water supply periods, the City Council can declare an emergency by resolution and thereby authorize the implementation of WSCP as outlined in the municipal code. The resolution declares which of the five stages is enacted. The actions to be undertaken during each stage include, but are not limited to, the following:

Stage 1 Normal Water Supply Conditions - The activities performed by the City during this stage include:

- 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.



Stage 2 Moderately Restricted Water Supply Conditions - Stage 2 includes actions undertaken in Stage 1. The actions performed by the City during this stage include:

- Any use that results in excessive gutter runoff is prohibited.
- Water may be used for washing vehicles, boats and buildings with spring-loaded shutoff 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 Severely Restricted Water Supply Conditions - Stage 3 includes all steps taken in prior stages regarding allotments and mandatory conservation rules. The actions performed by the City include:

- 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 Critical Water Supply Conditions - Stage 4 includes all steps taken in prior stages regarding allotments and mandatory conservation. The actions performed by the City include:

- 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 Emergency Water Supply Conditions - Stage 5 includes all steps taken in prior stages regarding allotments and mandatory conservation. The actions performed by the City include:

- 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, calibrated production meters, replaced water meters, coordinated billing information, and implemented an extensive pipe replacement program.

Table 8-1 shows the water supply condition during which each stage is implemented.

Table 8-1 Retail Stages of Water Shortage Contingency Plan		
Stage	Complete Both	
	Percent Supply Reduction ¹ <i>Numerical value as a percent</i>	Water Supply Condition <i>(Narrative description)</i>
1	< 5% reduction	Normal Water Supply Conditions
2	5-15% reduction	Moderately Restricted Water Supply Conditions
3	15-25% reduction	Severely Restricted Water Supply Conditions
4	25-50% reduction	Critical Water Supply Conditions
5	50% or greater	Emergency Water Supply Conditions
¹ One stage in the Water Shortage Contingency Plan must address a water shortage of 50%.		
NOTES: Percent supply reduction is based upon Morro Bay's 2010 UWMP.		

8.2. Prohibitions on End Uses

Morro Bay's WSCP details the various prohibitions and sets forth water use violation fines, charges for removal of flow restrictors, as well as establishes the period during which mandatory conservation and rationing measures will be in effect. The prohibitions on various wasteful water uses are summarized in Table 8-2 and they are listed below.

- Outdoor irrigation resulting in excessive runoff
- Using potable water for street washing
- Any use which results in excessive gutter runoff
- Washing boats, marinas, buildings and outdoor paved areas
- Emptying and refilling swimming pools and commercial spas
- The use of potable water for compaction, dust control and construction purposes
- Any water use that results in gutter runoff



In addition to the mandatory conservation and rationing measures imposed in Stages 1 through 5, the City Council and the Public Works Director are authorized to take further actions including:

- Limit irrigation to specified hours, or prohibit irrigation;
- Hold all customers to specified maximum usages of water for each category of users;
- Require users to supply their own drinking and cooking water;
- Take any other action which the City Council deems necessary to protect the public health or safety, prevent contamination of wells or other sources of water, or ensure an adequate water supply;
- Specify the days and/or hours during which water users may irrigate;
- If customer violates irrigation restrictions, Morro Bay shall turn off the customer’s water after giving written notice to the customer;
- If customer flagrantly wastes water, Morro Bay shall turn off the customer’s water after giving written notice to the customer;
- If customer fails to repair leaks within three days of notification, Morro Bay shall turn off the customer’s water after giving written notice to the customer;
- If limits to maximum usages of water are set and a customer violates that use, the customer may be assessed a penalty of \$3 per hundred cubic feet (hcf) of water used over the maximum;
- Prohibit the filling or refilling of swimming pools, hot tubs or spas.

Table 8-2 summarizes these restrictions and prohibitions.

Table 8-2 Retail Only: Restrictions and Prohibitions on End Uses			
Stage	Restrictions and Prohibitions on End Users	Additional Explanation or Reference (optional)	Penalty, Charge, or Other Enforcement?
1	Landscape - Restrict or prohibit runoff from landscape irrigation		Yes
1	CII - Restaurants may only serve water upon request		Yes
1	Other - Require automatic shut off hoses		Yes
2	Landscape - Limit landscape irrigation to specific times		Yes
2	Other - Prohibit use of potable water for washing hard surfaces		Yes
3	Other - Prohibit vehicle washing except at facilities using recycled or recirculating water		Yes
3	Other - Prohibit use of potable water for construction and dust control		Yes
3	Other water feature or swimming pool restriction		Yes
3	Landscape - Limit landscape irrigation to specific days		Yes
3	Other - Customers must repair leaks, breaks, and malfunctions in a timely manner		Yes
NOTES:			



8.3. Penalties, Charges, Other Enforcement of Prohibitions

Morro Bay's WSCP enforces prohibitions and assesses penalties for prohibited water use violation as described:

- If customer violates irrigation restrictions, Morro Bay shall turn off the customer's water after giving written notice to the customer;
- If customer flagrantly wastes water, Morro Bay shall turn off the customer's water after giving written notice to the customer;
- If customer fails to repair leaks within three days of notification, Morro Bay shall turn off the customer's water after giving written notice to the customer;
- If limits to maximum usages of water are set and a customer violates that use, the customer may be assessed a penalty of \$3 per hundred cubic feet (hcf) of water used over the maximum.

8.4. Consumption Reduction Methods

Most actions within Morro Bay's WSCP leaves the responsibility to restrict water use to the customer. However, Morro Bay's conservation programs and WCSP enhance consumption reduction. These programs are summarized below and categorized in Table 8-3.

- Spring-loaded shut-off nozzles are required for outdoor water use.
- Water is supplied to customers at restaurants only upon request.
- Outdoor irrigation is restricted between 10:00 am and 4:00 pm and is to be performed only on designated days, in Stage 2.
- Washing cars may only be performed only with the use of a bucket and sponge, in Stage 2.
- Any water cleanup for public health and safety shall be performed with a bucket and brush since hoses are no longer permitted, in Stage 4.
- Public education/information programs.
- Water conservation newsletter and water conservation webpage both include updated water information, water conservation tips, information about water conservation programs by Morro Bay and other agencies.
- Water conservation rebate program provides cash rebates for toilets, washing machines, rain barrels, removing grass, irrigation retrofit, and SMART irrigation controllers.
- Green building incentive program provides a 20% permit fee rebate for eligible greywater projects.
- Water allocation program for new development requires newly issued water meters to offset their water use on a two-to-one basis (or 440 gallons/day). Water offsets can be achieved by implementing water saving best management practices or by paying an "In Lieu" fee of \$5,800.
- Water equivalent unit retrofit program uses the "In Lieu" fees to provide water saving best management practices to Morro Bay's water customers. Retrofits options may include: irrigation retrofits, ultra low flow toilets, lawn/landscape replacement, and rain barrels.



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

Stage	Consumption Reduction Methods by Water Supplier	Additional Explanation or Reference <i>(optional)</i>
1-5	Expand Public Information Campaign	
1-5	Provide Rebates on Plumbing Fixtures and Devices	
1-5	Provide Rebates for Landscape Irrigation Efficiency	
1-5	Provide Rebates for Turf Replacement	
4-5	Implement or Modify Drought Rate Structure or Surcharge	
NOTES:		

8.5. Determining Water Shortage Reductions

Morro Bay determines the actual reduction in water use through metering. Data from production meters and from customer usage meters is used to analyze the water conservation impacts during shortages. Additionally, customers can track their usage as recorded on their monthly water bill.

Additionally, Morro Bay tracks actual reductions in water use based on the water shortage contingency analysis, by monitoring system demands at each of Morro Bay's five water tank sites using Supervisory Control and Data Acquisition (SCADA) system. The SCADA system tracks current production as well as tank levels giving information on demands. Water use analysis can be performed on a daily, weekly basis depending on monitoring needs.

8.6. Revenue and Expenditure Impacts

Morro Bay completed a water rate analysis in March 2015 entitled "City of Morro Bay Water & Sewer Rate Studies." After 20 years with no increase in water rates, Morro Bay's water funds could no longer meet current obligations and future anticipated expenses. Not surprisingly, the study recommended adoption of water rate increases. Additionally, the report recommended establishing Water Shortage Emergency Rates. The Water Shortage Emergency Rates are designed to help the water enterprise remain financially stable during periods of emergency water shortages and reduced water sales. As a result of this study, the City Council held a public hearing and approved Resolution No. 30-15, which adopts water rate increases and establishes Water Shortage Emergency Rates.

8.6.1. Drought Rate Structures and Surcharges

In addition to the water restriction penalty detailed by ordinance⁶ as described in Section 8.3, Morro Bay also imposes drought rate surcharges by resolution. Discussed above, Resolution No. 30-15 establishes the Water Shortage Emergency Rates.

⁶ If limits to maximum usages of water are set and a customer violates that use, the customer may be assessed a penalty of \$3/hcf of water used over the maximum.



The Water Shortage Emergency Rates help Morro Bay remain financially stable during periods of emergency water shortages and reduced water sales. These rates apply to metered water use. Pursuant to California law, any applied Water Shortage Emergency Rates will not exceed the City's cost of providing service. Morro Bay only implements Water Shortage Emergency Rates, as needed, to support financial stability under a more-severe Stage 4 or Stage 5 water shortage emergency. In Stage 4, the rates per hcf are \$8.18, \$11.59, \$15.00, and \$19.09 for Tiers⁷ 1, 2, 3, and 4, respectively. In Stage 5, the rates per hcf are \$12.85, \$18.20, \$23.56, and \$29.98 for Tiers 1, 2, 3, and 4, respectively.

8.6.2. Use of Financial Reserves

The City is required, by agreement with Central Coast Water Authority, to maintain financial reserve of 25 percent of annual operating costs. There is no specific City policy authorizing the use of such reserves for drought-related financial shortfalls.

8.6.3. Other Measures

In the event Water Division funds were significantly affected by drought-related shortfalls, capital projects could be delayed or an internal service loan from either the General Fund or Wastewater Fund could be implemented. Internal service loan(s) would require Council approval.

8.7. Resolution or Ordinance

Morro Bay's WSCP is found in Morro Bay's municipal code of ordinances within Chapter 13.04 Water Service and Rates. Within Chapter 13.04, Section VII Emergencies includes the four subsections which comprise Morro Bay's WSCP. The WSCP's four subsections are detailed as:

- Section 13.04.320 Determination of low water levels - Grants the City Council authority to declare when a low water level condition exists.
- Section 13.04.330 Council water conservation powers - 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 Public works director powers - 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 Mandatory water conservation requirements - Identifies the mandatory water conservation requirements for the five increasing levels, or stages, of conservation as the City's water supplies are reduced during drought conditions.

In addition to the WSCP ordinance, the City Council adopted Morro Bay's WSCP by resolution. When the Morro Bay's 2010 UWMP was adopted in Resolution 46-11, the WSCP was included as the 2010 UWMP Appendix I. The term "WSCP" is often used interchangeably when referring to the ordinance, the resolution, or the 2010 UWMP Appendix I, as the content is duplicative.

8.8. Catastrophic Supply Interruption

The Morro Bay's 2010 UWMP, adopted in Resolution 46-11, includes the WSCP as Appendix I. Within the WSCP, the Morro Bay's Catastrophic Supply Interruption Plan (CSIP) is provided. The CSIP details the actions which Morro Bay will implement during a catastrophic interruption of water supply. A catastrophic interruption could be any event (either natural or man-made) such as regional power outage, earthquake, malevolent acts, or civil unrest that causes a water shortage severe enough to classify as either a Stage 5 water supply shortage condition. A catastrophic supply interruption differs from a staged drought response discussed above in that catastrophic interruptions occur suddenly and can jeopardize Morro Bay's water supply.

⁷ The water used within each tier is 0 - 3 hcf (Tier 1), 4 - 10 hcf (Tier 2), 11 - 50 hcf (Tier 3), and >50 hcf (Tier 4).



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 the City has stand-by emergency generators to assist in times of short term power outages. 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. Additional actions which Morro Bay will implement during a catastrophic interruption of water supply are outlined below:

Regional Power Outage

- Assess the condition and ensure demands can be met. For example, continue supply water from 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

- 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)

- 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.

8.9. Minimum Supply Next Three Years

An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historical sequence for Morro Bay's water supply is provided as Table 8-4.

Table 8-4 Retail: Minimum Supply Next Three Years			
	2016	2017	2018
Available Water Supply	3,682	3,682	3,682
NOTES: Estimates are based on Tables 6-8 and 6-9.			



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Section 9. Demand Management Measures

To reduce water demand, Morro Bay implements Demand Management Measures (DMMs), also known as Best Management Practices (BMPs).

Historically the City of Morro Bay was an early and aggressive implementer of water conservation, the results of which have led to significant declines (46 percent) in average per capita water demands from 193 GPCD in 1970 to 106 gpcd in 2010. However the City of Morro Bay implemented water conservation too early to receive credit for its previous efforts under current State mandates.

As part of the State's goal to reduce water usage 20 percent by the year 2020, each water purveyor was asked to set and meet certain water conservation targets. Failure to meet those targets will result in ineligibility to receive certain types of State grants and loans. As part of this overall effort to force water conservation by the State, a higher focus on the DMM's has resulted.

The DMMs are functionally equivalent to urban water conservation BMPs administered by the California Urban Water Conservation Council (CUWCC). Morro Bay is currently not a member of CUWCC; however, Morro Bay's water conservation programs follow CUWCC's requirements. Morro Bay implements all DMMs that are cost effective, improve conservation efforts, and are critical elements of water resources strategy.

In 2014, the CWC was streamlined from fourteen specific DMMs utilized in the 2010 UWMPs to six general requirements in Section 9.2 of the 2015 UWMPs. Morro Bay implements DMMs through several ongoing programs. These programs include:

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

9.1. Demand Management Measures for Wholesale Agencies

This section is not applicable to the City of Morro Bay.

9.2. Demand Management Measures for Retail Agencies

9.2.1. Water Waste Prevention Ordinances

As detailed in Section 8, Morro Bay restricts water waste through its municipal code ordinance. During water supply shortages, Morro Bay enforces these regulations 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 Works Director has the ability after providing written warning to terminate water service. Additionally, a penalty can be assessed for excessive water use. If a complaint is received directly by the Water Division a work order is



issued. Water Division staff then investigate the issue. And if an actual water waste incident occurs, the case is forwarded to code enforcement.

9.2.2. Metering

Morro Bay has fully implemented metering of its water system. The City requires that all long-term and short-term water connections be metered. Morro Bay maintains metering accuracy utilizing its meter replacement schedule.

9.2.3. Conservation Pricing

Morro Bay has fully implemented conservation pricing with its tiered water rate schedule. Customers' water meters determine volumetric water use and customers are billed in accordance with the water rate structure. The tiered water rate schedule (higher unit cost with increased consumption) encourages water conservation.

9.2.4. Public Education and Outreach

Morro Bay implements an active conservation outreach program. Morro Bay raises awareness about water conservation through advertising, press releases, and media events and provides its customers with a water usage comparison on their water bills. Additionally, Morro Bay's website at www.morro-bay.ca.us provides information related to programs, rebates, water saving tips and announcements about upcoming events. Morro Bay also benefits from outreach programs provided through other neighboring agencies.

Morro Bay incorporates conservation minded articles routinely in its utility newsletters, public conservation notices, announcements at public meetings, and television advertisements on the public access channel. Additionally, Morro Bay provides water conservation materials to the local schools and at the Morro Bay Community Library.

9.2.5. Programs to Assess and Manage Distribution System Real Loss

Morro Bay recognizes the need to optimize local water resources, minimize the need for import water, and discourage wasteful practices. Morro Bay conducts water audits, leak detection, and repairs on an ongoing basis. Through metering, Morro Bay closely monitors water production and consumption, and investigates any unaccounted-for water to determine water loss.

Construction Water Meters – Morro Bay has a program in which contractors are issued water meters by the City for use during construction. The contractors are required to use non-potable water during construction, as recorded by the issued water meters.

System Water Audits, Leak Detection – Morro Bay implements this program 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.

Leak Repair – Morro Bay's field staff regularly watches for water waste and leaks then notifies and works with customers to address the situation. Supervisors, customer service staff, meter readers, and the flushing/sampling crew inspect customer usage routinely for anomalies. Incidents of water waste are investigated and recommendations for correction are provided. Water sources are regulated and can be disconnected in cases of excessive leakage and/or facilities failure.

Pipeline Replacement – Morro Bay'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.

9.2.6. Water Conservation Program Coordination and Staffing Support

Water Conservation Coordinator - Morro Bay does not engage a designated Water Conservation Coordinator, but the job is fulfilled through the staffing in the City's Public Works Department. The City has designated the Public Works Director as the acting Water Conservation Coordinator and additional staff members in the department assist the Director in these duties.



9.2.7. Other Demand Management Measures

Residential Plumbing Retrofit – Morro Bay has been implementing this program through its 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.

High-efficiency Washing Machine Rebate Programs - 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.

Residential Ultra-Low-Flush Toilet Replacement Programs - Morro Bay implements this rebate program as an incentive to replace existing standard flush toilets with ultra-low-flush toilets in single and multi-family residences.

9.3. Implementation over Past Five Years

Water conservation efforts over the past five years have included rebates to customers for water-efficient washing machines, toilet retrofits, cash for grass, irrigation retrofits, rain barrels and “SMART” irrigation controllers.

9.4. Planned Implementation to Achieve Water Use Targets

The City intends to prepare a One Water Plan within the next two years which will evaluate all the City’s water resources (water, wastewater, recycled water and stormwater). The One Water Plan will also include a section on a recommended water conservation program for implementation.

9.5. Members of the California Urban Water Conservation Council

Morro Bay is not a member of the CUWCC.



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Section 10. Plan Adoption, Submittal, and Implementation

10.1. Inclusion of All 2015 Data

All reported supply, demand, and planning data for the year 2015 is based on a complete data record for the 2015 calendar year.

10.2. Notice of Public Hearing

A public meeting was held prior to the adoption of the 2015 City of Morro Bay UWMP. The public meeting provided a platform for cities, counties, and members of the public to comment on the UWMP prior to its adoption. Notice of the public hearing was given to cities and counties within which water is supplied and to the general public. At least 60 days prior to the public hearing, cities and counties were also given a 60-Day Notice that Morro Bay is reviewing and considering amendments to the UWMP. Copies of all public notices have been included in Appendix A.

10.2.1. Notice to Cities and Counties

Table 10-1 provides a summary of cities and counties that were provided with both the 60-Day Notice and Notice of Public Hearing.

Table 10-1 Retail: Notification to Cities and Counties		
City Name	60 Day Notice	Notice of Public Hearing
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
County Name	60 Day Notice	Notice of Public Hearing
San Luis Obispo County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SLO Council of Governments	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Central Coast Water Authority	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
NOTES:		



10.2.2. Notice to the Public

Prior to holding the public hearing and adoption meeting for this UWMP, two Notices of Public Hearing were published in a local newspaper, with at least five intervening days between each notice. Copies of the public notices are included in Appendix B.

10.3. Public Hearing and Adoption

A public meeting was held at 207 Surf Street, in Morro Bay, California on June 14, 2016 to receive public comments, make any final amendments and adopt this UWMP.

10.3.1. Adoption

A copy of the City Council Adopting Resolution for this UWMP is included in Appendix C.

10.4. Plan Submittal

Within 30 days of being adopted, copies of the 2015 UWMP were sent to the DWR, the California State Library and to any city or county with which water gets exchanged or transferred.

10.4.1. Submitting a UWMP to DWR

Copies of the 2015 UWMP were sent electronically to the DWR.

10.4.2. Electronic Data Submittal

On June 24, 2016 an electronic copy of this 2015 UWMP and associated tables was uploaded to the DWR WUEdata website at: <http://wuedata.water.ca.gov.secure/>

10.4.3. Submitting a UWMP to the California State Library

A CD of this UWMP was submitted to the California State Library within 30 days of the adoption date.

10.4.4. Submitting a UWMP to Cities and Counties

Within 30 days of the adoption of this UWMP, copies of the 2015 UWMP were submitted (electronically/by hardcopy) to San Luis Obispo County.

10.5. Public Availability

The adopted 2015 UWMP has been made publicly available on the Morro Bay website at: <http://www.morro-bay.ca.us/DocumentCenter/View/9531>.

10.6. Amending an Adopted UWMP

Any amendments to this 2015 UWMP require that the same public notification and adoption process be followed as was used in the development of the UWMP. County, City, DWR, and California State Library submittals of the amended UWMP must be completed within 30 days of adoption.



APPENDIX A
Notification Letters to Agencies



CITY OF MORRO BAY
PUBLIC WORKS DEPARTMENT
955 Shasta Avenue
Morro Bay, CA 93442

April 11, 2016

John Brady
Deputy Director, Operations and Engineering
Central Coast Water Authority
255 Industrial Way
Buellton, CA 93427

Subject: City of Morro Bay - 2015 Urban Water Management Plan Update

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 2015 Plans to July 1, 2016. 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 2015 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, MNS Engineers, may be contacting you to obtain data as required by the Act to meet supply definition and reliability issues.

The Morro Bay City Council will hold a Public Hearing on **Tuesday June 14, 2016 at 6:00 p.m.** in the Veteran's Memorial Building, located at 209 Surf Street in the City of Morro Bay. We encourage your attendance and input. The City will send another letter once the Draft UWMP is available.

If you have additional information that may benefit this update or questions and concerns, please feel free to contact us or our consultant. I can be reached at (805) 772-6569 and the staff at MNS Engineers can be reached via Julia Aranda at (818) 667-7439.

Sincerely,

Rob Livick, PE/PLS
Director of Public Works/City Engineer



CITY OF MORRO BAY
PUBLIC WORKS DEPARTMENT
955 Shasta Avenue
Morro Bay, CA 93442

April 11, 2016

Courtney Howard
Water Resources Division Manager
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 – 2015 Urban Water Management Plan Update

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 2015 Plans to July 1, 2016. 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 2015 UWMP. 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, MNS Engineers, may be contacting you to obtain data as required by the Act to meet supply definition and reliability issues.

The Morro Bay City Council will hold a Public Hearing on **Tuesday June 14, 2016 at 6:00 p.m.** in the Veteran's Memorial Building, located at 209 Surf Street in the City of Morro Bay. We encourage your attendance and input. The City will send another letter when the draft UWMP is available.

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Sincerely,

Rob Livick, PE/PLS
Director of Public Works/City Engineer



CITY OF MORRO BAY
PUBLIC WORKS DEPARTMENT
955 Shasta Avenue
Morro Bay, CA 93442

April 11, 2016

Ron De Carli
San Luis Obispo Council of Governments
1114 Marsh Street
San Luis Obispo, CA 93401

Subject: City of Morro Bay - 2015 Urban Water Management Plan Update

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 2015 Plans to July 1, 2016. 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 2015 UWMP. It was found that the City's system falls within your boundaries. In order to update the UWMP, the City or its consultant, MNS Engineers, may be contacting you to obtain planning information including growth projections and population data.

The Morro Bay City Council will hold a Public Hearing on **Tuesday June 14, 2016 at 6:00 p.m.** in the Veteran's Memorial Building, located at 209 Surf Street in the City of Morro Bay. We encourage your attendance and input. 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 or our consultant. I can be reached at (805) 772-6569 and the staff at MNS Engineers can be reached via Julia Aranda at (818) 667-7439.

Sincerely,

Rob Livick, PE/PLS
Director of Public Works/City Engineer



CITY OF MORRO BAY
PUBLIC WORKS DEPARTMENT
955 Shasta Avenue
Morro Bay, CA 93442

May 18, 2016

John Brady
Deputy Director, Operations and Engineering
Central Coast Water Authority
255 Industrial Way
Buellton, CA 93427

Subject: City of Morro Bay – 2015 Urban Water Management Plan Update

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 2015 Plans to July 1, 2016. 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) recently informed you that the City is in the process of preparing the 2015 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. The Draft UWMP is now available for your review at www.morrobayca.gov/uwmp2015.

The Morro Bay City Council will hold a Public Hearing on **Tuesday June 14, 2016 at 6:00 p.m.** in the Veteran's Memorial Building, located at 209 Surf Street in the City of Morro Bay. We encourage your attendance and input.

If the County would like to provide any comments on the plan please feel free to email dhanson@morrobayca.gov or call Damaris Hanson at 772-6265.

Sincerely,

Rob Livick, PE/PLS
Director of Public Works/City Engineer



CITY OF MORRO BAY

PUBLIC WORKS DEPARTMENT

955 Shasta Avenue
Morro Bay, CA 93442

May 18, 2016

Courtney Howard
Water Resources Division Manager
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 – 2015 Urban Water Management Plan Update

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 2015 Plans to July 1, 2016. The Act describes in detail the content of the plans to be submitted to the California Department of Water Resources.

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If the County would like to provide any comments on the plan please feel free to email dhanson@morrobayca.gov or call Damaris Hanson at 772-6265.

Sincerely,

Rob Livick, PE/PLS
Director of Public Works/City Engineer



CITY OF MORRO BAY

PUBLIC WORKS DEPARTMENT

955 Shasta Avenue
Morro Bay, CA 93442

May 18 2016

Ron De Carli
San Luis Obispo Council of Governments
1114 Marsh Street
San Luis Obispo, CA 93401

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If SLOCOG would like to provide any comments on the plan please feel free to email dhanson@morrobayca.gov or call Damaris Hanson at 772-6265.

Sincerely,

Rob Livick, PE/PLS
Director of Public Works/City Engineer

APPENDIX B
Public Hearing Notice



**CITY OF MORRO BAY
NOTICE OF AVAILABILITY AND
PUBLIC HEARING**

NOTICE IS HEREBY GIVEN that the Morro Bay City Council will hold a **PUBLIC HEARING** on **Tuesday, June 14, 2016, 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 City has prepared an update of the Urban Water Management Plan and a Public Review Draft of the document and additional information is now available. This document can be found at the City of Morro Bay Public Works Department, 955 Shasta Avenue, Morro Bay, CA 93442, or from the City of Morro Bay web site (www.morrobayca.gov/UWMP2015). The telephone number for the Public Services Department is (805) 772-6261.

Interested persons are invited to appear at the hearing on **Tuesday, June 14, 2016, at 6:00 p.m.** or otherwise express their views and opinions regarding the proposed Plan. 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 Works Department, 955 Shasta Avenue, Morro Bay, California, 93442.

PROJECT TITLE: 2015 URBAN WATER MANAGEMENT PLAN UPDATE

PROJECT LOCATION: CITY OF MORRO BAY

PROJECT DESCRIPTION: The City, in conformance with the California Urban Water Management Plan Act, is preparing an update for the 2015 calendar year of its 2010 Urban Water Management Plan. Urban Water Management Plans (UWMPs) are prepared by California's urban water suppliers to support their long-term resource planning, and ensure adequate water supplies are available to meet existing and future water demands. Public input into the plan is encouraged and will be considered in the City's adoption of the plan. All interested parties are invited to attend.

CONTACT PERSON: Damaris Hanson, Engineering Technician
TELEPHONE: (805) 772-6265
EMAIL: dhanson@morrobayca.gov

NOTICE STARTING APRIL 8, 2016 – ONE PER WEEK FOR THREE WEEKS

Legals

Legals

Legals

Legals

Legals

More

CITY OF MORRO BAY NOTICE OF AVAILABILITY AND PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Morro Bay City Council will hold a **PUBLIC HEARING** on **Tuesday, June 14, 2016, 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.

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PROJECT LOCATION: CITY OF MORRO BAY

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CONTACT PERSON: Damaris Hanson, Engineering Technician

TELEPHONE: (805) 772-6265

EMAIL: dhanson@morrobayca.gov

May 27; June 3, 10, 2016

2456245

APPENDIX C

Adoption Resolution No. 45-16

RESOLUTION NO. 45-16

**RESOLUTION OF THE CITY COUNCIL
OF THE CITY OF MORRO BAY, CALIFORNIA
APPROVING AND ADOPTING THE 2015 URBAN WATER MANAGEMENT PLAN**

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

WHEREAS, the California Urban Water Management Planning Act (the "Act") (California Water Code sections 10620 *et seq.*) requires every urban water supplier providing municipal water directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually to develop an Urban Water Management Plan; and

WHEREAS, the Act requires an Urban Water Management Plan be updated every five years; and

WHEREAS, a public draft 2015 Urban Water Management Plan has been circulated for public review and all comments received have been reviewed and considered; and a properly noticed public hearing was held by the City Council on June 14, 2016, prior to adoption of a Final Urban Water Management Plan, all in compliance with the requirements of the Act.

NOW, THEREFORE, BE IT RESOLVED

1. The City Council finds the City is in compliance with all applicable requirements on the Act.
2. The Urban Water Management Plan is hereby adopted and ordered filed with the City Clerk.
3. The Public Works Director is hereby authorized and directed to file this Plan with the California Department of Water Resources.

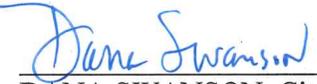
PASSED AND ADOPTED by the City Council of the City of Morro Bay at a regular meeting thereof held on the 14th day of June 2016 by the following vote:

AYES: Irons, Headding, Johnson, Makowetski, Smukler
NOES: None
ABSENT: None
ABSTAIN: None



JAMIE L. IRONS, Mayor

ATTEST:



DANA SWANSON, City Clerk

APPENDIX D
Water Loss Calculations



AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0
American Water Works Association,
Copyright © 2014, All Rights Reserved

?	Click to access definition
+	Click to add a comment

Water Audit Report for: **City of Morro Bay (4010011)**
Reporting Year: **2015** 1/2015 - 12/2015

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

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

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

WATER SUPPLIED

Volume from own sources:	+ ? 10	44.936	MG/Yr
Water imported:	+ ? 10	309.444	MG/Yr
Water exported:	+ ? n/a	0.000	MG/Yr

Master Meter and Supply Error Adjustments

Pcnt:	Value:	MG/Yr
+ ?	<input checked="" type="radio"/> <input type="radio"/>	MG/Yr
+ ?	<input checked="" type="radio"/> <input type="radio"/>	MG/Yr
+ ?	<input checked="" type="radio"/> <input type="radio"/>	MG/Yr

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

WATER SUPPLIED: 354.380 MG/Yr

AUTHORIZED CONSUMPTION

Billed metered:	+ ? 8	337.980	MG/Yr
Billed unmetered:	+ ? n/a	0.000	MG/Yr
Unbilled metered:	+ ? n/a	0.000	MG/Yr
Unbilled unmetered:	+ ? 6	4.430	MG/Yr

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

AUTHORIZED CONSUMPTION: ? 342.410 MG/Yr

Click here: ?
for help using option buttons below

Pcnt:	Value:	MG/Yr
1.25%	<input checked="" type="radio"/> <input type="radio"/>	MG/Yr

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

Pcnt:	Value:	MG/Yr
0.25%	<input checked="" type="radio"/> <input type="radio"/>	MG/Yr

<input checked="" type="radio"/> <input type="radio"/>	MG/Yr	
0.25%	<input checked="" type="radio"/> <input type="radio"/>	MG/Yr

WATER LOSSES (Water Supplied - Authorized Consumption)

11.970 MG/Yr (37 AF/YR)

Apparent Losses

Unauthorized consumption: + ? 0.886 MG/Yr

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

Customer metering inaccuracies:	+ ? 5	0.000	MG/Yr
Systematic data handling errors:	+ ? 5	0.845	MG/Yr

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

Apparent Losses: ? 1.731 MG/Yr

Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? **10.239** MG/Yr

WATER LOSSES: 11.970 MG/Yr (37 AF/YR)

NON-REVENUE WATER

NON-REVENUE WATER: ? 16.400 MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

SYSTEM DATA

Length of mains:	+ ? 9	72.0	miles
Number of <u>active</u> AND <u>inactive</u> service connections:	+ ? 7	5,453	
Service connection density:	? 76		conn./mile main

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

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

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

Average operating pressure: + ? 8 65.0 psi

COST DATA

Total annual cost of operating water system:	+ ? 8	\$4,235,000	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+ ? 8	\$11.50	\$/100 cubic feet (ccf)
Variable production cost (applied to Real Losses):	+ ? 7	\$511.00	\$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses

APPENDIX E

SBX7-7 Forms

SB X7-7 Verification Form Version FINAL.1

Table 4-C.4 has been modified from the FINAL version.

WUEdata Entry Exceptions	
The data from the tables below will not be entered into WUEdata tables (the tabs for these tables' worksheets are colored purple). These tables will be submitted as separate uploads, in Excel, to WUEdata.	
Process Water Deduction	
SB X7-7 tables 4-C, 4-C.1, 4-C.2, 4-C.3, 4-C.4 and 4-D	A
A supplier that will use the process water deduction will complete the appropriate tables in Excel, submit them as a separate upload to the WUE data tool, and include them in its UWMP.	
Target Method 2	
SB X7-7 tables 7-B, 7-C, and 7-D	
A supplier that selects Target Method 2 will contact DWR (gwen.huff@water.ca.gov) for SB X7-7 tables 7-B, 7-C, and 7-D.	
Target Method 4	
These tables are only available online at	
http://www.dwr.water.ca.gov/wateruseefficiency/sb7/committees/urban/u4/ptm4.cfm	A supplier
that selects Target Method 4 will save the tables from the website listed above, complete the tables, submit as a separate upload to WUE data, and include them with its UWMP.	

SB X7-7 Table 0: Units of Measure Used in UWMP*

(select one from the drop down list)

Acre Feet

**The unit of measure must be consistent with Table 2-3*

NOTES:

SB X7-7 Table-1: Baseline Period Ranges

Baseline	Parameter	Value	Units
10- to 15-year baseline period	2008 total water deliveries	13,060	Acre Feet
	2008 total volume of delivered recycled water	-	Acre Feet
	2008 recycled water as a percent of total deliveries	0.00%	Percent
	Number of years in baseline period ^{1, 2}	10	Years
	Year beginning baseline period range	1995	
	Year ending baseline period range ³	2004	
5-year baseline period	Number of years in baseline period	5	Years
	Year beginning baseline period range	2003	
	Year ending baseline period range ⁴	2007	

¹ If the 2008 recycled water percent is less than 10 percent, then the first baseline period is a continuous 10-year period. If the amount of recycled water delivered in 2008 is 10 percent or greater, the first baseline period is a continuous 10- to 15-year period. ² The Water Code requires that the baseline period is between 10 and 15 years. However, DWR recognizes that some water suppliers may not have the minimum 10 years of baseline data.

³ The ending year must be between December 31, 2004 and December 31, 2010.

⁴ The ending year must be between December 31, 2007 and December 31, 2010.

NOTES:

SB X7-7 Table 2: Method for Population Estimates

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

SB X7-7 Table 3: Service Area Population

Year	Population	
10 to 15 Year Baseline Population		
Year 1	1995	9,748
Year 2	1996	9,657
Year 3	1997	9,824
Year 4	1998	9,904
Year 5	1999	9,994
Year 6	2000	10,176
Year 7	2001	10,196
Year 8	2002	10,231
Year 9	2003	10,220
Year 10	2004	10,315
<i>Year 11</i>		
<i>Year 12</i>		
<i>Year 13</i>		
<i>Year 14</i>		
<i>Year 15</i>		
5 Year Baseline Population		
Year 1	2003	10,220
Year 2	2004	10,315
Year 3	2005	10,374
Year 4	2006	10,354
Year 5	2007	10,448
2015 Compliance Year Population		
2015		10,224
NOTES:		

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

Baseline Year <i>Fm SB X7-7 Table 3</i>	Volume Into Distribution System <i>This column will remain blank until SB X7-7 Table 4-A is completed.</i>	Deductions					Annual Gross Water Use	
		Exported Water	Change in Dist. System Storage (+/-)	Indirect Recycled Water <i>This column will remain blank until SB X7-7 Table 4-B is completed.</i>	Water Delivered for Agricultural Use	Process Water <i>This column will remain blank until SB X7-7 Table 4-D is completed.</i>		
10 to 15 Year Baseline - Gross Water Use								
Year 1	1995	1,406			-		-	1,406
Year 2	1996	1,501			-		-	1,501
Year 3	1997	1,535			-		-	1,535
Year 4	1998	1,326			-		-	1,326
Year 5	1999	1,393			-		-	1,393
Year 6	2000	1,400			-		-	1,400
Year 7	2001	1,410			-		-	1,410
Year 8	2002	1,454			-		-	1,454
Year 9	2003	1,421			-		-	1,421
Year 10	2004	1,477			-		-	1,477
<i>Year 11</i>	0	-			-		-	-
<i>Year 12</i>	0	-			-		-	-
<i>Year 13</i>	0	-			-		-	-
<i>Year 14</i>	0	-			-		-	-
<i>Year 15</i>	0	-			-		-	-
10 - 15 year baseline average gross water use							1,432	
5 Year Baseline - Gross Water Use								
Year 1	2003	1,421			-		-	1,421
Year 2	2004	1,477			-		-	1,477
Year 3	2005	1,361			-		-	1,361
Year 4	2006	1,371			-		-	1,371
Year 5	2007	1,446			-		-	1,446
5 year baseline average gross water use							1,415	
2015 Compliance Year - Gross Water Use								
2015	1,090	-			-		-	1,090

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

NOTES:

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

Complete one table for each source.

Name of Source Chorro Basin

This water source is:

- The supplier's own water source
 A purchased or imported source

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

10 to 15 Year Baseline - Water into Distribution System

Year 1	1995	986	986
Year 2	1996	1,261	1,261
Year 3	1997	985	985
Year 4	1998	38	38
Year 5	1999	34	34
Year 6	2000	4	4
Year 7	2001	11	11
Year 8	2002	1	1
Year 9	2003	1	1
Year 10	2004	49	49
Year 11	0		-
Year 12	0		-
Year 13	0		-
Year 14	0		-
Year 15	0		-

5 Year Baseline - Water into Distribution System

Year 1	2003	1	1
Year 2	2004	49	49
Year 3	2005	204	204
Year 4	2006	257	257
Year 5	2007	276	276

2015 Compliance Year - Water into Distribution System

2015	-		-
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** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution

Name of Source Morro Basin

This water source is:

The supplier's own water source

A purchased or imported source

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

10 to 15 Year Baseline - Water into Distribution System

Year 1	1,995	420	420
Year 2	1,996	240	240
Year 3	1,997	249	249
Year 4	1,998	0	0
Year 5	1,999	0	0
Year 6	2,000	0	0
Year 7	2,001	0	0
Year 8	2,002	32	32
Year 9	2,003	28	28
Year 10	2,004	213	213
Year 11	-		0
Year 12	-		0
Year 13	-		0
Year 14	-		0
Year 15	-		0

5 Year Baseline - Water into Distribution System

Year 1	2,003	28	28
Year 2	2,004	213	213
Year 3	2,005	150	150
Year 4	2,006	80	80
Year 5	2,007	35	35

2015 Compliance Year - Water into Distribution System

2015	0		0
-------------	---	--	---

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

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution

Name of Source R/O Plant - Treated brackish groundwater

This water source is:

The supplier's own water source

A purchased or imported source

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

10 to 15 Year Baseline - Water into Distribution System

Year 1	1,995	0	0
Year 2	1,996	0	0
Year 3	1,997	0	0
Year 4	1,998	0	0
Year 5	1,999	0	0
Year 6	2,000	0	0
Year 7	2,001	0	0
Year 8	2,002	48	48
Year 9	2,003	13	13
Year 10	2,004	10	10
Year 11	-		0
Year 12	-		0
Year 13	-		0
Year 14	-		0
Year 15	-		0

5 Year Baseline - Water into Distribution System

Year 1	2,003	13	13
Year 2	2,004	10	10
Year 3	2,005	0	0
Year 4	2,006	25	25
Year 5	2,007	19	19

2015 Compliance Year - Water into Distribution System

2015	138		138
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** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

SB X7-7 Table 4-A: Volume Entering the Distribution

Name of Source State Water

This water source is:

The supplier's own water source

A purchased or imported source

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

10 to 15 Year Baseline - Water into Distribution System

Year 1	1,995	0	0
Year 2	1,996	0	0
Year 3	1,997	301	301
Year 4	1,998	1288	1,288
Year 5	1,999	1359	1,359
Year 6	2,000	1396	1,396
Year 7	2,001	1399	1,399
Year 8	2,002	1373	1,373
Year 9	2,003	1379	1,379
Year 10	2,004	1205	1,205
Year 11	-		0
Year 12	-		0
Year 13	-		0
Year 14	-		0
Year 15	-		0

5 Year Baseline - Water into Distribution System

Year 1	2,003	1379	1,379
Year 2	2,004	1205	1,205
Year 3	2,005	1007	1,007
Year 4	2,006	1009	1,009
Year 5	2,007	1116	1,116

2015 Compliance Year - Water into Distribution System

2015	952		952
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** Meter Error Adjustment - See guidance in Methodology 1, Step 3 of Methodologies Document*

NOTES:

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

Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Annual Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use (GPCD)
10 to 15 Year Baseline GPCD				
Year 1	1995	9,748	1,406	129
Year 2	1996	9,657	1,501	139
Year 3	1997	9,824	1,535	139
Year 4	1998	9,904	1,326	120
Year 5	1999	9,994	1,393	124
Year 6	2000	10,176	1,400	123
Year 7	2001	10,196	1,410	123
Year 8	2002	10,231	1,454	127
Year 9	2003	10,220	1,421	124
Year 10	2004	10,315	1,477	128
<i>Year 11</i>	0	-	-	
<i>Year 12</i>	0	-	-	
<i>Year 13</i>	0	-	-	
<i>Year 14</i>	0	-	-	
<i>Year 15</i>	0	-	-	
10-15 Year Average Baseline GPCD				128
5 Year Baseline GPCD				
Baseline Year <i>Fm SB X7-7 Table 3</i>		Service Area Population <i>Fm SB X7-7 Table 3</i>	Gross Water Use <i>Fm SB X7-7 Table 4</i>	Daily Per Capita Water Use
Year 1	2003	10,220	1,421	124
Year 2	2004	10,315	1,477	128
Year 3	2005	10,374	1,361	117
Year 4	2006	10,354	1,371	118
Year 5	2007	10,448	1,446	124
5 Year Average Baseline GPCD				122
2015 Compliance Year GPCD				
2015		10,224	1,090	95
NOTES:				

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

10-15 Year Baseline GPCD	128
5 Year Baseline GPCD	122
2015 Compliance Year GPCD	95
NOTES:	

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

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

NOTES:

SB X7-7 Table 7-E: Target Method 3

Agency May Select More Than One as Applicable	Percentage of Service Area in This Hydrological Region	Hydrologic Region	"2020 Plan" Regional Targets	Method 3 Regional Targets (95%)
<input type="checkbox"/>		North Coast	137	130
<input type="checkbox"/>		North Lahontan	173	164
<input type="checkbox"/>		Sacramento River	176	167
<input type="checkbox"/>		San Francisco Bay	131	124
<input type="checkbox"/>		San Joaquin River	174	165
<input checked="" type="checkbox"/>	100%	Central Coast	123	117
<input type="checkbox"/>		Tulare Lake	188	179
<input type="checkbox"/>		South Lahontan	170	162
<input type="checkbox"/>		South Coast	149	142
<input type="checkbox"/>		Colorado River	211	200
<p align="center">Target <i>(If more than one region is selected, this value is calculated.)</i></p>				<p align="center">117</p>
<p>NOTES:</p>				

SB X7-7 Table 7-F: Confirm Minimum Reduction for 2020 Target

5 Year Baseline GPCD From SB X7-7 Table 5	Maximum 2020 Target ¹	Calculated 2020 Target ²	Confirmed 2020 Target
122	116	117	116

¹ Maximum 2020 Target is 95% of the 5 Year Baseline GPCD except for suppliers at or below 100 GPCD.

² 2020 Target is calculated based on the selected Target Method, see SB X7-7 Table 7 and corresponding tables for agency's calculated target.

NOTES:

SB X7-7 Table 8: 2015 Interim Target GPCD

Confirmed 2020 Target <i>Fm SB X7-7 Table 7-F</i>	10-15 year Baseline GPCD <i>Fm SB X7-7 Table 5</i>	2015 Interim Target GPCD
116	128	122

NOTES:

SB X7-7 Table 9: 2015 Compliance

Actual 2015 GPCD	2015 Interim Target GPCD	Optional Adjustments <i>(in GPCD)</i>					2015 GPCD <i>(Adjusted if applicable)</i>	Did Supplier Achieve Targeted Reduction for 2015?
		Enter "0" if Adjustment Not Used			TOTAL Adjustments	Adjusted 2015 GPCD		
		Extraordinary Events	Weather Normalization	Economic Adjustment				
95	122	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	<i>From Methodology 8 (Optional)</i>	-	95	95	YES

NOTES:

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:

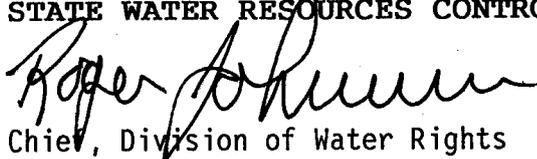
Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer.

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. (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 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:

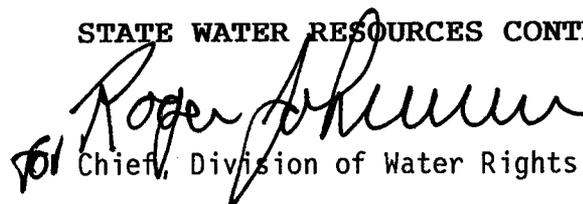
Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer.

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
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:

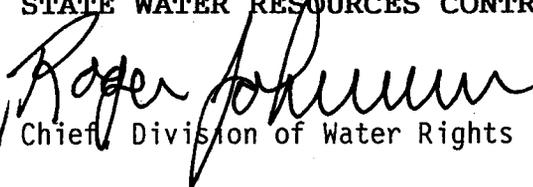
Section 1390. A permit shall be effective for such time as the water actually appropriated under it is used for a useful and beneficial purpose in conformity with this division (of the Water Code), but no longer.

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