

2005 URBAN WATER MANAGEMENT PLAN

MESA CONSOLIDATED WATER DISTRICT

Prepared by:

**Mesa Consolidated Water District
1965 Placentia Avenue
Costa Mesa, CA 92627**



Mesa Consolidated Water District (Mesa) Board of Directors (Board) and staff are proud to present the 2005 Urban Water Management Plan (Plan). The Plan will be used in concurrence with Mesa's other planning documents such as the Water Systems Master Plan and the annual budget.

The Plan is a step-by-step approach to accessing Mesa's water needs. It can be used as a solid basis for local and regional water management planning. In addition to Mesa's own Plan, Mesa staff participated in the preparation of a Regional Urban Water Management Plan with other local water agencies.

Upon adoption by Mesa's Board, the Plan will be sent to the California Department of Water Resources (CDWR) for review. The CDWR provides specific criteria that must be addressed in the Plan by retail water agencies, such as Mesa. You will note in some areas within the document that Mesa does not participate in some of the activities that must be addressed, therefore a short narrative is included to meet the requirements of CDWR.

The Plan is a key component and a condition for eligibility for assistance pursuant to Proposition 50 (The Water Security, Clean Water Drinking Water, Coastal, and Beach Protection Act of 2002) grant funds, as well as drought assistance from the State of California.

For additional information about this report, or other water related topics, please contact Mesa at (949) 631-1205 or visit Mesa's web site at www.mesawater.org.

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Mesa Consolidated Water District
1965 Placentia Ave. (92627)
P.O. Box 5008
Costa Mesa, CA. 92628-5008

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List of Acronyms and Abbreviations

AF	Acre-feet. One acre-foot of water is equal to 325,829
AFY	Acre-feet/year.
Act	Urban Water Management Planning Act
BEA	Basin Equity Assessment
BPP	Basin Production Percentage
BMPs	Best Management Practices
CAFR	Comprehensive Annual Financial Report
CIMIS	California Irrigation Management Information System
City	City of Costa Mesa
CMSD	Costa Mesa Sanitary District
Council	California Urban Water Conservation Council
CWTF	Colored Water Treatment Facility
DHS	California (or State) Department of Health Services
DWR	Department of Water Resources (California)
EPA	U.S. Environmental Protection Agency
Eto	Evapotranspiration rate
FY	Fiscal Year
GPM	Gallons-per minute
IRP	Integrated Resources Planning
Mesa	Mesa Consolidated Water District
MG	Million gallons
MWD	Metropolitan Water District of Southern California
MOU	Memorandum of Understanding Regarding Urban
MWDOC	Municipal Water District of Orange County
OCWD	Orange County Water District
OCSD	Orange County Sanitation District
Plan	Mesa's 2005 Urban Water Management Plan
RA	Replenishment Assessment
Regional Plan	MWDOC's 2005 Regional Urban Water Management Plan
SCADA	Supervisory Control and Data Acquisition
SSP	Seasonal Storage Program
ULFTs	Ultra Low Flush Toilets
WSDM	Water Surplus and Drought Management Plan
WSMP	Water System Management Plan
WUE	Water Use Efficiency

Section 1: Introduction - Agency Coordination

Purpose and Development of the UWMP

1.1

This Urban Water Management Plan (Plan) for Mesa Consolidated Water District (Mesa) has been prepared in accordance with the Urban Water Management Planning Act (Act) of 1983 - or Assembly Bill 797. This Plan includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning).

In 1985, the Act began requiring all urban water suppliers within the state providing water to more than 3,000 retail customers or supplying more than 3,000 acre-feet of water annually to prepare and adopt an Urban Water Management Plan and update that plan every five years.

Mesa prepared Urban Water Management Plans in 1985, 1990, 1995, and 2000 and filed those Plans with the Department of Water Resources (DWR). This Plan constitutes an update to Mesa's 2000 Urban Water Management Plan. Updated Plans are due to the DWR by December 31, 2005.

Mesa is a member agency of the Municipal Water District of Orange County (MWDOC). The following sections of this Plan are intended to supplement MWDOC's 2005 Regional Urban Water Management Plan (Regional Plan) by incorporating agency specific information required by the Act that is not contained in the Regional Plan. The Regional Plan provides more detailed information on the public awareness, education, and water conservation activities that have been implemented and/or which may be implemented by MWDOC at the request of, or on behalf of, its member agencies. The Regional Plan is also intended to complement the Metropolitan Water District of Southern California's (MWD's) Regional Urban Water Management Plan.

Mesa has actively encouraged community participation in its urban water management planning efforts since the first Plan was developed in 1985. Public meetings were held on the 1985, 1990, 1995, 2000, and 2005 Plans.

A public hearing was officially noticed and advertised on November 7 and 16, 2005. The public had the opportunity to review and comment on the draft Plan prior to the Board's approval.

On November 22, 2005, the Board of Directors of Mesa approved the updated 2005 Urban Water Management Plan. The Plan was submitted to DWR prior to the December 31, 2005 deadline. Attached to the cover letter addressed to the DWR and labeled, as Appendix B is the signed resolution confirming the Plan adoption by the Board of Directors.

Agency Coordination

1.2

In January 2005, Mesa staff began attending regional meetings designed to coordinate UWMP reporting efforts. The wholesale agency, the Municipal Water District of Orange County hosted the meetings. All retail water agencies, watershed districts, and the sanitation district in Orange County were invited to the coordination meetings. In addition, the Metropolitan Water District of Southern California participated in these meetings. This structure allowed each agency to share and collect region-wide information.

Table 1-1 summarizes the efforts Mesa has taken to coordinate with various agencies in the development and planning process of this Plan.

Table 1-1 Coordination with Appropriate Agencies							
	Participated In Developing The plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not involved /No Information
Metropolitan Water District of So. Cal.	✓				✓	✓	
Municipal Water District of Orange Co.	✓			✓	✓	✓	
Orange County Water District				✓			
City of Costa Mesa						✓	
City of Newport Beach						✓	
County of Orange						✓	

Resource Maximization/Imported Minimization Plan

1.3

Because Southern California is a semi-arid desert region, it does not receive enough rainfall to meet its water needs. Therefore a mix of water resources is required to meet the increasing demands of Mesa's service area. The majority of Mesa's water supply comes from locally pumped groundwater, which is obtained from a local groundwater basin, located in the northern portion of Orange County. The remainder of Mesa's water supply comes from a mix of imported water, recycled water, and water use efficiency programs.

To assist Mesa in minimizing its future imported reliance, the Water System Master Plan was updated in 2002. This plan identifies multiple alternatives for Mesa's future water supply. In an effort to provide a safe and reliable water supply, in the future Mesa plans to implement the suggested alternatives.

Source: Water System Master Plan Summary Report

History and Purpose

1.4

Mesa Consolidated Water District (Mesa) is located in a community that originated about 1906. The La Habra Valley Land and Water Company, which drilled the first well in 1910, developed the first water system in the area. In 1913, the Fairview Farms Mutual Water Company constructed a system for agricultural purposes and in 1918, the Newport Heights Irrigation District was formed to serve domestic and irrigation water. These two agencies acquired the facilities of the La Habra Water Company.

With continued growth in the early 1900's the Newport Mesa Irrigation District and Santa Ana Heights Mutual Water Company were created. Fairview Farms Mutual Water Company later became the Fairview County Water District; Newport Mesa Irrigation District became the Newport Mesa County Water District. In 1953, the City of Costa Mesa became an incorporated city and in 1955, it created a municipal water system to serve the areas beyond the four existing district boundaries.

On June 30, 1959, the Governor of the State of California signed Senate Bill 1375 (Costa Mesa District Merger Law), as introduced by Senator Murdy. The general provisions of this law called for the consolidation of four predecessor agencies: the Newport Heights Irrigation District, the Fairview County Water District, the Newport-Mesa County Water District, and the City of Costa Mesa Water Department.

On January 1, 1960, Mesa Consolidated Water District (Mesa), formerly called the Costa Mesa County Water District, commenced operations pursuant to Sections 33200 et. seq., of the California Water Code. The Santa Ana Heights Water Company was originally involved in merger discussions, but withdrew before consolidation. Mesa set a precedent with this merger because it was the first water agency in California to consolidate two or more water agencies and assume both their assets and debt obligations.

Board of Directors and Management Team

1.5

A five-person Board of Directors governs Mesa. Mesa's service area is divided into five geographic divisions of approximately equal population. One individual from each division is elected by the voting public to serve alternating four-year terms on the Board.

Mesa's Board of Directors is responsible for establishing policies. The Board elects one of its members to serve as President and another to serve as First Vice President. The Board appoints a General Manager who serves at the discretion of the Board, as does the District Secretary, and Treasurer/Auditor. The General Manager is responsible for the administration of policies and the day-to-day operations.

Mesa collects no tax revenues, is not subject to the State's Public Utility Commission, represents a specific geographic area, and is not part of any city or the government of the County of Orange. Mesa has maintained strong and cooperative relationships with cities and related public agencies that border or interact with Mesa.

Mission, Goals, and Measures

1.6

In 2000, Mesa's Board of Directors adopted "*Dedicated to satisfying our community's water needs*" as its mission statement. At its 2002 Annual Board Workshop and annually thereafter, the Board reviews its goals and measures, a list, which is provided below:

GOALS AND MEASURES

1. Provide a safe and reliable water supply
 - ◆ Potable production
 - ◆ Production by type
 - ◆ System water quality
2. Practice continuous infrastructure renewal and improvement
 - ◆ Capital comparison YTD actual to budget
 - ◆ Water system comparison YTD actual to budget
3. Be financially responsible and maintain competitive rates
 - ◆ Total sources and uses of funds – actual vs. budget
 - ◆ Total water supply in acre-feet
 - ◆ Average cost of water, i.e. cost per acre-foot
 - ◆ Water sales in dollars
4. Increase public awareness about Mesa and about water
 - ◆ Web site information
 - ◆ Customer calls and types
5. Attract and retain skilled employees
 - ◆ Employment status report

Section 2: Service Area Information

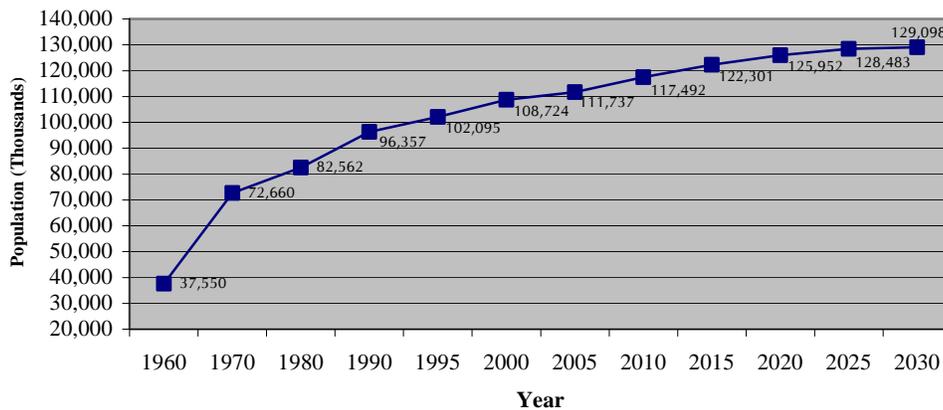
Service Area information with 25-year projections

2.1

Mesa's service area contains portions of other cities therefore it is difficult to obtain accurate population figures. Because the majority of Mesa's service area is made up of the City of Costa Mesa, the Center for Demographic Research, CSUF (Costa Mesa) projections were used. When the water district was formed in 1960 the population in the City was stated at 37,550 people. Today the population is approximately 111,737 people.

Between 1995 and 2005, the growth rate was about 9.4%, at an average rate of growth of less than 1% per year. The population projections for the year 2005 through 2015 are expected to increase from 111,737 to 122,301 people; this is a 9.5% increase or an average of 0.95% per year. Over the 20-year period from 1995 to 2015 population is expected to increase by approximately 19.8%. Mesa's past, present, and projected population trend can be seen in Figure 2-1 and Table 2-1.

**Figure 2-1
Population Past, Present and Projected (1960-2030)**



**Table 2-1
Population – Current and Projected**

	2005	2010	2015	2020	2025	2030
Service Area Population	111,737	117,492	122,301	125,952	128,483	129,098

Source: Center for Demographic Research, CSUF

Climate Characteristics

2.2

Mesa’s service area is known for its mild climate. Located near the beach in central Orange County, Mesa is influenced by coastal weather patterns. Mild winters, warm summers, moderate rainfall, and year-round sunshine makeup Mesa’s typical seasonal year. Average climate data can be seen on Figure 2-2 and Tables 2-2 and 2-3.

Figure 2-2
Average Climate Characteristics

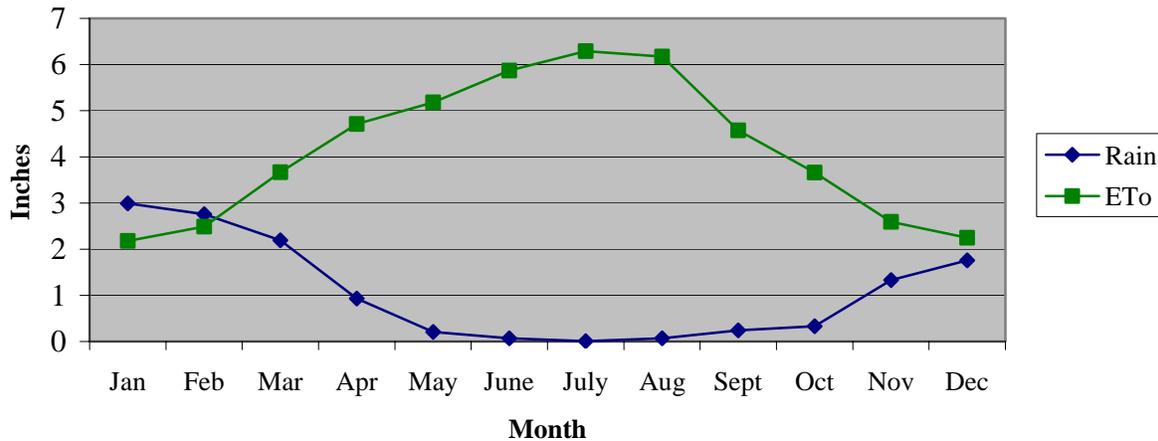


Table 2-2						
Climate – Standard Monthly Average						
	Jan	Feb	Mar	Apr	May	June
Standard Monthly Average Eto ¹	2.18	2.49	3.67	4.71	5.18	5.87
Average Rainfall (inches) ²	2.99	2.76	2.19	.93	.21	.07
Average Temperature (Fahrenheit) ²	68.1	69.4	70.3	72.8	74.7	77.8

Table 2-3							
Climate (continued) – Standard Monthly Average							
	July	Aug	Sept	Oct	Nov	Dec	Annual
Standard Monthly Average Eto ¹	6.29	6.17	4.57	3.66	2.59	2.25	49.63
Average Rainfall (inches) ²	.01	.07	.24	.33	1.33	1.76	12.91
Average Temperature (Fahrenheit) ²	82.8	84.2	83.7	79.3	73.7	68.8	75.5

Source: 1 CIMIS, station #75, Irvine, CA.
2 Western Regional Climate Center, Santa Ana fire station, CA. (047888)

Service Area

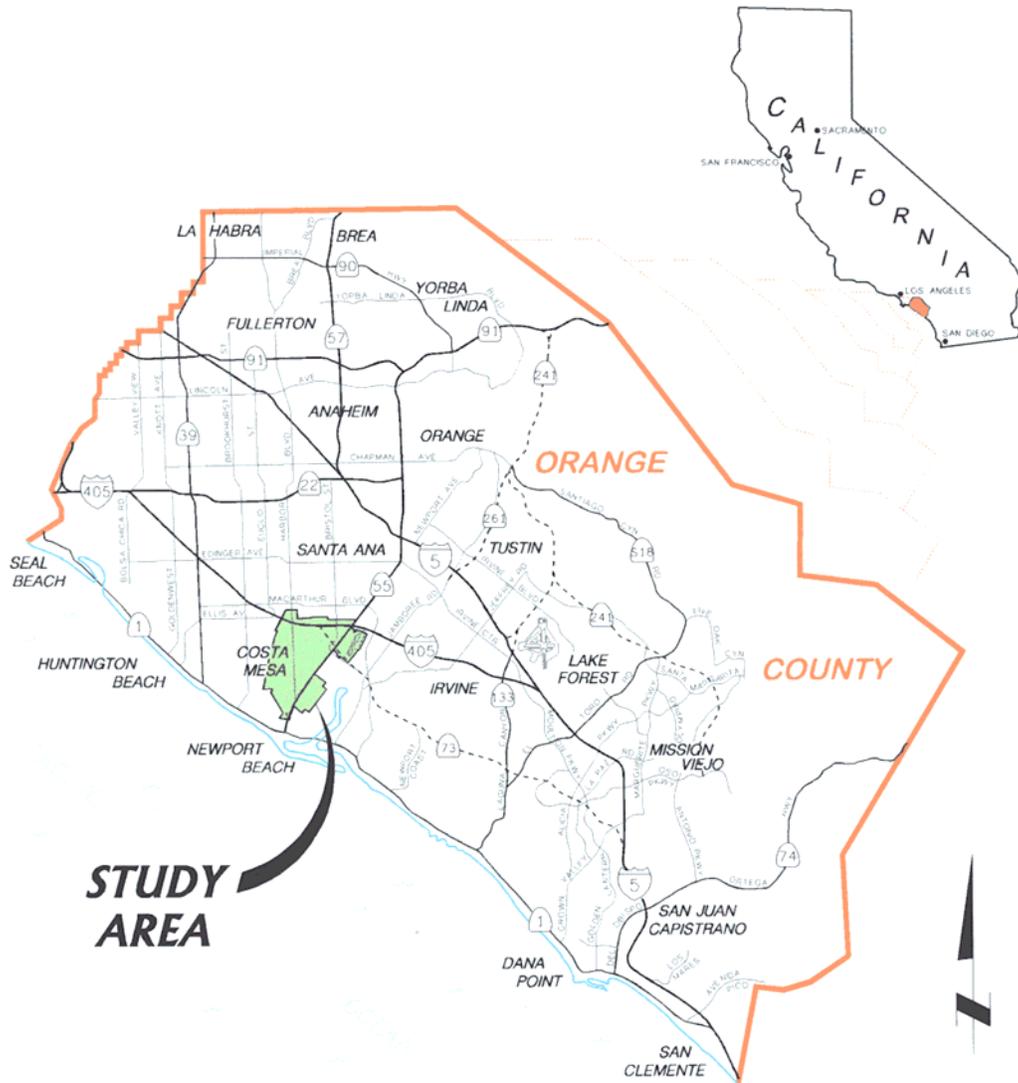
2.3

Mesa's service area is located along the coast of Southern California within the County of Orange. Mesa is between one-eighth of a mile to almost six miles inland of the Pacific Ocean. It is also approximately 37 miles southeast of Los Angeles, 88 miles north of San Diego and 475 miles south of San Francisco. Mesa provides water service to approximately 112,000 customers through approximately 23,000 metered service connections and 643 fire line services. The service area is an eighteen-square mile area that includes most of the city of Costa Mesa, portions of the city of Newport Beach and a small portion of unincorporated Orange County. Mesa shares borders with the County of Orange, the cities of Huntington Beach, Fountain Valley, Irvine, Santa Ana, and Newport Beach.

Mesa is located within the County of Orange, which has one of the most robust economies in California. Mesa's service area includes notable landmarks and major regional facilities such as: the John Wayne Orange County Airport, State of California's Fairview Development Center, Orange County Center for the Performing Arts, Orange County Fairgrounds, Orange Coast College, and South Coast Plaza shopping complex. See Figure 2-3 for a map of Mesa's service area.

Unlike most typical coastal areas, Mesa's elevation ranges from 30 to 110 feet above sea level near the ocean and declines in elevation as it heads inland. Mesa's geographic location places it over a portion of the Orange County groundwater basin, a large underground aquifer that lies beneath the northern service area of the District, and much of the rest of northern Orange County. The Orange County Water District (OCWD) has managed the groundwater basin since 1933.

Figure 2-3
Mesa Service Area



Re-Development and New Demand

2.4

Mesa's service area is considered a low growth area because it is largely, although not completely, built out. Much of the growth is driven by redevelopment as the local economy transforms and modernizes. One of the largest shopping malls in the United States by revenue, South Coast Plaza, is located in Mesa's service area.

While retail development is significant, it represents a small portion of the construction activity in Mesa's service area. Development is affected mainly by redevelopment of existing parcels for residential customers. Typically a single-family home site has been redeveloped into several town homes or condominiums. Mesa has a long-standing single meter policy, which requires each dwelling to be individually metered. The single meter policy results in an increase in the number of residential meters where there may not be a corresponding increase in water usage.

This development and redevelopment is expected to result in an increased demand for water service¹, both potable and non-potable (recycled). However, the overall impact of this development on future water demand amounts to less than the variation in demand due to climatic conditions.

Source: ¹Infill Demand Report 2001

Employment

2.5

There is a direct relationship between employment opportunities and the demand for dwelling units. On the local scale, these relationships become less direct, but no less important to the health of the region's economy. During the economic difficulties of the early 1990's Mesa lost most of its industrial sales as the economy shifted from manufacturing to commercial services. This change is permanent as it is highly unlikely industrial activity will return to Costa Mesa. The major industry in Mesa's service area is trade (retail/wholesale) followed by services and manufacturing.

Based on data provided by the Center for Demographic Research (2001), the number of people employed within Mesa's service area is expected to increase from about 94,357 in 2010, to about 105,245 in 2020.

Housing

2.6

Single-family household size is forecasted to decrease from 2.77 persons per dwelling to 2.67 by the year 2020. Multi-family household size is also forecasted to decrease from 2.66 persons per dwelling to 2.56 by 2020.

Based on data provided by the Center for Demographic Research, CSU Fullerton, housing in the Costa Mesa area is projected to increase from 41,262 to 44,486 dwelling units by 2020. The number of single family units is expected to increase from 19,393 to 20,908 (7.8%) and multi-family units are expected to increase from 21,869 units to 23,578 (7.8%) by 2020.

Another aspect of housing that may affect water demand is the ratio of single-family units to multi-family units. By 2020, single-family units are projected to represent 53% of the total housing units within Mesa's service area. In 1995, single-family units represented 54% of the total housing units. By 2020, multi-family units are projected to represent 47% of the total housing units within Mesa's service area. In 1995, multi-family units represented 46% of the total housing units.

Section 3: Water Sources

Current and Planned Water Supplies

3.1

Currently Mesa has two primary water sources, groundwater and imported water. No significant changes are projected with imported supply. Possible increases are expected with the groundwater supply. With the completion of the expansion of the colored water treatment facility (CWTF) groundwater supply will be significantly increased. For more detailed information see section 5. The following groundwater projections include the CWTF excluding the expansion.

Table 3-1 Current and Planned Water Supplies – AF/Year						
Water Supply Sources	2005	2010	2015	2020	2025	2030
Wholesale provider MWDOC	1,567	1,453	1,531	1,624	1,477	1,544
Supplier produced (with CWTF)	19,281	19,298	19,312	19,328	19,585	19,617
Recycled water (current and projected)	1,000	1,231	1,240	1,240	1,240	1,240
Total	21,848	21,982	22,083	22,193	22,303	22,401

Source: MWDOC 2005 UWMP

Water Sources - Groundwater

3.2

The Orange County Water District (OCWD) manages the Orange County groundwater basin. The groundwater basin is located in the northern half of Orange County and stretches 350 square miles from the Orange County line at Seal Beach and Long Beach, along the coast, down to the 55 freeway and east to the city of Yorba Linda.

Annually OCWD sets a *Basin Production Percentage* (BPP). This BPP may change annually due to reduced basin levels and revised basin management plans. Mesa has ten wells that are within OCWD's boundaries and are subject to the BPP.

In March 2004, OCWD updated its Groundwater Management Plan. This plan identifies many topics such as; seawater intrusion, recharge water quality, prevention of future groundwater contamination, and other management issues. As a groundwater producer, Mesa works closely with OCWD in managing the groundwater basin.

Source: OCWD 2004 Groundwater Management Plan

Overdraft

3.3

Overdraft of the Orange County Groundwater Basin (Basin) is defined based on the overdraft being zero when the Basin was full in 1969. If groundwater storage is less than the 1969 level, the difference in storage is defined as the accumulated overdraft. In general, lower groundwater levels correspond to a lower storage level and a greater accumulated overdraft.

Orange County Water District (OCWD) also has developed a comprehensive computer-based groundwater flow model (Model), which encompasses the entire Basin and extends five miles into the Central Basin in Los Angeles County. The development and calibration of OCWD's Model was regularly presented to and reviewed by a Model Advisory Panel. The Model has substantially improved OCWD's overall understanding of processes and conditions that determine how and why the Basin reacts to pumping and recharge. The Model's ability to simulate known and projected future conditions will evolve and improve as new data become available and updated simulations are completed.

OCWD manages the amount of production through financial incentives. The framework for financial incentives is based on establishing the Basin Production Percentage (BPP). The BPP is the ratio of groundwater production to total water demands, expressed as a percentage. Water agencies pumping below the BPP are charged a fee on a per acre-feet basis. This fee is called the Replenishment Assessment (RA). Groundwater production above the BPP is charged the RA and the Basin Equity Assessment (BEA), which is typically set so that the cost of groundwater production above the BPP is similar to the cost of purchasing imported water supplies.

Increasing accumulated overdraft of the Basin since the late-1990s has prompted increased evaluation of the Basin's yield and how the yield can be optimized through projects and programs. As a response to various factors, including a series of years with below average precipitation and the increased accumulated overdraft, in 2003, OCWD reduced the BPP to decrease pumping from the Basin. This was the first BPP reduction since 1993. The OCWD 2004 Groundwater Management Plan describes an updated management approach to manage the amount of water supply provided by the Basin. The management program has enabled the Basin to avoid an adjudication process of determining groundwater rights, which is beneficial since adjudications of other groundwater basins have been lengthy, costly, and divisive. A key component of the management program is to reach consensus with the Producers regarding Basin management issues. The consensus-based approach, coupled with management of Basin production through the BPP and increasing the recharge of water into the Basin, has enabled increased Basin production to meet growing water needs.

Source: OCWD 2004 Groundwater Management Plan

Groundwater Pumped and Projected

3.4

Table 3-2 Amount of Groundwater Pumped – AF/Year					
Basin Name	2000	2001	2002	2003	2004
Orange County Groundwater Basin	16,320	13,814	16,685	16,858	17,674
% of Total Water Supply	72.6%	66.0%	77.6%	79.2%	80.9%

Source: MWDOC 2005 UWMP

Table 3-3 Amount of Groundwater Projected to be Pumped – AF/Year					
Basin Name	2010	2015	2020	2025	2030
Orange County Groundwater Basin	20,750	20,840	20,950	21,060	21,170
% of Total Water Supply	94.4%	94.4%	94.4%	94.4%	94.5%

Source: MWDOC 2005 UWMP

Supply Reliability with Climatic Change

3.5

Table 3-4 Supply Reliability - AF Year					
2010	Normal	Single	Multiple Dry Water Years		
	Water Year (Average)	Dry Year (1961)	2008 (1959)	2009 (1960)	2010 (1961)
Local Supply	20,529	19,208	20,422	18,957	19,208
	% of Normal	93.6%	99.5%	92.3%	93.6%
Imported Supply	1,453	3,993	2,979	3,812	3,993
	% of Normal	274.8%	205.0%	262.3%	274.8%
2015	Normal	Single	Multiple Dry Water Years		
	Water Year (Average)	Dry Year (1961)	2013 (1959)	2014 (1960)	2015 (1961)
Local Supply	20,552	18,300	19,583	17,627	18,300
	% of Normal	89.0%	95.3%	85.8%	89.0%
Imported Supply	1,531	5,008	3,935	5,250	5,008
	% of Normal	327.2%	257.1%	343.0%	327.2%
2020	Normal	Single	Multiple Dry Water Years		
	Water Year (Average)	Dry Year (1961)	2018 (1959)	2019 (1960)	2020 (1961)
Local Supply	20,568	17,030	19,553	17,144	17,030
	% of Normal	82.8%	95.1%	83.3%	82.8%
Imported Supply	1,624	6,394	4,079	5,847	6,394
	% of Normal	393.6%	251.1%	360.0%	393.6%
2025	Normal	Single	Multiple Dry Water Years		
	Water Year (Average)	Dry Year (1961)	2023 (1959)	2024 (1960)	2025 (1961)
Local Supply	20,825	17,735	19,652	17,863	17,735
	% of Normal	85.2%	94.4%	85.8%	85.2%
Imported Supply	1,477	5,805	4,097	5,242	5,805
	% of Normal	392.9%	277.3%	354.8%	392.9%
2030	Normal	Single	Multiple Dry Water Years		
	Water Year (Average)	Dry Year (1961)	2028 (1959)	2029 (1960)	2030 (1961)
Local Supply	20,857	17,438	20,126	17,817	17,438
	% of Normal	83.6%	96.5%	85.4%	83.6%
Imported Supply	1,544	6,205	3,741	5,401	6,205
	% of Normal	401.9%	242.3%	349.8%	401.9%

Source: MWDOC 2005 UWMP

Table 3-5 Basis of Water Year Data			
Water Year Type			
Average Water Year	Average of Historical Hydrology from 1922 to 2004		
Single-Dry Water Year	1961		
Multiple-Dry Water Years	1959	1960	1961

Source: MWDOC 2005 UWMP

Table 3-6 Factors resulting in inconsistency of supply				
Name of supply	Legal	Environ- mental	Water Quality	Climatic
Metropolitan Water District of Southern California				x
Lower Santa Ana Basin				x
Surface Diversions				x

Source: MWDOC 2005 UWMP

Transfer and Exchange Opportunities

3.6

Currently Mesa has no formal transfer or exchange plan. Opportunities are being explored that may develop into potential transfers or exchanges. These would include the selling of excess pumped water from the expansion of the Colored Water Treatment Facility, to purchasing groundwater-pumping capacity from neighboring cities.

Source: Water System Master Plan, Summary Report May 2002

Water Use by Customer-type

3.7

Table 3-7 Past, Current, and Projected Water Deliveries							
Year	2000	2005	2010	2015	2020	2025	2030
AF/Year/Sector							
Single Family	7287	7014	7056	7089	7124	7159	7191
Multi-Family	6924	6664	6705	6735	6769	6802	6832
Commercial	5312	5113	5144	5167	5193	5219	5242
Industrial	568	546	550	552	555	558	560
Public Agency	2611	2513	2528	2540	2552	2565	2576
Total	22,702	21,850	21,983	22,083	22,193	22,303	22,401

Number of Accounts	2000	2005	2010	2015	2020	2025	2030
Single Family	15964	16143	16324	16507	16692	16878	17067
Multi-Family	3338	3416	3496	3577	3661	3747	3834
Commercial	2643	2730	2820	2913	3009	3108	3210
Industrial	268	268	268	268	268	268	268
Public Agency	284	301	319	338	358	380	403
Total	22,497	22,858	23,226	23,603	23,987	24,380	24,782

Source: MWDOC 2005 UWMP

Sales to Other Agencies

3.8

Currently Mesa does not sell water to other agencies. Increased production could be possible at the Colored Water Treatment Facility (CWTF). This could be accomplished by drilling an additional well at the CWTF. The additional water produced by the CWTF expansion could then be sold to surrounding water providers. Table 3-8 illustrates the projected sales if such expansion were completed.

Table 3-8 Sales to Other Agencies (AF)							
Water Source	2000	2005	2010	2015	2020	2025	2030
Colored Water Treatment Facility (expansion)	0	0	5,650	5,650	5,650	5,650	5,650

Additional Water Uses and Losses

3.9

Table 3-9 Additional Water Uses and Losses – AF Year							
Year	2000	2005	2010	2015	2020	2025	2030
Unaccounted-for system losses	908	874	879	883	888	892	896

Table 3-10 Total Water Use - AF Year							
Water Use	2000	2005	2010	2015	2020	2025	2030
Total of Tables 3-7,3-9	23,610	22,724	22,862	22,966	23,081	23,195	23,297

Source: MWDOC 2005 UWMP

Section 4: Demand Management Measures

Demand Management Measures

4.1

Since the 1970's Mesa has promoted the wise use of water through policies adopted by the Board of Directors and activities undertaken by staff. Mesa recognizes water conservation as an integral component of its current and future water management strategies.

As demand rises and reliable water supplies continue to decrease, the implementation of conservation programs play a key role in water supply forecasting. Similar to local water development, any water conserved frees up equal amounts of water for other uses after groundwater, recycled water, and imported water. Water use efficiency is now being recognized as an inexpensive water resource for Southern California.

Mesa has demonstrated its commitment to conservation by voluntarily signing a Memorandum of Understanding (MOU). Contained within the MOU, are 14 measures developed and adopted by the water industry. These measures, known as the Best Management Practices (BMPs), outline customer outreach and conservation programs and water system upgrading to promote water use efficiency. Mesa is one of the few water agencies in the County of Orange and State of California to implement all retail specific BMP's.

In accordance with the MOU, the California Urban Water Conservation Council (Council) was formed to monitor the progress of implementation of the BMPs. Signatories to the MOU are required to submit standardized annual reports to the Council. The Council is then required to compile the information and submit an annual, statewide BMPs progress report to the State Water Resources Control Board. Mesa complies with the implementation of all retail specific BMP goals by completing a detailed annual report to the Council. Copies of Mesa's 2003 and 2004 annual reports are included as Appendix C.

As a regional wholesaler of imported water, Municipal Water District of Orange County (MWDOC) Water Use Efficiency Program's are implemented on a regional level for its member agencies. The 2005 MWDOC Regional Urban Water Management Plan identifies from a service area perspective, the extent of efforts and benefits of present water conservation programs, as well as proposed programs and an implementation schedule.

Non-implemented Demand Management Measures

4.2

Mesa is currently active with all retail specific Best Management Practices and has no non-implemented demand management measures.

Section 5: Future Supply Projects

Planned Water Supply Projects and Programs

5.1

In addition to imported and clear-groundwater supplies Mesa has built a Colored Water Treatment Facility (CWTF). The CWTF pumps water from a deep colored water aquifer. The color is removed with ozone treatment and biological filtration.

The CWTF was designed in two phases. The facility is operational and providing treated water into Mesa's distribution system. Design and construction of the CWTF expansion is expected to begin in February 2008 with an anticipated completion in August 2009. After completion, the CWTF expansion will provide additional water to neighboring retail agencies. The additional water will help reduce the reliance of imported water for the neighboring retail agencies while tapping into an abundant resource.

Table 5-1 shows the CWTF expansion projected supply. Note, due to the number of unresolved variables at time of print, the projections in table 5-1 are not included in section 3 (Water Sources), section 10 (Water Service Reliability), and related tables.

Table 5-1 Future Water Supply Projects AF/Year					
Project Name	Normal Year	Single Dry*	Multiple Dry Water Years*		
		1961	Year 1 (1959)	Year 2 (1960)	Year 3 (1961)
Colored Water Treatment Facility (Expansion)	5,650	5,650	5,650	5,650	5,650

*The CWTF expansion is above the Orange County Water District Basin Production Percentage contract. Production will not be limited by climatic change.

Opportunities for desalinated water

5.2

Due to Mesa's location treating seawater would not be economically feasible. Although, if a local coastal city or water agency developed a treatment facility Mesa may take advantage of such a facility and receive desalinated water.

Source: Water System Master Plan, Summary Report May 2002

Section 6: Projected Wholesale Supply

Projected Wholesale Demand and Supply

6.1

The following tables show projected demand and reliability. All projections were calculated by MWDOC for Mesa. The only factor causing a potential inconsistency of supply is climatic.

Table 6-1					
Agency demand projections provided to wholesale supplier - AFY					
Wholesaler	2010	2015	2020	2025	2030
MWDOC	1,453	1,531	1,624	1,477	1,544

Source: MWDOC 2005 UWMP

Table 6-2					
Wholesaler identified & quantified the existing and planned sources of water - AFY					
Wholesaler sources	2010	2015	2020	2025	2030
MWDOC	1,453	1,531	1,624	1,477	1,544

Source: MWDOC 2005 UWMP

Projected Wholesale Reliability

6.2

Table 6-3					
Wholesale Supply Reliability - % of normal – AFY					
Wholesaler sources		Single Dry		Multiple Dry Water Years	
		1961	Year 1 (1959)	Year 2 (1960)	Year 3 (1961)
MWDOC	2010	275%	205%	262%	275%
MWDOC	2015	327%	257%	343%	327%
MWDOC	2020	394%	251%	360%	394%
MWDOC	2025	393%	277%	355%	393%
MWDOC	2030	402%	242%	350%	402%

Source: MWDOC 2005 UWMP

Table 6-4				
Factors resulting in inconsistency of wholesaler's supply				
Name of supply	Legal	Environ-mental	Water Quality	Climatic
MWDOC				x

Source: MWDOC 2005 UWMP

Section 7: Water Contingency Plan

Implementation Phases and Triggering Mechanisms

7.1

As drought conditions become more critical, Mesa's Board of Directors shall determine the extent of the emergency situation, and the corresponding conservation required through the implementation and/or termination of particular phases of the conservation plan, after evaluation of Mesa's supply and demand conditions. In the event of an extreme emergency situation, requiring immediate action, Mesa's General Manager may determine the extent of the conservation required and implement the appropriate phase necessary to achieve the required level of conservation.

Applicable to all water users in Mesa's service area, implementation of Phase I of the Emergency Water Conservation Plan discourages specific water uses. Procedures for relief from compliance will be recommended by Mesa's General Manager, and reviewed and adopted by Mesa's Board of Directors. Findings that may warrant the implementation of an emergency water conservation phase and more detailed information on the triggering mechanisms can be found in Appendix D.

Water Supply Shortage Stages and Conditions

7.2

Table 7-1 Water Supply Shortage Stages and Reduction Goals RATIONING STAGES			
Shortage Condition	Stage	Customer Reduction Goal	Type of Rationing Program
Up to 10%	I	15%	Voluntary
>10 to 50%	II, III, IV, V	16% or >	Implementation of additional phases is based on supply and demand conditions. The appropriate phase would be implemented by Board action based on the required level of conservation.

Three-Year Estimated Minimum Water Supply – AF/Year

7.3

Table 7-2 Three-Year Estimated Minimum Water Supply (Based on Multiple Years) – AF Year						
Source	Normal			Multiple Dry Year		
	2006	2007	2008	2006	2007	2009
Local Supplies	19,231	19,688	20,746	18,959	18,071	20,252
Imported Supply	2,660	2,224	1,185	4,399	4,651	2,896
Total	21,892	21,912	21,932	23,358	22,722	23,148

Source: MWD OC 2005 UWMP

Catastrophic Supply Interruption Plan

7.4

In 1991, in accordance with the requirements of Assembly Bill 11X, Mesa developed a comprehensive water shortage contingency plan as an amendment to the 1990 Urban Water Management Plan. The plan was adopted on January 23, 1992, and submitted to the Department of Water Resources (DWR) on January 31, 1992. The plan included all of the information necessary to meet the requirements of subdivision (e) of California Water Code Section 10631.

Public meetings and the availability of copies of the draft Water Shortage Contingency Plan were properly noticed in the local newspaper and were available for public review. Mesa held a public meeting on the Water Shortage Contingency Plan. This section of Mesa's 2000 Urban Water Management Plan is an update to the 1992 Water Contingency Plan.

In response to a worsening supply situation, in March of 1991 Mesa's Board of Directors enacted its Emergency Conservation Plan and the enabling ordinance, Ordinance 8. At the time of enactment of the Emergency Conservation Plan, it was determined that implementation of Phase I: WATER WATCH – Voluntary Compliance, coupled with an aggressive public information plan would achieve Mesa's goal of a 10% reduction in water use. The success of Mesa's integrated approach of an Emergency Conservation Plan combined with a public information plan helped customers exceed a conservation goal of 10% reduction for a total of a 15% reduction in water use. This was accomplished voluntarily and no water rate surcharges were imposed or charged. Phase I was rescinded in March 1992.

In addition to droughts, earthquakes, hazardous material spills or leaks, severe storms or floods, and widespread power outages can cause water supply shortages. Appendix D discusses in more detail what constitutes a water shortage.

Public Notification

7.5

Mesa keeps abreast of water supply situations and has always taken a proactive approach in responding to water shortages. It is Mesa's policy to inform customers of current and projected water supply situations long before Mesa, or Mesa's suppliers declare water shortages.

All of Mesa's customers will immediately be notified, through a variety of media, of the implementation of any phase of Mesa's Ordinance 8 (Emergency Water Conservation Plan). All customers using water, regardless of whether service is by contract or otherwise, will be required to comply.

Prohibitions

7.6

Although Mesa's water reduction programs are voluntary, customers who are reported as "wasting water" will be required to comply with enforcement's specified in Ordinance 8 (Emergency Water Conservation Plan). Enforcements are based on each phase of the Emergency Water Conservation Plan and may include notification of the violation in writing from the District, additional billings at water conservation rates, installation of conservation devices at the customer's home, and additional fees.

Each phase of Ordinance 8 (Emergency Water Conservation Plan) specifies discouraged and prohibited water uses, limits on total water usage, and surcharges applicable to all water users. Limits and surcharges will be based on a "water use average," for a specific meter size and account classification, determined by averaging the five-year water-use period prior to implementation of the mandatory water conservation phase. This gives Mesa a more accurate view of the customer's normal water usage. Detailed information on Mesa's prohibitions and enforcement of the Emergency Water Conservation Plan can be found in Appendix D.

Consumption Reduction Methods

7.7

Each stage of Ordinance 8 includes appropriate consumption reduction methods. These methods range from restrictions on car washing to irrigation limitations. For a detailed explanation of the consumption reduction methods see Appendix D.

Penalties and Charges

7.8

The General Manager recommends conservation rates, fees, and surcharges. The rates, fees, and surcharges are reviewed by, and adopted by, subsequent action of the Board of Directors.

Limits on water use for meter sizes 5/8" to 2" are based on a 5-year water use average for each account classification. Limits on water use for meters 3" or larger are based on the individual account's average of water usage for the previous two years.

Usage above the established limits will result in a surcharge on the excess usage. The surcharge rate is 200% of Mesa's regular potable usage rate. Details on penalties can be found in Appendix D, Ordinance 8 Mesa's Emergency Conservation Program.

Revenue and Expenditure Impacts of Reduced Sales During Shortages

7.9

Each year, Mesa budgets for projected fluctuations in water sales, which may affect revenues. Assessment of potential revenue losses at each stage of the Emergency Water Conservation Plan will be determined prior to stage implementation. This assessment will be continuously updated to meet adjustments in limited-use and current rates.

In 1991-92, customers were asked to voluntarily reduce water use by 10% and responded by reducing water consumption by approximately 15%. Mesa experienced a corresponding loss of revenue because only a 10% reduction in revenue was budgeted. This loss of revenue was managed through reduction of non-critical expenditures to recover lost revenue.

Mesa maintains a revenue replacement designated fund to be used in the event that Mesa's usage charge revenue in a fiscal year falls below the level required to meet operating expenses other than water supply expenses. A severe cutback in water demand occurring for an extended period of time would result in a substantial loss of Mesa's revenue. To balance the budget in the event of a loss of revenue, Mesa may re-examine its expenditures and rate structure, as well as evaluate the possibility of drawing from available funds.

Water Use Monitoring Mechanism

7.10

Mesa's water system is monitored by a modern computer-based Supervisory Control and Data Acquisition (SCADA) system. This system allows Mesa's staff to monitor the status and control all elements of Mesa's system from one central and various remote locations. The SCADA system continuously records data and printed reports of system conditions can be generated on demand.

All customer-billing records are maintained on a SQL database system using Cogsdale Customer Information Software. Mesa's customer information and billing software has the capability to generate usage reports in formats necessary to monitor customer usage.

Ordinance 8, Emergency Water Conservation Plan

7.11

As previously mentioned, in March 1991, Mesa developed an Emergency Water Conservation Plan to be implemented during times of declared water shortages. Mesa's Board of Directors unanimously approved the Emergency Water Conservation Plan and the enabling ordinance. The conservation plan provides for the implementation of five progressively more restrictive phases of emergency measures, and includes voluntary and mandatory prohibitions, depending on the causes, severity, and anticipated duration of the water supply shortage. A copy of this ordinance can be found in Appendix D.

The provisions of Mesa's Emergency Water Conservation Plan conform to the requirements set forth in the California Water Code, Water Shortage Emergency. Those requirements, and a priority for Mesa during times of water shortages, is to conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection.

Section 8: Water Recycling

Regional Wastewater Collection and Treatment **8.1**

Wastewater for the City of Costa Mesa (City) is collected by the Costa Mesa Sanitary District (CMSD) and the Orange County Sanitation District (OCSD). The wastewater collected is processed at OCSD's treatment plants located in Fountain Valley and Huntington Beach.

OCSD's 2000 Master Plan provides more detail about wastewater collection, treatment and disposal activities through the year 2020. Additional information can also be found in MWDOC's Regional Urban Water Management Plan.

Wastewater Quantity, Quality, and Current Uses **8.2**

Wastewater Collected and Treated – AF/Year **8.2.1**

In 1992, Mesa began supplying recycled water to selected irrigation and industrial customers. The Orange County Water District's (OWCD) Green Acres Project delivers recycled water to major irrigation users within Mesa's service area, which reduces Mesa's potable water demand, especially during the peak summer use periods. The Green Acres Project accepts secondary-treated effluent from the Orange County Sanitation District, treats it to a level approved by the State Department of Health Services (DHS) then pumps it to Mesa's service area, for resale to its customers. In whole, the Green Acres Project provides 8,000 AF annually.

Currently, Mesa has 24 recycled water service connections. Some of Mesa's recycled water customers include the City of Costa Mesa, the County of Orange, CalTrans, Costa Mesa Country Club, a local community college, and several shopping and business centers.

Disposal of Wastewater (non-recycled) **8.2.2**

All wastewater is treated and disposed of by OCSD. Mesa does not treat wastewater.

Recycled Water Uses – Actual and Potential

8.2.3

Table 8-1 Recycled Water Uses – Actual and Potential AF - Year						
User Type	2005	2010	2015	2020	2025	2030
Landscape	1,000	1,231	1,240	1,240	1,240	1,240
Total	1,000	1,231	1,240	1,240	1,240	1,240

Potential and Projected Use, Optimization Plan with Incentives

8.2.4

In preparation for the delivery of recycled water, Mesa used a map of the service area and billing records to identify potential recycled users. The market study, and a subsequent field survey, resulted in over 100 potential meter sites with an average annual irrigation usage of more than 2,000 ac-ft. Mesa and Orange County Water District officials then prioritized the list of potential customers based on proximity and distribution lines, ease of connection, and expected annual demand.

Potential additional customers within Mesa’s service area have been identified for recycled water use, when the Green Acres Project is expanded or should another source of recycled water become available. These potential customers have been separated into two groups, those that will be relatively easy to retrofit and connect to the Green Acres Project distribution system, and those that would be more difficult.

Table 8-2 Potential Recycled Water Customers	
<i>Site</i>	<i>Approx. Acres</i>
<i>Relatively Easy Connections</i>	
<i>Mesa Verde Country Club</i>	<i>140</i>
<i>Tewinkle School/ California School</i>	<i>70</i>
<i>Shiffer Park 3143 Bear Street</i>	<i>15</i>
<i>Costa Mesa High School & Davis School</i>	<i>100</i>
<i>Goat Hill 2480 Placentia Avenue</i>	<i>50</i>
<i>Sakioka Farms</i>	<i>100</i>
<i>3360 Harbor Blvd. (Small Farm)</i>	<i>20</i>
<i>Estancia High School</i>	<i>35</i>
	<i>530</i>
<i>Site</i>	<i>Approx. Acres</i>
<i>Difficult Connections</i>	
<i>Orange County Fairgrounds</i>	<i>140</i>
<i>Fairview Developmental Center</i>	<i>100</i>
<i>Vanguard University</i>	<i>70</i>
	<i>310</i>

Source: Mesa's 2000 Master Plan

Technical and Economic Feasibility

8.3

In response to droughts and projected water shortages, water officials are continually evaluating advanced recycled water treatment technologies as a means for increasing local supplies. At a regional level, recent studies of water recycling opportunities within Southern California promote the development of water recycling plans. The establishment of new supplemental funding sources through federal, state, and regional programs now provides significant financial incentives for local agencies to develop and make use of recycled water. Additional information on recycled water studies and funding sources can be found in MWDOC's 2005 Regional Urban Water Management Plan.

Methods to Encourage Recycled Water Use

8.4

Mesa and Orange County Water District (OCWD) recognize that the public acceptance of recycled water requires education, public involvement, and prior planning. Mesa's preparations for gaining public acceptance of recycled water includes the following:

- Maintaining strong working relationships with OCWD, the City of Costa Mesa and Department of Health Services.
- Incorporating information regarding the safety, reliability, and benefits of recycled water into Mesa's public information programs.
- Preparing and distributing printed materials regarding recycled water such as brochures and articles in Mesa's bimonthly newsletter.
- Discussing recycled water at various speaking engagements.
- Meetings with potential recycled water customers to discuss the benefits of recycled water.
- Groundbreaking ceremonies and press coverage for various events associated with bringing recycled water to Mesa.
- Providing on-site user training and assistance to recycled customers.

The projected usage from these methods is listed in table 8-3 titled "Projected Future Use of Recycled Water in Service Area."

Table 8-3					
Projected Future Use of Recycled Water in Service Area - AF Year					
	2010	2015	2020	2025	2030
Projected use of Recycled Water	1,231	1,240	1,240	1,240	1,240

Table 8-4		
Recycled Water Uses – 2000 Projections compared with 2005 actual		
AF Year		
User Type	2000 Projection for 2005	2005 Actual
Landscape	1,000	1,030

Section 9: Water Quality Impacts

Water Quality Impacts on Reliability

9.1

California Title 22 Drinking Water Standards (Title 22) incorporates the federal requirements of the Safe Drinking Water Act; all water service providers are required to comply with Title 22. Therefore, Mesa, Metropolitan Water District of Southern California, and Orange County Water District monitor all regulated chemicals as well as a number of unregulated chemicals. In order to be compliant with Title 22, Mesa must ensure that the regulated chemicals in the water supply meet established primary drinking water standards. In addition, secondary drinking water standards have been set for some minerals based on non-health-related aesthetics, such as taste and odor. Both primary and secondary standards are expressed as the maximum contaminated levels (MCL) allowable for a given constituent. Unregulated chemicals do not have established drinking water standards, but are chemicals of concern for which standards may be eventually adopted. These unregulated chemicals often have a “notification level,” which is a health-based advisory level established by the U.S. Department of Health Services for chemicals in drinking water that lack MCL’s.

As illustrated in Table 9-1, Mesa has accounted for known and foreseeable water quality impacts in its management strategy. Mesa does not anticipate water quality impacts that would either reduce the water supply available or that cannot be handled through existing management strategies.

Table 9-1 Current and Projected Water Supply Change Due to Water Quality (as percentage)					
Water Source	2010	2015	2020	2025	2030
Metropolitan Water District (imported)	0	0	0	0	0
Mesa Groundwater (local supply)	0	0	0	0	0

Source: MWDOC 2005 UWMP

Section 10: Water Service Reliability

Projected Normal Water Year Supply and Demand

10.1

The following projections are based on “normal” supply and demand conditions. Both projections are shown as a percent of Mesa’s 2005 supply and demand.

Table 10-1					
Projected Normal Water Supply – AF Year					
	2010	2015	2020	2025	2030
Supply	21,982	22,083	22,193	22,303	22,401
% of Year 2005	101%	101%	102%	102%	103%

Table 10-2					
Projected Normal Water Demand – AF Year					
	2010	2015	2020	2025	2030
Demand	21,982	22,083	22,193	22,303	22,401
% of Year 2005	101%	101%	102%	102%	103%

Table 10-3					
Projected Supply and Demand Comparison – AF Year					
	2010	2015	2020	2025	2030
Supply totals	21,982	22,083	22,193	22,303	22,401
Demand totals	21,982	22,083	22,193	22,303	22,401
Difference	0	0	0	0	0
Difference as % of Supply	0%	0%	0%	0%	0%
Difference as % of Demand	0%	0%	0%	0%	0%

Projected Single-Dry-Year Supply and Demand Comparison

10.2

These projections show supply and demand in a single-dry-year scenario. The year 1961 is used as the base single-dry-year. See table 3-5 for detailed water year data.

Table 10-4					
Projected Single-Dry-Year Water Supply – AF Year					
	2010	2015	2020	2025	2030
Local Supply	19,208	18,300	17,030	17,735	17,438
Imported Supply	3,993	5,008	6,394	5,805	6,205
Supply Totals	23,201	23,308	23,424	23,540	23,643
% of Projected Normal	105.5%	105.5%	105.5%	105.5%	105.5%

Table 10-5					
Projected Single-Dry-Year Water Demand – AF Year					
	2010	2015	2020	2025	2030
Demand	23,201	23,308	23,424	23,540	23,643
% of Projected Normal	105.5%	105.5%	105.5%	105.5%	105.5%

Table 10-6					
Projected single-dry-year Supply and Demand Comparison – AF Year					
	2010	2015	2020	2025	2030
Supply totals	23,201	23,308	23,424	23,540	23,643
Demand totals	23,201	23,308	23,424	23,540	23,643
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

Projected Multiple-Dry-Year Supply and Demand Comparison - 2010

10.3

Beginning with this section, each five-year increment through 2030 is projected for a multiple-dry-year scenario. The multiple-dry-year base is 1959-1961. See table 3-5 for detailed multiple-dry-year data.

Table 10-7			
Projected supply during multiple dry year period ending in 2010 – AF Year			
Supply	2008	2009	2010
Normal			
Local Supply	20,746	20,691	20,529
Imported Supply	1,185	1,266	1,453
Supply Totals	21,931	21,957	21,982
Multiple Dry Year			
Local Supply	20,422	18,957	19,208
Imported Supply	2,979	3,812	3,993
Supply Totals	23,401	22,769	23,201
% of Projected Normal	106.7%	103.7%	105.5%

Table 10-8			
Projected demand during multiple dry year period ending in 2010–AF Year			
Demand	2008	2009	2010
Normal	21,931	21,957	21,982
Multiple Dry Year	23,401	22,769	23,201
% of Projected Normal	106.7%	103.7%	105.5%

Table 10-9			
Projected Supply and Demand Comparison during multiple dry year period ending in 2010 – AF Year			
	2008	2009	2010
Supply totals	23,401	22,769	23,201
Demand totals	23,401	22,769	23,201
Difference	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%

Projected Multiple-Dry-Year Supply and Demand Comparison - 2015

10.4

Table 10-10			
Projected supply during multiple dry year period ending in 2015 – AF Year			
Supply	2013	2014	2015
Normal			
Local Supply	20,633	20,579	20,552
Imported Supply	1,409	1,483	1,531
Supply Totals	22,042	22,062	22,083
Multiple Dry Year			
Local Supply	19,583	17,627	18,300
Imported Supply	3,935	5,250	5,008
Supply Totals	23,518	22,877	23,308
% of Projected Normal	106.7%	103.7%	105.5%

Table 10-11			
Projected demand during multiple dry year period ending in 2015–AF Year			
Demand	2013	2014	2015
Normal	22,042	22,062	22,083
Multiple Dry Year	23,518	22,877	23,308
% of Projected Normal	106.7%	103.7%	105.5%

Table 10-12			
Projected Supply and Demand Comparison during multiple dry year period ending in 2015 – AF Year			
	2013	2014	2015
Supply totals	23,518	22,877	23,308
Demand totals	23,518	22,877	23,308
Difference	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%

Projected Multiple-Dry-Year Supply and Demand Comparison - 2020

10.5

Table 10-13			
Projected supply during multiple dry year period ending in 2020 – AF Year			
Supply	2018	2019	2020
Normal			
Local Supply	20,543	20,547	20,568
Imported Supply	1,605	1,623	1,624
Supply Totals	22,148	22,170	22,192
Multiple Dry Year			
Local Supply	19,553	17,144	17,030
Imported Supply	4,079	5,847	6,394
Supply Totals	23,632	22,991	23,424
% of Projected Normal	106.7%	103.7%	105.5%

Table 10-14			
Projected demand during multiple dry year period ending in 2020–AF Year			
Demand	2018	2019	2020
Normal	22,148	22,170	22,192
Multiple Dry Year	23,632	22,991	23,424
% of Projected Normal	106.7%	103.7%	105.5%

Table 10-15			
Projected Supply and Demand Comparison during multiple dry year period ending in 2020 – AF Year			
	2018	2019	2020
Supply totals	23,632	22,991	23,424
Demand totals	23,632	22,991	23,424
Difference	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%

Projected Multiple-Dry-Year Supply and Demand Comparison - 2025

10.6

Table 10-16			
Projected supply during multiple dry year period ending in 2025 – AF Year			
Supply	2023	2024	2025
Normal			
Local Supply	20,684	20,745	20,825
Imported Supply	1,574	1,535	1,477
Supply Totals	22,258	22,280	22,302
Multiple Dry Year			
Local Supply	19,652	17,863	17,735
Imported Supply	4,097	5,242	5,805
Supply Totals	23,749	23,105	23,540
% of Projected Normal	106.7%	103.7%	105.5%

Table 10-17			
Projected demand during multiple dry year period ending in 2025–AF Year			
Demand	2023	2024	2025
Normal	22,258	22,280	22,302
Multiple Dry Year	23,749	23,105	23,540
% of Projected Normal	106.7%	103.7%	105.5%

Table 10-18			
Projected Supply and Demand Comparison during multiple dry year period ending in 2025 – AF Year			
	2023	2024	2025
Supply totals	23,749	23,105	23,540
Demand totals	23,749	23,105	23,540
Difference	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%

Projected Multiple-Dry-Year Supply and Demand Comparison - 2030

10.7

Table 10-19			
Projected supply during multiple dry year period ending in 2030 – AF Year			
Supply	2028	2029	2030
Normal			
Local Supply	20,831	20,808	20,857
Imported Supply	1,537	1,582	1,544
Supply Totals	22,368	22,390	22,401
Multiple Dry Year			
Local Supply	20,126	17,817	17,438
Imported Supply	3,741	5,401	6,205
Supply Totals	23,867	23,218	23,643
% of Projected Normal	106.7%	103.7%	105.5%

Table 10-20			
Projected demand during multiple dry year period ending in 2030–AF Year			
Demand	2028	2029	2030
Normal	22,368	22,390	22,401
Multiple Dry Year	23,867	23,218	23,643
% of Projected Normal	106.7%	103.7%	105.5%

Table 10-21			
Projected Supply and Demand Comparison during multiple dry year period ending in 2030 – AF Year			
	2028	2029	2030
Supply totals	23,867	23,218	23,643
Demand totals	23,867	23,218	23,643
Difference	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%

APPENDIX A

References

References

MWDOC, MWD, A&N Technical Services, Inc., and M-Cubed The Writing Company. Together these Agencies/Consultants worked together to provide regional technical data.

Population projections and demographics variables were obtained from the Center for Demographic Research, CSU Fullerton

Climate data obtained by California Irrigation Management Information System (CIMIS)

Infill Demand Report 2001, Mesa Consolidated Water District

Orange County Water District 2004 Groundwater Management Plan

Water System Master Plan, Summary Report May 2002, Mesa Consolidated Water District

2000 Master Plan, Mesa Consolidated Water District

APPENDIX B

Signed Resolution of Plan Adoption

RESOLUTION NO. 1324

**RESOLUTION OF THE
MESA CONSOLIDATED WATER DISTRICT BOARD OF DIRECTORS
ADOPTING OF THE 2005 URBAN WATER MANAGEMENT PLAN**

WHEREAS, the Mesa Consolidated Water District (Mesa) is a County Water District organized pursuant to Water Code Section 33200 and following, and operating pursuant to Water Code Section 30000 and following; and

WHEREAS, the California Legislature enacted Assembly Bill 797 (Water Code Section 10610 et seq., known as the Urban Water Management Planning Act) during the 1983-1984 Regular Session, and as amended subsequently, which mandates that every supplier providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre feet of water annually, prepare an Urban Water Management Plan (Plan), the primary objective of which is to plan for the conservation and efficient use of water; and

WHEREAS, Mesa is an urban water supplier providing water to a population over 100,000; and

WHEREAS, the Plan shall be periodically reviewed at least once every five years and Mesa shall make amendments or changes to its Plan which are indicated by the review; and

WHEREAS, the Plan must be adopted by December 31, 2005, after public review and hearing, and filed with the California Department of Water Resources within thirty days of adoption; and

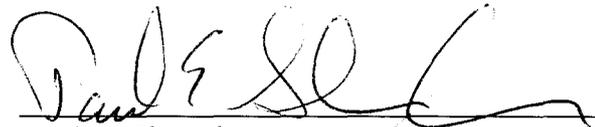
WHEREAS, Mesa prepared for public review a draft Urban Water Management Plan and held a properly noticed public hearing on November 22, 2005 regarding said Plan; and

WHEREAS, Mesa prepared and shall file said Plan with the California Department of Water Resources by December 31, 2005; and

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE MESA CONSOLIDATED WATER DISTRICT DOES HEREBY RESOLVES, DETERMINES, AND ORDERS AS FOLLOWS:

ADOPTED, SIGNED, and APPROVED this 22nd day of November 2005 by a roll call vote.

AYES:	DIRECTORS:	Ohlig-Hall, Dewane, Bockmiller, Shoenberger
NOES:	DIRECTORS:	
ABSENT:	DIRECTORS:	Atkinson
ABSTAIN:	DIRECTORS:	



Paul E. Shoenberger
President, Board of Directors



Coleen L. Monteleone
District Secretary

APPENDIX C

Annual Reports to the California Urban Water Conservation Council

DEFINITIONS

Best Management Practices. A Best Management Practice (BMP) means a policy, program, practice, rule, regulations, or ordinance or the use of devices, equipment or facilities which meets wither of the following criteria:

An established and generally accepted practice among water suppliers the results in more efficient use or conservation of water.

A practice for which sufficient data are available from existing water conservation projects to indicate that significant conservation or conservation related benefits can be achieved; that the practice is technically and economically reasonable and not environmentally or socially unacceptable; and that the practice is not otherwise unreasonable for most water suppliers to carry out.

Mesa Reports annually on the following BMP's:

- BMP 1 Water Survey Programs for Single-Family and Multi-Family Residential Customers
 - BMP 2 Residential Plumbing Retrofit
 - BMP 3 System Water Audits, Leak Detection and Repair
 - BMP 4 Metering with Commodity Rates for all New Connections and Retrofit of Existing
 - BMP 5 Large Landscape Conservation Programs and Incentives
 - BMP 6 High-Efficiency Washing Machine Rebate Programs
 - BMP 7 Public Information Programs
 - BMP 8 School Education Programs
 - BMP 9 Conservation Programs for CII Accounts
 - BMP 11 Conservation Pricing
 - BMP 12 Conservation Coordinator
 - BMP 13 Water Waste Prohibition
 - BMP 14 Residential ULFT Replacement Programs
-
- BMP 10 Wholesale Agency Assistance Programs (Not included in report - As a retail water purveyor Mesa Consolidated Water District does not participate in wholesale activities)

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit:	BMP Form Status:	Year:
Mesa Consolidated Water District	100% Complete	2003

A. Implementation

- | | |
|---|------------|
| 1. Based on your signed MOU date, 06/30/1994, your Agency STRATEGY DUE DATE is: | 06/29/1996 |
| 2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys? | yes |
| a. If YES, when was it implemented? | 4/23/1997 |
| 3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys? | yes |
| a. If YES, when was it implemented? | 2/1/2002 |

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	290	853
2. Number of surveys completed:	64	76

Indoor Survey:

- | | | |
|---|-----|-----|
| 3. Check for leaks, including toilets, faucets and meter checks | yes | yes |
| 4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary | yes | yes |
| 5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary | yes | yes |

Outdoor Survey:

- | | | |
|--|----------|-------|
| 6. Check irrigation system and timers | yes | yes |
| 7. Review or develop customer irrigation schedule | yes | yes |
| 8. Measure landscaped area (Recommended but not required for surveys) | yes | yes |
| 9. Measure total irrigable area (Recommended but not required for surveys) | yes | yes |
| 10. Which measurement method is typically used (Recommended but not required for surveys) | Odometer | Wheel |
| 11. Were customers provided with information packets that included evaluation results and water savings recommendations? | yes | yes |

BMP 02: Residential Plumbing Retrofit

Reporting Unit: Mesa Consolidated Water District	BMP Form Status: 100% Complete	Year: 2003
--	--	----------------------

A. Implementation

1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no
 - a. If YES, list local jurisdictions in your service area and code or ordinance in each:
2. Has your agency satisfied the 75% saturation requirement for single-family housing units? yes
3. Estimated percent of single-family households with low-flow showerheads: 68%
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? no
5. Estimated percent of multi-family households with low-flow showerheads: 60%
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

On 12/28/2001 MWDOC released the Orange County Saturation Study Report. This report was funded by MET & MWDOC. The saturation percent is taken from that report.

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes
 - a. If YES, when did your agency begin implementing this strategy? 09/11/2002
 - b. Describe your targeting/ marketing strategy.

All MF owners are mailed letters describing Mesa's MF conservation programs. Bill stuffers are included in selected billing cycles and bill messages are included on various bills. Mesa's web site includes MF conservation information as well.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	227	303
3. Number of toilet-displacement devices distributed:	149	18
4. Number of toilet flappers distributed:	54	11
5. Number of faucet aerators distributed:	213	385

6. Does your agency track the distribution and cost of low-flow devices? yes
- a. If YES, in what format are low-flow devices tracked? Database
- b. If yes, describe your tracking and distribution system :

Most low-flow devices are distributed via BMP1. This information is entered in the survey database when the survey is complete.

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	3900	4300
2. Actual Expenditures	3169	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
- a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:

**Mesa Consolidated Water
District**

BMP Form Status:
100% Complete

Year:
2003

A. Implementation

- | | |
|--|-------|
| 1. Has your agency completed a pre-screening system audit for this reporting year? | yes |
| 2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production: | |
| a. Determine metered sales (AF) | 20084 |
| b. Determine other system verifiable uses (AF) | 101 |
| c. Determine total supply into the system (AF) | 21142 |
| d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. | 0.95 |
| 3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? | yes |
| 4. Did your agency complete a full-scale audit during this report year? | no |
| 5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? | no |
| 6. Does your agency operate a system leak detection program? | no |
| a. If yes, describe the leak detection program: | |

B. Survey Data

- | | |
|--|-----|
| 1. Total number of miles of distribution system line. | 300 |
| 2. Number of miles of distribution system line surveyed. | 0 |

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

- | | |
|--|----|
| 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? | No |
| a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as." | |

E. Comments

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit: Mesa Consolidated Water District	BMP Form Status: 100% Complete	Year: 2003
--	--	----------------------

A. Implementation

- | | |
|---|-----|
| 1. Does your agency require meters for all new connections and bill by volume-of-use? | yes |
| 2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? | no |
| a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed? | |
| b. Describe the program: | |
| Mesa has no unmetered connections. | |
| 3. Number of previously unmetered accounts fitted with meters during report year. | 0 |

B. Feasibility Study

- | | |
|--|------|
| 1. Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? | no |
| a. If YES, when was the feasibility study conducted? (mm/dd/yy) | |
| b. Describe the feasibility study: | |
| Since February 1991 new construction is required to install a separate irrigation meter. | |
| 2. Number of CII accounts with mixed-use meters. | 1285 |
| 3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. | 1 |

C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

- | | |
|--|-----|
| 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? | yes |
| a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as." | |
| All new common area irrigation is separately metered. Business and residential complexes are also separately metered. | |

E. Comments

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit: Mesa Consolidated Water District	BMP Form Status: 100% Complete	Year: 2003
--	--	----------------------

A. Water Use Budgets

1. Number of Dedicated Irrigation Meter Accounts:	856
2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	187
3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):	388
4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):	337
5. Does your agency provide water use notices to accounts with budgets each billing cycle?	yes

B. Landscape Surveys

1. Has your agency developed a marketing / targeting strategy for landscape surveys?	yes
a. If YES, when did your agency begin implementing this strategy?	03/18/2003
b. Description of marketing / targeting strategy:	
<p>All dedicated irrigation accounts are sent a notification letter prior to measurement of the site. Responding customers receive a complete landscape survey. All sites are measured with or without customer response. After the site is measured non responding customers are notified. A letter is mailed to them explaining the landscape program and budgeting process. At this time non responding customers are encouraged to respond.</p>	
2. Number of Surveys Offered.	71
3. Number of Surveys Completed.	45
4. Indicate which of the following Landscape Elements are part of your survey:	
a. Irrigation System Check	yes
b. Distribution Uniformity Analysis	yes
c. Review / Develop Irrigation Schedules	yes
d. Measure Landscape Area	yes
e. Measure Total Irrigable Area	yes
f. Provide Customer Report / Information	yes
5. Do you track survey offers and results?	yes
6. Does your agency provide follow-up surveys for previously completed surveys?	no
a. If YES, describe below:	

C. Other BMP 5 Actions

1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. Does your agency provide mixed-use accounts with landscape budgets?	no
2. Number of CII mixed-use accounts with landscape budgets.	0
3. Do you offer landscape irrigation training?	yes
4. Does your agency offer financial incentives to improve landscape water use efficiency?	no

Type of Financial Incentive:	Budget (Dollars/ Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	0	0	0
b. Loans	0	0	0
c. Grants	0	0	0

5. Do you provide landscape water use efficiency information to new customers and customers changing services? yes

a. If YES, describe below:

All new customers are provided a "customer information packet" when service is established. The packet contains WUE information. Mesa's web site contains irrigation data related to scheduling and efficient landscaping.

6. Do you have irrigated landscaping at your facilities? yes

a. If yes, is it water-efficient? yes

b. If yes, does it have dedicated irrigation metering? yes

7. Do you provide customer notices at the start of the irrigation season? yes

8. Do you provide customer notices at the end of the irrigation season? yes

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

E. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

F. Comments

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:	BMP Form Status:	Year:
Mesa Consolidated Water District	100% Complete	2003

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes

a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

Edison offered rebates during all or part of this reporting period.

2. Does your agency offer rebates for high-efficiency washers? yes

3. What is the level of the rebate? 100

4. Number of rebates awarded. 117

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

BMP 07: Public Information Programs

Reporting Unit:

Mesa Consolidated Water District

BMP Form

Status:

100% Complete

Year:

2003

A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes

a. If YES, describe the program and how it's organized.

Customers bills include past usage information and bill stuffers are used to inform customers of conservation topics. Also, Mesa provided a 6 month course to educate the customer about water related current events. Mesa's web site has a conservation section with current information and links to related sites.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	no	
b. Public Service Announcement	no	
c. Bill Inserts / Newsletters / Brochures	yes	6
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	1
f. Special Events, Media Events	yes	9
g. Speaker's Bureau	yes	1
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	6000	6000
2. Actual Expenditures	1260.65	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

BMP 08: School Education Programs

Reporting Unit: **Mesa Consolidated Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

2. Please provide information on your school programs (by grade level):

Grade	Are grade- appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	yes	19	1735	0
Grades 4th-6th	yes	14	1385	0
Grades 7th-8th	yes	0	0	0
High School	yes	0	0	0

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 01/01/1989

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

BMP 09: Conservation Programs for CII Accounts

Reporting Unit: **Mesa Consolidated Water District** BMP Form Status: **100% Complete** Year: **2003**

A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use? yes
2. Has your agency identified and ranked INDUSTRIAL customers according to use? yes
3. Has your agency identified and ranked INSTITUTIONAL customers according to use? yes

Option A: CII Water Use Survey and Customer Incentives Program

4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option? yes

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	0	0	0
b. Number of New Surveys Completed	0	0	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0

CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	no	no	no
f. Evaluation of all water-using apparatus and processes	no	no	no
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	no	no	no

Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	113	9420
i. Loans	0	0	0
j. Grants	0	0	0
k. Others	0	0	0

Option B: CII Conservation Program Targets

5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?	yes
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	yes
7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991.	2.36
8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991.	21.28

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	11594.5	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	No
a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."	

D. Comments

Mesa Consolidated participates in a Regional Wholesaler (MWD of SC) Rebate program. We have put the number of rebates but not the dollar amounts or acre/feet associated with them. MWD tracks these.

BMP 09a: CII ULFT Water Savings

Reporting Unit:	BMP Form	
Mesa Consolidated Water District	Status:	Year:
	100%	2003
	Complete	

1. Did your agency implement a CII ULFT replacement program in the reporting year? Yes
If No, please explain why on Line B. 10.

A. Targeting and Marketing

1. What basis does your agency use to target customers for participation in this program? Check all that apply.

Service area zones
CII Sector or subsector

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

See MWDCS program description.

2. How does your agency advertise this program? Check all that apply.

Bill insert
Bill message
Newsletter
Web page
Trade publications
Other print media
Trade shows and events

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

See MWDCS program description.

B. Implementation

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) Yes

2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? Yes

3. What is the total number of customer accounts participating in the program during the last year? 2

CII Subsector	Number of Toilets Replaced				
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount	Type Not Specified
4.					
a. Offices	0	0	0	0	0
b. Retail / Wholesale	0	0	0	0	0
c. Hotels	0	0	0	0	0
d. Health	0	0	0	0	0
e. Industrial	0	0	0	0	0
f. Schools: K to 12	0	0	0	0	0
g. Eating	0	0	0	0	0
h. Government	0	0	0	0	0
i. Churches	0	0	0	0	0
j. Other	13	0	0	0	0

5. Program design. Rebate or voucher

6. Does your agency use outside services to implement this program? No

a. If yes, check all that apply.

7. Participant tracking and follow-up. No follow-up

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

a. Disruption to business 1

b. Inadequate payback 1

c. Inadequate ULFT performance 1

d. Lack of funding 1

e. American's with Disabilities Act 1

f. Permitting 1

g. Other. Please describe in B. 9. 1

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

See MWDC program description.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

See MWDSC program description.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor	0	0
b. Materials	0	0
c. Marketing & Advertising	0	0
d. Administration & Overhead	0	0
e. Outside Services	0	0
f. Total	0	0

2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution	1170
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	0
e. Total	1170

D. Comments

BMP 11: Conservation Pricing

Reporting Unit: Mesa Consolidated Water District	BMP Form Status: 100% Complete	Year: 2003
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A. Implementation

Rate Structure Data Volumetric Rates for Water Service by Customer Class

1. Residential

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$8206312.25
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$1913229.5

2. Commercial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$2451125.02
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$99631.6

3. Industrial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$311371.24
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$12495.8

4. Institutional / Government

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$761360.82
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$18579.6

5. Irrigation

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$1715522.45
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$49843.8

6. Other

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$55994.26
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$57065.37

B. Conservation Pricing Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

BMP 12: Conservation Coordinator

Reporting Unit:
**Mesa Consolidated Water
District**

BMP Form Status:
100% Complete

Year:
2003

A. Implementation

- | | |
|---|--|
| 1. Does your Agency have a conservation coordinator? | yes |
| 2. Is this a full-time position? | yes |
| 3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ? | |
| 4. Partner agency's name: | |
| 5. If your agency supplies the conservation coordinator: | |
| a. What percent is this conservation coordinator's position? | 100% |
| b. Coordinator's Name | Barry Carlson |
| c. Coordinator's Title | Resource Efficiency Specialist |
| d. Coordinator's Experience and Number of Years | Customer Service/Conservation for 13 years |
| e. Date Coordinator's position was created (mm/dd/yyyy) | 4/16/2001 |
| 6. Number of conservation staff, including Conservation Coordinator. | 1 |

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	89664	94147
2. Actual Expenditures	89664	

C. "At Least As Effective As"

- | | |
|--|----|
| 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? | no |
| a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as." | |

D. Comments

B1 & B2, are total labor cost with an estimated 5% annual cost of living increase.

BMP 13: Water Waste Prohibition

Reporting Unit: Mesa Consolidated Water District	BMP Form Status: 100% Complete	Year: 2003
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A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? yes
 - a. If YES, describe the ordinance:

The ordinance (#8) is documented in the current Urban Water Management Plan.
2. Is a copy of the most current ordinance(s) on file with CUWCC? yes
 - a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

Complete District None

B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.
 - a. Gutter flooding yes
 - b. Single-pass cooling systems for new connections yes
 - c. Non-recirculating systems in all new conveyor or car wash systems yes
 - d. Non-recirculating systems in all new commercial laundry systems yes
 - e. Non-recirculating systems in all new decorative fountains yes
 - f. Other, please name no
2. Describe measures that prohibit water uses listed above:
Refer to ordinance #8.
Water Softeners:
3. Indicate which of the following measures your agency has supported in developing state law:
 - a. Allow the sale of more efficient, demand-initiated regenerating DIR models. no
 - b. Develop minimum appliance efficiency standards that:
 - i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no
 - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. no
 - c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply. yes
4. Does your agency include water softener checks in home water audit programs? yes
5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models? no

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:	BMP Form Status:	Year:
Mesa Consolidated Water District	100% Complete	2003

A. Implementation

	Single-Family Accounts	Multi-Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	yes	yes
Number of Toilets Replaced by Agency Program During Report Year		
Replacement Method	SF Accounts	MF Units
2. Rebate	290	220
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	621	1256
Total	911	1476

6. Describe your agency's ULFT program for single-family residences.

Mesa Consolidated participates in a region wide ULFT rebate program for both SF and MF. Our regional wholesaler (MWDOC) administers the program on our behalf. They contract with a vendor to market the program and facilitate the rebate process for our customers. The "Other" program is a distribution program that MWDOC administers on our behalf. They contract with a separate vendor that facilitates the distribution of ULFT's to our customers. This program is also for SF and MF.

7. Describe your agency's ULFT program for multi-family residences.

See #6 above.

8. Is a toilet retrofit on resale ordinance in effect for your service area? no

9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:

B. Residential ULFT Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers

Reporting Unit: Mesa Consolidated Water District	BMP Form Status: 100% Complete	Year: 2004
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A. Implementation

- | | |
|---|------------|
| 1. Based on your signed MOU date, 06/30/1994, your Agency STRATEGY DUE DATE is: | 06/29/1996 |
| 2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys? | yes |
| a. If YES, when was it implemented? | 4/23/1997 |
| 3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys? | yes |
| a. If YES, when was it implemented? | 2/1/2002 |

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi- Family Units
1. Number of surveys offered:	1352	0
2. Number of surveys completed:	56	0
Indoor Survey:		
3. Check for leaks, including toilets, faucets and meter checks	yes	yes
4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary	yes	yes
5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary	yes	yes
Outdoor Survey:		
6. Check irrigation system and timers	yes	yes
7. Review or develop customer irrigation schedule	yes	yes
8. Measure landscaped area (Recommended but not required for surveys)	yes	yes
9. Measure total irrigable area (Recommended but not required for surveys)	yes	yes
10. Which measurement method is typically used (Recommended but not required for surveys)	Odometer Wheel	
11. Were customers provided with information packets that included evaluation results and water savings recommendations?	yes	yes

12. Have the number of surveys offered and completed, survey results, and survey costs been tracked? yes yes

a. If yes, in what form are surveys tracked? database

b. Describe how your agency tracks this information.

Survey results are entered into a database computer program. Any number of queries can be done to extract desired data. The number of surveys offered is tracked via spreadsheet. The cost can be tracked by time spent on the surveys.

C. Water Survey Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	49882	52376
2. Actual Expenditures	5040	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

C1 Budget Expenditures has an estimated 5% cost of living increase added for the next budget year.

BMP 02: Residential Plumbing Retrofit

Reporting Unit: Mesa Consolidated Water District	BMP Form Status: 100% Complete	Year: 2004
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A. Implementation

1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no
 - a. If YES, list local jurisdictions in your service area and code or ordinance in each:
2. Has your agency satisfied the 75% saturation requirement for single-family housing units? yes
3. Estimated percent of single-family households with low-flow showerheads: 68%
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? no
5. Estimated percent of multi-family households with low-flow showerheads: 60%
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

On 12/28/2001 MWDOC released the Orange County Saturation Study Report. This report was funded by MET & MWDOC. The saturation percent is taken from that report.

B. Low-Flow Device Distribution Information

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes
 - a. If YES, when did your agency begin implementing this strategy? 9/11/2002
 - b. Describe your targeting/ marketing strategy.

All MF owners are mailed letters describing Mesa's MF conservation programs. Bill stuffers are included in selected billing cycles and bill messages are included on various bills. Mesa's web site includes MF conservation information as well.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	203	65
3. Number of toilet-displacement devices distributed:	37	4
4. Number of toilet flappers distributed:	3	0
5. Number of faucet aerators distributed:	175	45

6. Does your agency track the distribution and cost of low-flow devices? yes

a. If YES, in what format are low-flow devices tracked? Database

b. If yes, describe your tracking and distribution system :

Most low-flow devices are distributed via BMP1. This information is entered in the survey database when the survey is complete.

C. Low-Flow Device Distribution Expenditures

	This Year	Next Year
1. Budgeted Expenditures	6000	6000
2. Actual Expenditures	4951	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:
**Mesa Consolidated Water
District**

BMP Form Status:
100% Complete

Year:
2004

A. Implementation

- | | |
|--|-------|
| 1. Has your agency completed a pre-screening system audit for this reporting year? | yes |
| 2. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production: | |
| a. Determine metered sales (AF) | 20613 |
| b. Determine other system verifiable uses (AF) | 58 |
| c. Determine total supply into the system (AF) | 22029 |
| d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required. | 0.94 |
| 3. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production? | yes |
| 4. Did your agency complete a full-scale audit during this report year? | no |
| 5. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit? | no |
| 6. Does your agency operate a system leak detection program? | no |
| a. If yes, describe the leak detection program: | |

B. Survey Data

- | | |
|--|-----|
| 1. Total number of miles of distribution system line. | 300 |
| 2. Number of miles of distribution system line surveyed. | 0 |

C. System Audit / Leak Detection Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

- | | |
|--|----|
| 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? | No |
| a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as." | |

E. Comments

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing

Reporting Unit:
Mesa Consolidated Water District

BMP Form Status:
100% Complete

Year:
2004

A. Implementation

- | | |
|---|-----|
| 1. Does your agency require meters for all new connections and bill by volume-of-use? | yes |
| 2. Does your agency have a program for retrofitting existing unmetered connections and bill by volume-of-use? | no |
| a. If YES, when was the plan to retrofit and bill by volume-of-use existing unmetered connections completed? | |
| b. Describe the program:
Mesa has no unmetered connections. | |
| 3. Number of previously unmetered accounts fitted with meters during report year. | 0 |

B. Feasibility Study

- | | |
|--|------|
| 1. Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? | no |
| a. If YES, when was the feasibility study conducted? (mm/dd/yy) | |
| b. Describe the feasibility study:
Since February 1991 new construction is required to install a separate irrigation meter. | |
| 2. Number of CII accounts with mixed-use meters. | 1285 |
| 3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. | 0 |

C. Meter Retrofit Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

- | | |
|--|-----|
| 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? | yes |
| a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as." | |
| All new common area irrigation is separately metered. Business and residential complexes are also separately metered. | |

E. Comments

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit: Mesa Consolidated Water District	BMP Form Status: 100% Complete	Year: 2004
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A. Water Use Budgets

1. Number of Dedicated Irrigation Meter Accounts:	882
2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	192
3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF):	555
4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF):	608
5. Does your agency provide water use notices to accounts with budgets each billing cycle?	yes

B. Landscape Surveys

1. Has your agency developed a marketing / targeting strategy for landscape surveys?	yes
a. If YES, when did your agency begin implementing this strategy?	03/18/2003
b. Description of marketing / targeting strategy:	
<p>All dedicated irrigation accounts are sent a notification letter prior to measurement of the site. Responding customers receive a complete landscape survey. All sites are measured with or without customer response. After the site is measured non responding customers are notified. A letter is mailed to them explaining the landscape program and budgeting process. At this time non responding customers are encouraged to respond.</p>	
2. Number of Surveys Offered.	28
3. Number of Surveys Completed.	28
4. Indicate which of the following Landscape Elements are part of your survey:	
a. Irrigation System Check	yes
b. Distribution Uniformity Analysis	yes
c. Review / Develop Irrigation Schedules	yes
d. Measure Landscape Area	yes
e. Measure Total Irrigable Area	yes
f. Provide Customer Report / Information	yes
5. Do you track survey offers and results?	yes
6. Does your agency provide follow-up surveys for previously completed surveys?	no
a. If YES, describe below:	

C. Other BMP 5 Actions

1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program.	yes
Does your agency provide mixed-use accounts with landscape budgets?	

- 2. Number of CII mixed-use accounts with landscape budgets. 2
- 3. Do you offer landscape irrigation training? yes
- 4. Does your agency offer financial incentives to improve landscape water use efficiency? yes

Type of Financial Incentive:	Budget (Dollars/ Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	14000	0	0
b. Loans	0	0	0
c. Grants	0	0	0

- 5. Do you provide landscape water use efficiency information to new customers and customers changing services? yes

a. If YES, describe below:

All new customers are provided a "customer information packet" when service is established. The packet contains WUE information. Mesa's web site contains irrigation data related to scheduling and efficient landscaping.

- 6. Do you have irrigated landscaping at your facilities? yes
 - a. If yes, is it water-efficient? yes
 - b. If yes, does it have dedicated irrigation metering? yes
- 7. Do you provide customer notices at the start of the irrigation season? yes
- 8. Do you provide customer notices at the end of the irrigation season? yes

D. Landscape Conservation Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	14000	5600
2. Actual Expenditures	0	

E. "At Least As Effective As"

- 1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

F. Comments

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:	BMP Form	Year:
Mesa Consolidated Water District	Status:	2004
	100% Complete	

A. Implementation

1. Do any energy service providers or waste water utilities in your service area offer rebates for high-efficiency washers? yes
 - a. If YES, describe the offerings and incentives as well as who the energy/waste water utility provider is.

Edison offered rebates during all or part of this reporting period.
2. Does your agency offer rebates for high-efficiency washers? yes
3. What is the level of the rebate? 100
4. Number of rebates awarded. 228

B. Rebate Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

BMP 07: Public Information Programs

Reporting Unit: Mesa Consolidated Water District	BMP Form Status: 100% Complete	Year: 2004
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A. Implementation

1. Does your agency maintain an active public information program to promote and educate customers about water conservation? yes

a. If YES, describe the program and how it's organized.

Customers bills include past usage information and bill stuffers are used to inform customers of conservation topics. Also, Mesa provided a 6 month course to educate the customer about water related current events. Mesa's web site has a conservation section with current information and links to related sites.

2. Indicate which and how many of the following activities are included in your public information program.

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	no	
b. Public Service Announcement	no	
c. Bill Inserts / Newsletters / Brochures	yes	6
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	1
f. Special Events, Media Events	yes	11
g. Speaker's Bureau	yes	2
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

B. Conservation Information Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	6000	6000
2. Actual Expenditures	3621.47	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

BMP 08: School Education Programs

Reporting Unit: **Mesa Consolidated Water District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

1. Has your agency implemented a school information program to promote water conservation? yes

2. Please provide information on your school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	yes	13	587	0
Grades 4th-6th	yes	5	297	0
Grades 7th-8th	yes	0	0	0
High School	yes	0	0	0

3. Did your Agency's materials meet state education framework requirements? yes

4. When did your Agency begin implementing this program? 01/01/1989

B. School Education Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No

a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

BMP 09: Conservation Programs for CII Accounts

Reporting Unit: **Mesa Consolidated Water District** BMP Form Status: **100% Complete** Year: **2004**

A. Implementation

- | | |
|--|-----|
| 1. Has your agency identified and ranked COMMERCIAL customers according to use? | yes |
| 2. Has your agency identified and ranked INDUSTRIAL customers according to use? | yes |
| 3. Has your agency identified and ranked INSTITUTIONAL customers according to use? | yes |

Option A: CII Water Use Survey and Customer Incentives Program

4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option? yes

CII Surveys	Commercial Accounts	Industrial Accounts	Institutional Accounts
a. Number of New Surveys Offered	0	0	0
b. Number of New Surveys Completed	0	0	0
c. Number of Site Follow-ups of Previous Surveys (within 1 yr)	0	0	0
d. Number of Phone Follow-ups of Previous Surveys (within 1 yr)	0	0	0

CII Survey Components	Commercial Accounts	Industrial Accounts	Institutional Accounts
e. Site Visit	no	no	no
f. Evaluation of all water-using apparatus and processes	no	no	no
g. Customer report identifying recommended efficiency measures, paybacks and agency incentives	no	no	no

Agency CII Customer Incentives	Budget (\$/Year)	No. Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	65	7650
i. Loans	0	0	0
j. Grants	0	0	0
k. Others	0	0	0

Option B: CII Conservation Program Targets

5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?	yes
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	yes
7. Estimated annual savings (AF/yr) from site-verified actions taken by agency since 1991.	1.22
8. Estimated annual savings (AF/yr) from non-site-verified actions taken by agency since 1991.	10.97

B. Conservation Program Expenditures for CII Accounts

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	9019.5	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? No
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

Mesa Consolidated participates in a Regional Wholesaler (MWD of SC) Rebate program. We have put the number of rebates but not the dollar amounts or acre/feet associated with them. MWD tracks these.

BMP 09a: CII ULFT Water Savings

Reporting Unit: **Mesa Consolidated Water District** BMP Form Status: **100% Complete** Year: **2004**

1. Did your agency implement a CII ULFT replacement program in the reporting year? Yes
 If No, please explain why on Line B. 10.

A. Targeting and Marketing

1. What basis does your agency use to target customers for participation in this program? Check all that apply. Service area zones
CII Sector or subsector

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

See MWDSC program description.

2. How does your agency advertise this program? Check all that apply. Bill insert
Bill message
Newsletter
Web page
Trade publications
Other print media
Trade shows and events

a. Describe which method you found to be the most effective overall, and which was the most effective per dollar expended.

See MWDSC program description.

B. Implementation

1. Does your agency keep and maintain customer participant information? (Read the Help information for a complete list of all the information for this BMP.) Yes
2. Would your agency be willing to share this information if the CUWCC did a study to evaluate the program on behalf of your agency? Yes
3. What is the total number of customer accounts participating in the program during the last year ? 1

CII Subsector	Number of Toilets Replaced				Type Not Specified
	Standard Gravity Tank	Air Assisted	Valve Floor Mount	Valve Wall Mount	
4.					
a. Offices	0	0	0	0	0
b. Retail / Wholesale	0	0	0	0	0
c. Hotels	0	0	0	0	0

d. Health	0	0	0	0	0
e. Industrial	0	0	0	0	0
f. Schools: K to 12	0	0	0	0	0
g. Eating	0	0	0	0	0
h. Govern- ment	0	0	0	0	0
i. Churches	0	0	0	0	0
j. Other	0	0	0	0	0

5. Program design.

Rebate or voucher

6. Does your agency use outside services to implement this program? No

a. If yes, check all that apply.

7. Participant tracking and follow-up.

No follow-up

8. Based on your program experience, please rank on a scale of 1 to 5, with 1 being the least frequent cause and 5 being the most frequent cause, the following reasons why customers refused to participate in the program.

a. Disruption to business	1
b. Inadequate payback	1
c. Inadequate ULFT performance	1
d. Lack of funding	1
e. American's with Disabilities Act	1
f. Permitting	1
g. Other. Please describe in B. 9.	1

9. Please describe general program acceptance/resistance by customers, obstacles to implementation, and other issues affecting program implementation or effectiveness.

See MWDSC program description.

10. Please provide a general assessment of the program for this reporting year. Did your program achieve its objectives? Were your targeting and marketing approaches effective? Were program costs in line with expectations and budgeting?

See MWDSC program description.

C. Conservation Program Expenditures for CII ULFT

1. CII ULFT Program: Annual Budget & Expenditure Data

	Budgeted	Actual Expenditure
a. Labor	0	0
b. Materials	0	0
c. Marketing & Advertising	0	0
d. Administration & Overhead	0	0
e. Outside Services	0	0
f. Total	0	0

2. CII ULFT Program: Annual Cost Sharing

a. Wholesale agency contribution	0
b. State agency contribution	0
c. Federal agency contribution	0
d. Other contribution	0
e. Total	0

D. Comments

BMP 11: Conservation Pricing

Reporting Unit:	BMP Form	Year:
Mesa Consolidated Water District	Status: 100% Complete	2004

A. Implementation

Rate Structure Data Volumetric Rates for Water Service by Customer Class

1. Residential

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$9004824.81
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$1920486.76

2. Commercial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$2770704.64
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$101820.4

3. Industrial

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$355844.78
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$11942.7

4. Institutional / Government

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$860530.32
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$18557

5. Irrigation

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$2043548.24
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$50529.6

6. Other

a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	\$59318.5
d. Total Revenue from Non-Volumetric Charges, Fees and other Revenue Sources	\$61390.68

B. Conservation Pricing Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	No
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a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

BMP 12: Conservation Coordinator

Reporting Unit:
**Mesa Consolidated Water
District**

BMP Form Status:
100% Complete

Year:
2004

A. Implementation

- | | |
|---|--|
| 1. Does your Agency have a conservation coordinator? | yes |
| 2. Is this a full-time position? | yes |
| 3. If no, is the coordinator supplied by another agency with which you cooperate in a regional conservation program ? | |
| 4. Partner agency's name: | |
| 5. If your agency supplies the conservation coordinator: | |
| a. What percent is this conservation coordinator's position? | 100% |
| b. Coordinator's Name | Barry Carlson |
| c. Coordinator's Title | Resource Efficiency Specialist |
| d. Coordinator's Experience and Number of Years | Customer Service/Conservation for 14 years |
| e. Date Coordinator's position was created (mm/dd/yyyy) | 4/16/2001 |
| 6. Number of conservation staff, including Conservation Coordinator. | 1 |

B. Conservation Staff Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	94147	98854
2. Actual Expenditures	94147	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
- a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

B1 & B2, are total labor cost with an estimated 5% annual cost of living increase.

BMP 13: Water Waste Prohibition

Reporting Unit: Mesa Consolidated Water District	BMP Form Status: 100% Complete	Year: 2004
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A. Requirements for Documenting BMP Implementation

1. Is a water waste prohibition ordinance in effect in your service area? yes
 - a. If YES, describe the ordinance:
The ordinance (#8) is documented in the current Urban Water Management Plan.
2. Is a copy of the most current ordinance(s) on file with CUWCC? yes
 - a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:
Complete District None

B. Implementation

1. Indicate which of the water uses listed below are prohibited by your agency or service area.
 - a. Gutter flooding yes
 - b. Single-pass cooling systems for new connections yes
 - c. Non-recirculating systems in all new conveyor or car wash systems yes
 - d. Non-recirculating systems in all new commercial laundry systems yes
 - e. Non-recirculating systems in all new decorative fountains yes
 - f. Other, please name no
2. Describe measures that prohibit water uses listed above:
Refer to ordinance #8.

Water Softeners:

3. Indicate which of the following measures your agency has supported in developing state law:
 - a. Allow the sale of more efficient, demand-initiated regenerating DIR models. no
 - b. Develop minimum appliance efficiency standards that:
 - i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no
 - ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. no
 - c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply. yes
4. Does your agency include water softener checks in home water audit programs? yes
5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models? no

C. Water Waste Prohibition Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

D. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

E. Comments

BMP 14: Residential ULFT Replacement Programs

Reporting Unit: Mesa Consolidated Water District	BMP Form Status: 100% Complete	Year: 2004
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A. Implementation

	Single-Family Accounts	Multi-Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	yes	yes

Number of Toilets Replaced by Agency Program During Report Year

Replacement Method	SF Accounts	MF Units
2. Rebate	122	53
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	501	657
Total	623	710

6. Describe your agency's ULFT program for single-family residences.
Mesa Consolidated participates in a region wide ULFT rebate program for both SF and MF. Our regional wholesaler (MWDOC) administers the program on our behalf. They contract with a vendor to market the program and facilitate the rebate process for our customers. The "Other" program is a distribution program that MWDOC administers on our behalf. They contract with a separate vendor that facilitates the distribution if ULFT's to our customers. This program is also for SF and MF.
7. Describe your agency's ULFT program for multi-family residences.
See #6 above.
8. Is a toilet retrofit on resale ordinance in effect for your service area? no
9. List local jurisdictions in your service area in the left box and ordinance citations in each jurisdiction in the right box:

B. Residential ULFT Program Expenditures

	This Year	Next Year
1. Budgeted Expenditures	0	0
2. Actual Expenditures	0	

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? no
 - a. If YES, please explain in detail how your implementation of this BMP differs from Exhibit 1 and why you consider it to be "at least as effective as."

D. Comments

APPENDIX D

Emergency Water Conservation Program, Ordinance 8

ORDINANCE NO. 8

AN ORDINANCE OF THE BOARD OF DIRECTORS OF
THE MESA CONSOLIDATED WATER DISTRICT,
ADOPTING AN EMERGENCY WATER CONSERVATION PROGRAM

WHEREAS, the Mesa Consolidated Water District is a county water district, organized pursuant to Water Code Section 33200 et seq.; and

WHEREAS, water is considered a limited natural resource and the Mesa Consolidated Water District desires to preserve and use this natural resource in the most efficient manner possible;

WHEREAS, periodic droughts are a historic fact in the State of California; and

WHEREAS, the Mesa Consolidated Water District service area is located in a heavily populated, semi-arid region; and

WHEREAS, the Mesa Consolidated Water District derives the water which it delivers to its customers both from local groundwater and from waters imported from outside the District boundaries; and

WHEREAS, the quality and quantity of imported water is under the control of other agencies, and subject to conditions beyond the control of those other agencies or the Mesa Consolidated Water District; and

WHEREAS, pursuant to section 31026 of the California Water Code, the Mesa Consolidated Water District has the power to restrict the use of District water during any emergency caused by drought, or other threatened or existing water shortage, and to prohibit the wastage of District water or the use of District water during such periods, for any purpose other than household uses or such other restricted uses as may be determined to be necessary by the District and may prohibit use of such water during such periods for specific uses which the District may from time to time find to be nonessential; and

WHEREAS, pursuant to Water Code Sections 30000 et seq., and 375 - 377, inclusive, the Mesa Consolidated Water District may establish additional guidelines, surcharges, cost recovery systems, enforcement procedures and other rules and regulations to assist in the conservation of water; and

WHEREAS, the Board of Directors of the Mesa Consolidated Water District finds and determines that a water shortage or threat of a water shortage could exist based upon the occurrence of one or more of the following conditions:

- (A) A general water supply shortage due to increased demand and/or limited supplies;
- (B) Distribution or storage facilities of the Mesa Consolidated Water District, or any agency supplying water to the Mesa Consolidated Water District, become inadequate;
- (C) A major failure of the supply, storage and distribution facilities of the Mesa Consolidated Water District or any agency supplying water to the Mesa Consolidated Water District;
- (D) Contamination of the water supply, storage or distribution facilities of the Mesa Consolidated Water District or any agency supplying water to the Mesa Consolidated Water District;
- (E) Acts of God which in the opinion of the District constitute an emergency situation;

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE MESA CONSOLIDATED WATER DISTRICT, under the authority of Water Code Sections 30000 et seq. and 375 - 377, inclusive, does ordain as follows:

1.1 FINDINGS - DECLARATION OF A WATER SHORTAGE EMERGENCY

The Board does hereby find that the following recitals are true and correct and constitute an emergency condition or a threatened or existing water shortage condition within the District:

- (A) Water is a limited natural resource and that the Mesa Consolidated Water District does desire to preserve and use this natural resource in the most efficient manner possible; and
- (B) The service area of Mesa Consolidated Water District is in a heavily populated, semi-arid region; and
- (C) The State of California is subject to periodic droughts; and

- (D) Agencies supplying water to the Mesa Consolidated Water District may mandate water rationing to the District because of limited supplies; and
- (E) Distribution or storage facilities of the Mesa Consolidated Water District, or any agency supplying water to the Mesa Consolidated Water District, may become inadequate to meet demands; and
- (F) A major failure of the supply, storage and distribution facilities of the Mesa Consolidated Water District or any agency supplying water to the Mesa Consolidated Water District may occur; and
- (G) Contamination of the water supply, storage or distribution facilities of the Mesa Consolidated Water District or any agency supplying water to the Mesa Consolidated Water District may occur; and
- (H) Acts of God may occur which in the opinion of the Mesa Consolidated Water District may constitute an emergency situation.

1.2 APPLICATION

The provisions of this Ordinance shall apply to all water customers, water users and property served by the Mesa Consolidated Water District.

1.3 AUTHORIZATION

The General Manager of the Mesa Consolidated Water District or designated representatives are hereby authorized and directed to implement the provisions of this Ordinance as provided for herein.

1.4 PHASE IMPLEMENTATION

The Board of Directors shall determine the extent of the emergency situation, and the corresponding conservation required through the implementation and/or termination of particular phases.

In the event of an extreme emergency situation, requiring immediate action, the General Manager of the Mesa Consolidated Water District shall determine the extent of the conservation required and implement the appropriate phase necessary to achieve the required level of conservation. In such event, the General Manager shall notify the Board members as soon thereafter as practical and shall consult with the President with regard to the calling of an emergency meeting. In addition, the Board of Directors, as a Board, shall be notified at the next Board Meeting of any action taken by the General Manager under this Ordinance.

A phase shall be deemed to be effective for a period of one calendar year from the date of adoption unless changed or modified by further action of the Board of Directors.

1.5 ENFORCEMENT

The General Manager of the Mesa Consolidated Water District shall recommend the procedures for enforcement of the provisions of this Ordinance. The procedures will be reviewed by, and adopted by, subsequent action of the Board of Directors.

1.6 RELIEF FROM COMPLIANCE

The General Manager of the Mesa Consolidated Water District shall recommend the procedures for customers to apply for relief from the compliance of this Ordinance. The procedures will be reviewed by, and adopted by, subsequent action of the Board of Directors.

1.7 CONSERVATION RATES, FEES AND SURCHARGES

The General Manager of the Mesa Consolidated Water District shall recommend the conservation rates, fees and surcharges. The rates, fees and surcharges will be reviewed by, and adopted by, subsequent action of the Board of Directors.

1.8 CEQA EXEMPTION

The Board of Directors finds that this Ordinance and actions taken hereafter pursuant to this Ordinance are exempt from the California Environmental Quality Act as specific actions necessary to prevent or mitigate an emergency pursuant to 14 California Code of Regulations, Sections 15269, 15273, 15274 and 15321, and the applicable statutes of the Public Resources Code.

The General Manager of the Mesa Consolidated Water District is hereby authorized and directed to file a Notice of Exemption as soon as possible following the adoption of this Ordinance.

1.9 EFFECTIVE DATE

It is the intention of the Board of Directors of the Mesa Consolidated Water District, based on the findings in Section 1.1, for this urgency Ordinance to take effect May 1, 1991 in order to conserve water supplies and to avoid or minimize the effects of future water shortages. It is the further intention of the Board for this Ordinance to remain in effect until modified, amended or repealed by action of the Board.

1.10 PHASES OF THE EMERGENCY WATER CONSERVATION PLAN

The following are the phases of the Emergency Water Conservation Plan.

A. PHASE I: WATER WATCH - Voluntary Compliance

1. Discouraged uses applicable to all water users.
 - a. Leak Repair - All leaks in plumbing, whether indoor or outdoor, should be repaired within 10 days of discovery. All improperly or incorrectly directed or maintained sprinklers should be repaired or adjusted within 10 days of discovery.
 - b. All Irrigation - Irrigation is discouraged during rainy or windy days.
 - c. Drinking Water In Public Places - Restaurants, hotels, cafes, cafeterias or other public places where food is sold, served or offered for sale should serve drinking water to customers only when requested to do so by the customer.
 - d. Fire Hydrants - Water should not be used from fire hydrants unless it is metered except for fire fighting, system testing and related activities.
 - e. Car Washing - Washing of motor vehicles, trailers, boats, aircraft and other types of mobile equipment should be done only with a hand-held bucket or a hose equipped with a positive shutoff nozzle for quick rinses, except that washing may be done at the immediate premises of a commercial car wash with water recycling facilities. No restrictions apply where health, safety, and welfare of the public is contingent upon frequent vehicle cleaning, such as with refuse trucks and vehicles used to transport food and perishables.
 - f. Runoff - No customer should cause or allow water to run off landscape areas into adjoining streets, sidewalks or other paved surfaces due to incorrectly directed or maintained sprinklers or other methods of excessive watering.

- g. Washing of Hard or Paved Surfaces - Water should not be used to wash sidewalks, walkaways, driveways, parking areas, tennis courts or other hard or paved surfaces, except as is required to dispose of dangerous liquids or substances dangerous to the public health and safety.
- h. Time of Day Limits on Watering - Lawn watering and landscape irrigation should be done between the hours of 4:00 PM and 10:00 AM. No water should be used for such purposes between 10:00 AM and 4:00 PM except for the repair of irrigation systems.

B. PHASE II: WATER WATCH - With Conservation Rates

1. Limits on Total Water Usage.

Usage above the following limits will result in a surcharge on the excess usage.

For meter sizes 5/8" through 2": An average monthly or bimonthly usage for each meter size shall be calculated for each District account classification;

For meters 3" or larger: A monthly or bimonthly average will be calculated for each account based on the individual account's water usage for the previous two years.

- a. All Water Usage Greater Than 300% of the Appropriate Average for the Account; or
- b. All Water Usage Greater Than 200% of the Appropriate Average for the Account; or
- c. All Water Usage Greater Than 100% of the Appropriate Average for the Account; or
- d. All Water Usage Greater Than 90% of the Appropriate Average for the Account; or
- e. All Water Usage Greater Than 80% of the Appropriate Average for the Account.

C. PHASE III: WATER ALERT - Mandatory Compliance

1. Prohibited uses applicable to all water users.

- a. Leak Repair - All leaks in plumbing, whether indoor or outdoor, must be repaired within 10 days of discovery. All improperly or incorrectly directed or maintained sprinklers must be repaired or adjusted within 10 days of discovery.
- b. All Irrigation - Irrigation is prohibited during rainy or windy days.
- c. Drinking Water In Public Places - No restaurant, hotel, cafe, cafeteria or other public place where food is sold, served or offered for sale shall serve drinking water to any customer unless expressly requested to do so by the customer.
- d. Fire Hydrants - Water shall not be used from fire hydrants unless it is metered except for fire fighting, system testing and related activities.
- e. Runoff - No customer shall cause or allow water to run off landscape areas into adjoining streets, sidewalks or other paved surfaces due to incorrectly directed or maintained sprinklers or other methods of excessive watering.
- f. Washing of Hard or Paved Surfaces - Water shall not be used to wash sidewalks, walkaways, driveways, parking areas, tennis courts or other hard or paved surfaces, except as is required to dispose of dangerous liquids or substances dangerous to the public health and safety.
- g. Designated Irrigation Days - Lawn watering and landscape irrigation, including construction irrigation, is permitted only on designated water use days. For even number addresses this is the even day of the month. For odd number addresses this is the odd numbered day of the month. For meters which are not located at an address, if the location is on a north-south running street they shall be considered even and those on east-west running streets shall be considered odd.

- h. Time of Day Limits on Watering - Lawn watering and landscape irrigation is permitted only between the hours of 4:00 PM and 10:00 AM. No water shall be used for such purposes between 10:00 AM and 4:00 PM except for the repair of irrigation systems.
- i. Swimming Pools and Spas - Designated Water Use Days - All swimming pools and spas must be covered when not in use. Water shall not be used to clean, fill or maintain levels in swimming pools except on designated water use days and only between the hours of 4:00 PM and 10:00 AM.
- j. Fountains, Ponds and Lakes - Designated Water Use Days - Water shall not be used to clean, fill or maintain levels in decorative fountains, ponds, lakes or other similar aesthetic structures except on designated water use days and only between the hours of 4:00 PM and 10:00 AM.
- k. Car Washing on Designated Water Use Days - Washing of motor vehicles, trailers, boats, aircraft and other types of mobile equipment shall be done only on designated water use days (odd or even, whichever is applicable) and must be done with a hand-held bucket or a hose-equipped with a positive shutoff nozzle for quick rinses. Washing may be done at the immediate premises of a commercial car wash with water recycling facilities on any day. No restrictions apply where health, safety, and welfare of the public is contingent upon frequent vehicle cleaning, such as with refuse trucks and vehicles used to transport food and perishables.

2. Limits on Total Water Usage.

Usage above the following limits will result in a surcharge on the excess usage.

For meter sizes 5/8" through 2": An average monthly or bimonthly usage for each meter size shall be calculated for each District account classification;

For meters 3" or larger: A monthly or bimonthly average will be calculated for each account based on the individual account's water usage for the previous two years.

- a. All Water Usage Greater Than 300% of the Appropriate Average for the Account; or
- b. All Water Usage Greater Than 200% of the Appropriate Average for the Account; or
- c. All Water Usage Greater Than 100% of the Appropriate Average for the Account; or
- d. All Water Usage Greater Than 90% of the Appropriate Average for the Account; or
- e. All Water Usage Greater Than 80% of the Appropriate Average for the Account.

D. PHASE IV: WATER WARNING - Mandatory Compliance

1. Prohibited uses applicable to all water users.
 - a. Leak Repair - All leaks in plumbing, whether indoor or outdoor, must be repaired within 10 days of discovery. All improperly or incorrectly directed or maintained sprinklers must be repaired or adjusted within 10 days of discovery.
 - b. All Irrigation - Irrigation is prohibited during rainy or windy days.
 - c. Drinking Water In Public Places - No restaurant, hotel, cafe, cafeteria or other public place where food is sold, served or offered for sale shall serve drinking water to any customer unless expressly requested to do so by the customer.
 - d. Fire Hydrants - Water shall not be used from fire hydrants unless it is metered except for fire fighting, system testing and related activities.
 - e. Runoff - No customer shall cause or allow water to run off landscape areas into adjoining streets, sidewalks or other paved surfaces due to incorrectly directed or maintained sprinklers or other methods of excessive watering.
 - f. Washing of Hard or Paved Surfaces - Water shall not be used to wash sidewalks, walkaways, driveways, parking areas, tennis courts or other hard or paved surfaces, except as is required to dispose of dangerous liquids or substances dangerous to the public health and safety.
 - g. Shorter Time of Day Limits on Watering - Lawn watering and landscape irrigation is permitted only between the hours of 6:00 PM and 6:00 AM. No water shall be used for such purposes between 6:00 AM and 6:00 PM except for the repair of irrigation systems.

- h. Fewer Designated Irrigation Days - Lawn watering and landscape irrigation, including construction irrigation, is permitted only on designated water use days. For even number addresses this is Tuesdays and Saturdays. For odd number addresses this is Wednesdays and Sundays. No irrigation is permitted on Mondays, Thursdays and Fridays. For meters which are not located at an address, if the location is on a north-south running street, the shall be considered even and those on east-west running streets shall be considered odd.
- i. Swimming Pools and Spas - Designated Water Use Days - All swimming pools and spas must be covered when not in use. Water shall not be used to clean, fill or maintain levels in swimming pools except on designated water use days and only between the hours of 6:00 PM and 6:00 AM.
- j. Fountains, Ponds and Lakes - Designated Water Use Days - Water shall not be used to clean, fill or maintain levels in decorative fountains, ponds, lakes or other similar aesthetic structures except on designated water use days and only between the hours of 6:00 PM and 6:00 AM.
- k. Car Washing on Designated Water Use Days - Washing of motor vehicles, trailers, boats, aircraft and other types of mobile equipment shall be done only on designated water use days (odd or even, whichever is applicable) and must be done with a hand-held bucket or a hose-equipped with a positive shutoff nozzle for quick rinses. Washing may be done at the immediate premises of a commercial car wash with water recycling facilities on any day. No restrictions apply where health, safety, and welfare of the public is contingent upon frequent vehicle cleaning, such as with refuse trucks and vehicles used to transport food and perishables.

2. Limits on Total Water Usage.

Usage above the following limits will result in a surcharge on the excess usage.

For meter sizes 5/8" through 2": An average monthly or bimonthly usage for each meter size shall be calculated for each District account classification;

For meters 3" or larger: A monthly or bimonthly average will be calculated for each account based on the individual account's water usage for the previous two years.

- a. All Water Usage Greater Than 300% of the Appropriate Average for the Account; or
- b. All Water Usage Greater Than 200% of the Appropriate Average for the Account; or
- c. All Water Usage Greater Than 100% of the Appropriate Average for the Account; or
- d. All Water Usage Greater Than 90% of the Appropriate Average for the Account; or
- e. All Water Usage Greater Than 80% of the Appropriate Average for the Account.

E. PHASE V: WATER EMERGENCY - Mandatory Compliance

1. Prohibited uses applicable to all water users.
 - a. Leak Repair - All leaks in plumbing, whether indoor or outdoor, must be repaired within 10 days of discovery. All improperly or incorrectly directed or maintained sprinklers must be repaired or adjusted within 10 days of discovery.
 - b. Drinking Water In Public Places - No restaurant, hotel, cafe, cafeteria or other public place where food is sold, served or offered for sale shall serve drinking water to any customer unless expressly requested to do so by the customer.
 - c. Fire Hydrants - Water shall not be used from fire hydrants unless it is metered except for fire fighting, system testing and related activities.
 - d. Runoff - No customer shall cause or allow water to run off landscape areas into adjoining streets, sidewalks or other paved surfaces due to incorrectly directed or maintained sprinklers or other methods of excessive watering.
 - e. Washing of Hard or Paved Surfaces - Water shall not be used to wash sidewalks, walkaways, driveways, parking areas, tennis courts or other hard or paved surfaces, except as is required to dispose of dangerous liquids or substances dangerous to the public health and safety.
 - f. Fountains, Ponds and Lakes - Designated Water Use Days - Water shall not be used to clean, fill or maintain levels in decorative fountains, ponds, lakes or other similar aesthetic structures except on designated water use days and only between the hours of 6:00 PM and 6:00 AM. Designated water use days for even number addresses is Tuesdays and Saturdays. For odd number addresses it is Wednesdays and Sundays. For meters which are not located at an address, if the location is on a north-south running street, they shall be considered even and those on east-west running streets shall be considered odd.

- g. Car Washing at Commercial Facilities Only - Washing of motor vehicles, trailers, boats, aircraft and other types of mobile equipment shall be done only at a commercial car wash with water recycling facilities. No restrictions apply where the health, safety, and welfare of the public is contingent upon frequent vehicle cleaning, such as with refuse trucks and vehicles used to transport food and perishables.
- h. New Swimming Pools and Spas - Water shall not be used to fill new swimming pools or spas.
- i. Construction Water - No new construction meters or permits for unmetered services shall be issued. No water may be used for earthwork or road construction activities.
- j. No Irrigation - Lawn watering and landscape irrigation is prohibited.

2. Limits on Total Water Usage.

Usage above the following limits will result in a surcharge on the excess usage.

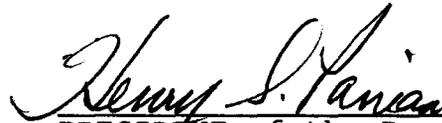
For meter sizes 5/8" through 2": An average monthly or bimonthly usage for each meter size shall be calculated for each District account classification;

For meters 3" or larger: A monthly or bimonthly average will be calculated for each account based on the individual account's water usage for the previous two years.

- a. All Water Usage Greater Than 70% of the Appropriate Average for the Account; or
- b. All Water Usage Greater Than 60% of the Appropriate Average for the Account; or
- c. All Water Usage Greater Than 50% of the Appropriate Average for the Account.

PASSED AND APPROVED at the regular meeting of the Board of Directors held on the 21 day of March, 1991, and adopted by the following roll call vote:

AYES:	5	DIRECTORS:	Panian, Hall, Durante, Nelson, Ohlig
NOES:	0	DIRECTORS:	
ABSENT:	0	DIRECTORS:	
ABSTAIN:	0	DIRECTORS:	



PRESIDENT of the Board of
Directors, MESA CONSOLIDATED
WATER DISTRICT

ATTEST:



SECRETARY
MESA CONSOLIDATED WATER DISTRICT

SUPPLEMENT TO ORDINANCE NO. 8 OF THE

MESA CONSOLIDATED WATER DISTRICT

THE DISTRICT'S WATER CONSERVATION PLAN:
ENFORCEMENT, RELIEF FROM COMPLIANCE, AND
CONSERVATION AND WATER CONSERVATION RATES

This supplement to Ordinance No. 8 of the Mesa Consolidated Water District (which ordinance was adopted on March 21, 1991) is hereby adopted by the Mesa Consolidated Water District Board of Directors (following a noticed hearing) pursuant to Sections 1.5, 1.6 and 1.7 of such Ordinance.

Ordinance No. 8 of the Mesa Consolidated Water District is hereby supplemented as follows:

Section 1.5: ENFORCEMENT

Phase II: Water Watch - With Conservation Rates

Any customer whose account usage is greater than the limit established by the Board will be billed at the water conservation rates adopted by the Board pursuant to Section 1.7 of Ordinance No. 8.

Phase III, Phase IV and Phase V

The First Violation - A reported violation is investigated and the customer notified in writing of the violation. This written warning will be mailed to the customer of record.

Second Violation - A reported violation is investigated and the customer notified in writing of the violation. A notice of violation will be left at the service address and sent to the customer of record.

Third Violation - A reported violation is investigated and the customer notified in writing of the violation. A notice of violation will be left at the service address and sent to the customer of record. A fee of \$200 will be imposed and added to the balance on the water account of the customer of record.

Section 1.5: ENFORCEMENT (continued)

Fourth Violation - A reported violation is investigated and the customer notified in writing of the violation. A notice of violation will be left at the service address and sent to the customer of record. A flow restrictor will be installed for two weeks. A fee will be imposed as follows:

5/8" through 2" meter	\$200
3" meter or larger	Actual Costs

Fifth Violation - A reported violation is investigated and the customer notified in writing of the violation. A notice of violation will be left at the service address and sent to the customer of record. A flow restrictor is installed and will remain until the District's Water Conservation Plan is no longer in effect in accordance with Ordinance No. 8. A fee is imposed as follows:

5/8" through 2" meter	\$200
3" meter or larger	Actual Costs

Section 1.6: RELIEF FROM COMPLIANCE

A customer may appeal any portion of the Ordinance or its enforcement. The appeal must be made in writing on a form provided by the District on request of the customer. The customer must sign this form and in so doing will attest to the accuracy of information on the form, subject to penalty of perjury.

The customer is required to make the appeal in writing within fifteen calendar days of the date on the bill, should he be appealing his water conservation rates, or the date on the notice of violation should he be appealing a violation the prohibited or mandatory uses of water.

The District shall respond in writing to the customer within ten working days after the appeal is filed with the District.

There are three levels of appeal:

1. Appeals Committee

The first level of appeal shall be to a three member Appeals Committee consisting of the District Superintendent, the Manager of Financial Services and the Manager of Public Affairs, or their designees. This committee will review the appeal and determine the action(s), if any, to be taken.

Section 1.6: RELIEF FROM COMPLIANCE (continued)

2. General Manager

A customer who had made an appeal and received a ruling from the Appeals Committee may appeal the decision of this committee to the General Manager.

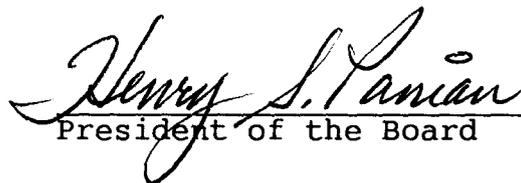
3. Board of Directors

Thereafter the customer may further appeal the decision of the General Manager to the Board of Directors. The decision of the Board of Directors should be final. The Board of Directors will be provided a periodic report of all appeals, and their disposition, no less often than monthly.

Section 1.7: CONSERVATION RATES, FEES AND SURCHARGES

Usage above the limits established by the Board of Directors, pursuant to Phase II of this Ordinance, will be charged at a rate of 200% of the District's Usage Charge in effect at the time the Board determines that Phase II compliance is required.

Approved:



President of the Board



District Secretary

Ayes: Directors: Panian, Durante, Nelson, Ohlig
Nay: Directors: Hall
Absent: Directors: None
Abstain: Directors: None

APPENDIX E

Notice of Intent

March 24, 2005

*District Mission:
Dedicated to Satisfying
our Community's
Water Needs*

The Honorable Bill Campbell
Chairman, Orange County Board of Supervisors
10 Civic Center Plaza
Santa Ana, CA. 92701

Dear Chairman Campbell:

As you may be aware all water districts including the Mesa Consolidated Water District (Mesa) are required by the State of California to update their 2005 Urban Water Management Plans (Plan) every five years. This effort helps ensure that Mesa can provide its service area with a reliable supply of high-quality water to meet current and future demands. Given that comprehensive water resource planning is so critical, the California Water Code now mandates that each urban water purveyor must notify the city and/or county it serves of this planning effort.

Mesa is sending this letter as required by law to solicit the county's input on how land-use planning decisions that the county has made may impact water consumption over the next 20 years.

The information provided by the county will be incorporated into Mesa's Plan. The final document will be submitted to the Municipal Water District of Orange County (MWDOC), which is compiling a countywide Plan. In turn, MWDOC's Plan will be submitted to the Metropolitan Water District of Southern California (MET) for inclusion into its comprehensive Plan. MET supplies imported water from Northern California and the Colorado River to nearly 18 million people in six Southern California counties. MWDOC, a MET member agency, is the water wholesaler and resource-planning agency for Orange County.

The result of our collaborative efforts will be an all-inclusive Plan that will assist us in better managing one of Southern California's most precious resources.

If the county's staff has questions or comments about our regional planning effort, please contact any one of the following individuals:

Mesa: Barry Carlson, Resource Efficiency Specialist, (949) 631-1205
MWDOC: I-Wen Yang, Principal Engineer, (714) 593-5027
MET: Brendon Goshi, Water Resource Manager, (213) 217-7384

Developing a comprehensive 2005 Regional Urban Water Management Plan is critical to Southern California and Orange County. Thank you in advance for the county's participation.

Sincerely,


Diana M. Leach
General Manager

c: Barry Carlson, Mesa Consolidated Water District
I-Wen Yang, Municipal Water District of Orange County
Brendon Goshi, Metropolitan Water District of Southern California
P.O. Box 5008 ♦ 1965 Placentia Avenue (92627) ♦ Costa Mesa, California 92628-5008
Telephone (949) 631-1200 ♦ FAX (949) 574-1036

March 24, 2005

*District Mission:
Dedicated to Satisfying
our Community's
Water Needs*

Mr. Allan Roeder, City Manager
City of Costa Mesa
PO Box 1200
Costa Mesa, CA. 92628-1200

Dear Mr. Roeder:

BOARD OF DIRECTORS

PAUL E. SHOENBERGER
President
Division II

JAMES F. ATKINSON
First Vice President
Division IV

FRED BOCKMILLER
Vice President
Division I

R. MICHAEL HEALEY
Vice President
Division V

TRUDY OHLIG-HALL
Vice President
Division III

DIANA M. LEACH
General Manager

COLEEN L. MONTELEONE
District Secretary

VICTORIA L. BEATLEY
Treasurer / Auditor

**BOWIE, ARNESON, WILES
& GIANNONE**
Legal Counsel

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Telephone (949) 631-1200 ♦ FAX (949) 574-1036

www.mesawater.org

March 24, 2005

*District Mission:
Dedicated to Satisfying
our Community's
Water Needs*

Mr. Homer Bludau, City Manager
City of Newport Beach
3300 Newport Blvd.
Newport Beach, CA. 92663

Dear Mr. Bludau:

As you may be aware all water districts including the Mesa Consolidated Water District (Mesa) are required by the State of California to update their 2005 Urban Water Management Plans (Plan) every five years. This effort helps ensure that Mesa can provide its service area with a reliable supply of high-quality water to meet current and future demands. Given that comprehensive water resource planning is so critical, the California Water Code now mandates that each urban water purveyor must notify the city and/or county it serves of this planning effort.

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Sincerely,


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General Manager

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APPENDIX F

Proof of Publication

