



Water and Sewer Department

2008 Annual Water Conservation Plan Conserve Florida Report

March 2009

Miami-Dade Water and Sewer Department

Water Use Efficiency Section

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INTRODUCTION

The Miami-Dade Water and Sewer Department (MDWASD) is required to submit an annual report to the South Florida Water Management District (SFWMD) on its 20-year water conservation plan (the Plan) as per Limiting Condition #45 of its Water Use Permit (Permit).

To comply with the Permit requirements MDWASD developed a 20-year Water Use Efficiency (WUE) Plan using the Florida Department of Environmental Protection Conserve Florida Guide (Guide). The Guide is a web based application for goal based water conservation planning. MDWASD was the first utility in the State to use the Guide to develop, administer and report its water conservation program.

The implementation of the BMPs included in the Plan guarantees that MDWASD will meet the projected 19.8 million gallons a day (MGD) in water savings by 2026, as required by the Permit. This assurance is based in the fact that the current savings have surpassed the projection and assumptions made in the Plan. MDWASD implemented its WUE plan prior to the issuance of the Permit; this provided an opportunity to test the effectiveness of the selected BMPs. MDWASD published an annual report outlining savings for 2007 and the data is included in this Report.

The reported water savings for 2008 have exceeded all expectations with an almost 40 MGD water consumption reduction system wide.

SUMMARY

Miami-Dade County's Water Use Efficiency (WUE) Program was implemented utilizing the Florida Department of Environmental Protection (DEP) Conserve Florida Guide. The web-based guide for public water suppliers was used for developing, implementing, and now reporting on the water conservation measures and best management practices (BMPs) of Miami-Dade's WUE program. Miami-Dade Water and Sewer Department (MDWASD) is the first utility in the State to use the Guide in the development and administration of its conservation program.

The implementation of the WUE program has achieved unprecedented water use efficiency in all sectors of Miami-Dade. The quantifiable BMPs and measures have met the planned savings proposed in the conservation plan submitted in the Water Use Permit application accepted as Limiting Condition 45 in the Permit.

The Conserve Florida measures and BMPs that MDWASD included in this Plan are shown in this Report with planned projected savings, actual savings and the cost effectiveness calculation for each BMP. In almost every instance the savings have exceeded projections.

The water saving information is found in the Water Savings Projections Table generated from the Guide's Reporting Module. This is an auto-populated spreadsheet that calculates the implementation data for the planned measures and BMPs. This table also includes all projections for the 20-year planning horizon. This data is gathered from the individual BMPs calculation tables.

The next set of spreadsheets includes the implementation calculation for each BMP taking into consideration the manner in which the BMP was implemented. A distinction is made between BMP's that were implemented as originally planned and those BMP's that were implemented with modifications, the spreadsheet includes the cost effectiveness for each BMP in the last column.

The Default Operational Measures section (page 3-4) includes the System Audit information. Miami-Dade has performed this audit using the AWWA-IWA methodology as required. This module of the Conserve Florida Guide needs adjustments in order to adequately report the information requested. Additional information on Miami-Dade's system audit and water loss reduction can be found on the 2008 Annual Water Loss Reduction Plan Implementation Status Report for Limiting Condition 46.

In addition to the Reporting Module, Appendix A of this document includes a copy of MDWASDs' Conserve Florida Plan.

The Miami-Dade Board of County Commissioners has taken an active role in the promotion and implementation of the Water Use Efficiency Plan. A series of legislative initiatives will contribute to substantial indoor water savings in new construction. Amendments to the existing landscape irrigation ordinance as well as a new ordinance regulating landscaping in public rights of ways will contribute to additional outdoor water use efficiency. The requirements for new construction have been incorporated into Miami-Dade County's code and require installation of more water efficient fixtures and appliances, thus producing up to 30% savings in water use in new single family homes. An ordinance establishing permanent 2 day irrigation restrictions is on the Board of County Commissioner's agenda for adoption in April 2009.

Conserve Florida Report

Water Savings Projection Report Summary

Year	Water Savings (mgd)		Demand (mgd)				Population		Per Capita Demand (gpcd)				% Reduction			
	Planned	Reported	Without Conservation	With Conservation		Actual	Forecasted	Actual	Without Conservation	With Conservation		Demand or Per Capita		Demand Actual	Per Capita Actual	
				Planned	Reported					Planned	Reported	Planned	Reported			
2007	0.95315	1.212308	348.89	347.93685	347.677692	315.8	2250944	2250944	155	154.57	154.46	140.3	0.28 %	0.35 %	9.48 %	9.49 %
2008	1.931409	3.476908	345.78	343.848591	341.090785	306.9	2230895	2230895	155	154.13	153.44	137.57	0.56 %	1.01 %	11.24 %	11.25 %
2009	3.061188	--	350.37	347.308812	--	--	2260476	--	155	153.64	--	--	0.87 %	--	--	--
2010	4.188652	--	354.95	350.761348	--	--	2290058	--	155	153.17	--	--	1.18 %	--	--	--
2011	5.461916	--	359.54	354.078084	--	--	2319639	--	155	152.64	--	--	1.52 %	--	--	--
2016	11.211156	--	381.79	370.578844	--	--	2463169	--	155	150.45	--	--	2.94 %	--	--	--
2021	15.331076	--	400.66	385.328924	--	--	2584918	--	155	149.07	--	--	3.83 %	--	--	--
2026	19.435996	--	419.53	400.094004	--	--	2706668	--	155	147.82	--	--	4.63 %	--	--	--

Figure 3-1-1

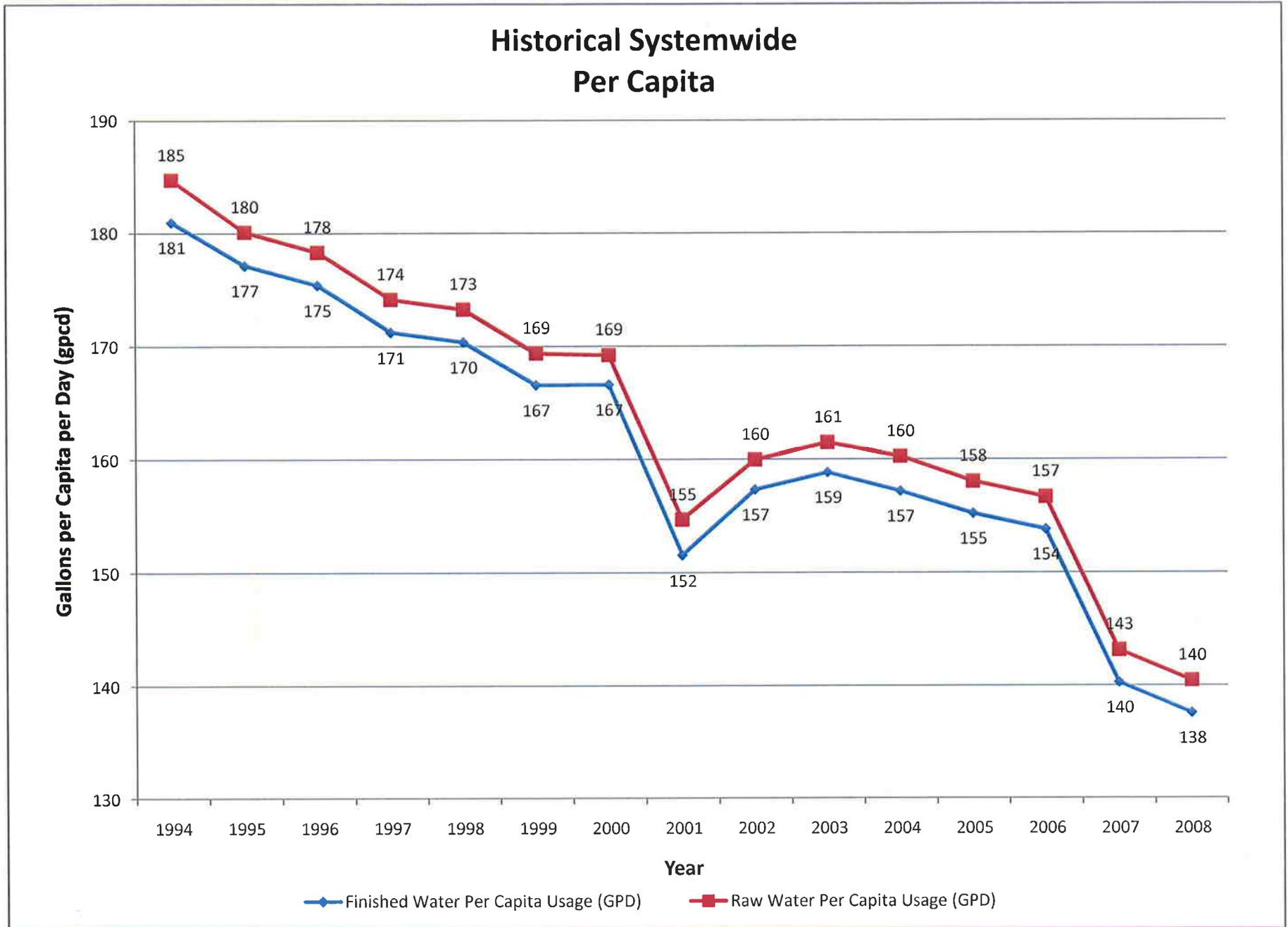
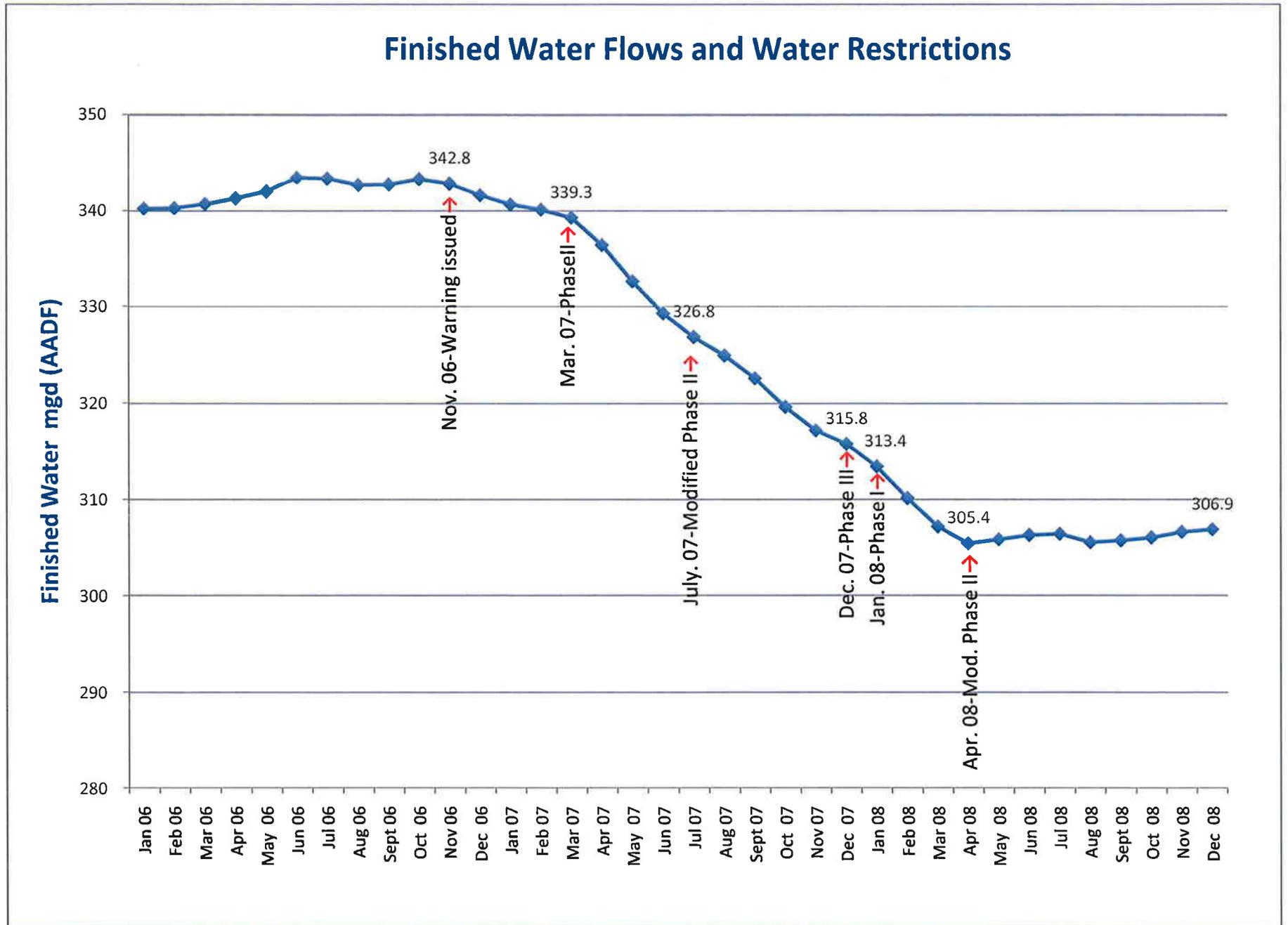


Figure 3-1-2



Best Management Practices Implementation Report

BMP Implementation for BMP Template
 Category: Indoors
 Sector: **Multi-Family- Showerhead Exchange**

Year		Units	Cost/Measure (\$/account)	Total Cost (\$)	Comments	Savings/Measure (gpm)	Total Savings (gpd)	C/E
2007	Planned	1600	1.6	2,560		35	56,000	0.05
	Reported	4193	2.29	9,601.97		35	146,755	0.07
	Difference	2593	0.69	7,041.97			90,755	0.02
2008	Planned	1600	1.6	2,560		35	56,000	0.05
	Reported	4000	2.88	11,520		35	140,000	0.08
	Difference	2400	1.28	8,960			84,000	0.04
2009	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2010	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2011	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2012	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2013	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2014	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2015	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2016	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2017	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2018	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2019	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2020	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2021	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2022	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2023	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2024	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2025	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							
2026	Planned	1720	1.6	2,752		35	60,200	0.05
	Reported							
	Difference							

BMP Implementation for: BMP Template
 Category: Indoors
 Sector: Multi-Family- Retrofit Kit Project

Year		Units	Cost/Measure (\$/account)	Total Cost (\$)	Comment	Savings/Measure (gpm/d)	Total Savings (gpd)	C/E
2007	Planned	1600	2.38	3,808		12	19,200	0.2
	Reported	4193	2.3	9,643.9		12	50,316	0.19
	Difference	2593	-0.08	5,835.9			31,116	-0.01
2008	Planned	1600	2.38	3,808		12	19,200	0.2
	Reported	4000	2.38	9,520		12	48,000	0.2
	Difference	2400		5,712			28,800	
2009	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2010	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2011	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2012	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2013	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2014	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2015	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2016	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2017	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2018	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2019	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2020	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2021	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2022	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported	1720	2.38	4,093.6		12	20,640	0.2
	Difference							
2023	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2024	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2025	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							
2026	Planned	1720	2.38	4,093.6		12	20,640	0.2
	Reported							
	Difference							

BMP Implementation for: BMP Template
 Category: Indoors
 Sector: **Single Family- Showerhead Exchange**

Year		Units	Cost/Measure (\$/account)	Total Cost (\$)	Comments	Savings/Measure (gpm)	Total Savings (gpd)	C/E
2007	Planned	1600	1.6	2,560		35	56,000	0.05
	Reported	4194	2.29	9,604.26		35	146,790	0.07
	Difference	2594	0.69	7,044.26			90,790	0.02
2008	Planned	1600	1.6	2,560		35	56,000	0.05
	Reported	2437	2.88	7,018.56		35	85,295	0.08
	Difference	837	1.28	4,458.56			29,295	0.04
2009	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2010	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2011	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2012	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2013	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2014	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2015	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2016	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2017	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2018	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2019	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2020	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2021	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2022	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2023	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2024	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2025	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							
2026	Planned	1770	1.6	2,832		35	61,950	0.05
	Reported							
	Difference							

BMP Implementation for: BMP Template
 Category: Indoors
 Sector: **Single Family -Retrofit Kit**

Year		Units	Cost/Measure (\$/account)	Total Cost (\$)	Comments	Savings/Measure (gpm/d)	Total Savings (gpd)	C/E
2007	Planned	1600	2.38	3,808		12	19,200	0.2
	Reported	4194	2.3	9,646.2		12	50,328	0.19
	Difference	2594	-0.08	5,838.2			31,128	-0.01
2008	Planned	1600	2.38	3,808		12	19,200	0.2
	Reported	2437	2.38	5,800.06		12	29,244	0.2
	Difference	837		1,992.06			10,044	0
2009	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2010	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2011	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2012	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2013	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2014	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2015	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2016	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2017	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2018	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2019	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2020	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2021	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2022	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2023	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2024	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2025	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							
2026	Planned	1770	2.38	4,212.6		12	21,240	0.2
	Reported							
	Difference							

BMP Implementation for: High-Efficiency Clothes Washer Rebates

Category: Indoor

Sector: Multi-Family High Efficiency Washer Rebate

Year		Units	Cost/Unit (\$/unit)	Total Cost (\$)	Comments	Savings/Unit (gpd)	Total Savings (gpd)	C/E
2007	Planned	0	300	0		48	0	-
	Reported		300			48		
	Difference						0	--
2008	Planned	0	300	0		48	0	-
	Reported		300			48		
	Difference						0	-
2009	Planned	0	300	0		48	0	-
	Reported							
	Difference							
2010	Planned	0	300	0		48	0	-
	Reported							
	Difference							
2011	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2012	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2013	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2014	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2015	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2016	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2017	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2018	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2019	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2020	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2021	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2022	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2023	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2024	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2025	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							
2026	Planned	50	300	15,000		48	2,400	6.25
	Reported							
	Difference							

BMP Implementation for: High-Efficiency Clothes Washer Rebates

Category: Indoor

Sector: Single Family Home Washers - Rebate

Year		Units	Cost/Account (\$/account)	Total Cost (\$)	Comments	Savings/Account (gpd)	Total Savings (gpd)	C/E
2007	Planned	0	150	0		16.3	0	--
	Reported		150			16.3		
	Difference							
2008	Planned	150	150	22,500		16.3	2,445	9.2
	Reported	849	200	169,800	Rebate reduced to \$150 in year two	16.3	13,838.7	12.27
	Difference	699	50	147,300			11,393.7	3.07
2009	Planned	250	150	37,500		16.3	4,075	9.2
	Reported							
	Difference							
2010	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2011	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2012	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2013	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2014	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2015	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2016	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2017	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2018	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2019	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2020	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2021	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2022	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2023	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2024	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2025	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							
2026	Planned	0	150	0		16.3	0	--
	Reported							
	Difference							

BMP Implementation for: Non-residential Water-Use Evaluations/Implementations

Category: Evaluations without Rebates

Sector: **Non-Residential- Green Restaurant Program**

Year		Units	Cost/Measure (\$/account)	Total Cost (\$)	Comments	Savings/Measure (gpm/d)	Total Savings (gpd)	C/E
2007	Planned	0	40	0		100	0	--
	Reported		40			100		
	Difference							
2008	Planned	12	40	480		100	1,200	0.4
	Reported	14	40	560		100	1,400	0.4
	Difference	2		80			200	
2009	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2010	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2011	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2012	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2013	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2014	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2015	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2016	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2017	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2018	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2019	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2020	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2021	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2022	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2023	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2024	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2025	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							
2026	Planned	12	40	480		100	1,200	0.4
	Reported							
	Difference							

BMP Implementation for: Non-residential Water-Use Evaluations/Implementations
Category: Evaluations without Rebates
Sector: Non-Residential- Green Lodging Project

Year		Units	Cost/Measure (\$/account)	Total Cost (\$)	Comments	Savings/Measure (gpm)	Total Savings (gpd)	C/E
2007	Planned	0	667	8,004		1,617	-	-
	Reported		-			1,617		
	Difference							
2008	Planned	12	667	8,004		1,617	19,404	0.41
	Reported	17	667	11,339		1,617	27,489	0.41
	Difference	5		3,335			8,085	
2009	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2010	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2011	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2012	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2013	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2014	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2015	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2016	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2017	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2018	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2019	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2020	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2021	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2022	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2023	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2024	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2025	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							
2026	Planned	12	667	8,004		1,617	19,404	0.41
	Reported							
	Difference							

BMP Implementation for: Non-residential Water-Use Evaluations/Implementations

Category: Evaluations without Rebates

Sector: **Non-Residential- County Owned and Operated Facilities**

Year		Units	Cost/Measure (\$/account)	Total Cost (\$)	Comments	Savings/Measure (gpm)	Total Savings (gpd)	C/E
2007	Planned	22	1,600	35,200		1,500	33,000	1.07
	Reported	22	1,600	35,200		1,500	33,000	1.07
	Difference							
2008	Planned	10	1,600	16,000		1,500	15,000	1.07
	Reported	25	3,600	136,800		1,500	57,000	2.4
	Difference	15	2,000	120,800			42,000	1.33
2009	Planned	10	1,600	16,000		1,500	15,000	1.07
	Reported							
	Difference							
2010	Planned	10	1,600	16,000		1,500	15,000	1.07
	Reported							
	Difference							
2011	Planned	10	1,600	16,000		1,500	15,000	1.07
	Reported							
	Difference							
2012	Planned	10	1,600	16,000		1,500	15,000	1.07
	Reported							
	Difference							
2013	Planned	10	1,600	16,000		1,500	15,000	1.07
	Reported							
	Difference							
2014	Planned	10	1,600	16,000		1,500	15,000	1.07
	Reported							
	Difference							
2015	Planned	10	1,600	16,000		1,500	15,000	1.07
	Reported							
	Difference							
2016	Planned	10	1,600	16,000		1,500	15,000	1.07
	Reported							
	Difference							
2017	Planned	10	1,600	16,000		1,500	15,000	1.07
	Reported							
	Difference							
2018	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2019	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2020	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2021	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2022	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2023	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2024	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2025	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2026	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							

BMP Implementation for: Non-residential Water-Use Evaluations/Implementations

Category: Evaluations without Rebates

Sector: **Non-Residential- Private Industrial, Commercial and Institutional Facilities**

Year		Units	Cost/Measure (\$/account)	Total Cost (\$)	Comments	Savings/Measure (gpm/d)	Total Savings (gpd)	C/E
2007	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2008	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2009	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2010	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2011	Planned	0	1,600	0		1,500	0	--
	Reported							
	Difference							
2012	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2013	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2014	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2015	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2016	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2017	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2018	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2019	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2020	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2021	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2022	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2023	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2024	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2025	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							
2026	Planned	213	1,600	340,800		1,500	319,500	1.07
	Reported							
	Difference							

BMP Implementation for: Ultra Low Flush (ULF) Toilet Rebates

Category: Rebates

Sector: Multi-Family- High-Efficiency Toilet Rebate

Year		Units	Cost/Unit (\$/unit)	Total Cost (\$)	Comments	Savings/Unit (gpcd)	Total Savings (gpcd)	C/E
2007	Planned	0	130	0		29	0	--
	Reported	0						
	Difference							
2008	Planned	140	130	18,200		29	4,060	4.48
	Reported	140	100	14,000	Cost of HET rebate.	29	4,060	3.45
	Difference		-30	-4,200				-1.03
2009	Planned	150	130	19,500		29	4,350	4.48
	Reported							
	Difference							
2010	Planned	150	130	19,500		29	4,350	4.48
	Reported							
	Difference							
2011	Planned	150	130	19,500		29	4,350	4.48
	Reported							
	Difference							
2012	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2013	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2014	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2015	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2016	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2017	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2018	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2019	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2020	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2021	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2022	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2023	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2024	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2025	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							
2026	Planned	2240	130	291,200		29	64,960	4.48
	Reported							
	Difference							

BMP Implementation for: Ultra Low Flush (ULF) Toilet Rebates

Category: Rebates

Sector: Single Family- High-Efficiency Toilet (HET) Rebate Project

Year		Units	Cost/Account (\$/account)	Total Cost (\$)	Comments	Savings/Account (gpd)	Total Savings (gpd)	C/E
2007	Planned	750	100	75,000		29	21,750	3.45
	Reported	971	100	97,100		29	28,159	3.45
	Difference	221		22,100			6,409	
2008	Planned	750	100	75,000		29	21,750	3.45
	Reported	1253	100	125,300		29	36,337	3.45
	Difference	503		50,300			14,587	
2009	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2010	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2011	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2012	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2013	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2014	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2015	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2016	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2017	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2018	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2019	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2020	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2021	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2022	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2023	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2024	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2025	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							
2026	Planned	1000	100	100,000		29	29,000	3.45
	Reported							
	Difference							

BMP Implementation for: Ultra Low Flush (ULF) Toilet Rebates

Category: Rebate

Sector: Single Family- High-Efficiency Toilet (HET) Distribution Project

Year		Units	Cost/Account (\$/account)	Total Cost (\$)	Comments	Savings/Account (gpad)	Total Savings (gpd)	C/E
2007	Planned	0	130	0		29	0	--
	Reported		130			29		
	Difference							
2008	Planned	0	130	0		29	0	--
	Reported		130			29		
	Difference							
2009	Planned	0	130	0		29	0	-
	Reported							
	Difference							
2010	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2011	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2012	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2013	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2014	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2015	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2016	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2017	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2018	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2019	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2020	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2021	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2022	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2023	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2024	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2025	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							
2026	Planned	1630	130	211,900		29	47,270	4.48
	Reported							
	Difference							

BMP Implementation for: Ultra Low Flush (ULF) Toilet Rebates

Category: Retrofit

Sector: **Multi-Family Full Retrofit Project**

Year		Units	Cost/Unit (\$/unit)	Total Cost (\$)	Comments	Savings/Unit (gpud)	Total Savings (gpud)	C/E
2007	Planned	0	150	0		64	0	--
	Reported	0				64		
	Difference							
2008	Planned	0	150	0		64	0	--
	Reported					64		
	Difference							
2009	Planned	310	150	46500		64	19,840	2.34
	Reported							
	Difference							
2010	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2011	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2012	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2013	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2014	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2015	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2016	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2017	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2018	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2019	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2020	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2021	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2022	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2023	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2024	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2025	Planned	0	0	0		64	0	--
	Reported							
	Difference							
2026	Planned	0	0	0		64	0	--
	Reported							
	Difference							

BMP Implementation for: Ultra Low Flush (ULF) Toilet Rebates
 Category: Retrofit
 Sector: **Single Family- Senior and Low-Income Full Retrofit Project**

Year		Units	Cost/Account (\$/account)	Total Cost (\$)	Comments	Savings/Account (gpad)	Total Savings (gpd)	C/E
2007	Planned	750	250	187,500		64	48,000	3.91
	Reported	890	250	222,500		64	56,960	3.91
	Difference	140		35,000			8,960	
2008	Planned	1000	250	250,000		64	64,000	3.91
	Reported	1124	250	281,000		64	71,936	3.91
	Difference	124		31,000			7,936	
2009	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2010	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2011	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2012	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2013	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2014	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2015	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2016	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2017	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2018	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2019	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2020	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2021	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2022	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2023	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2024	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2025	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							
2026	Planned	1000	250	250,000		64	64,000	3.91
	Reported							
	Difference							

BMP Implementation for: Water-Efficient Landscape and Irrigation Evaluations and Rebates

Category: Landscape and Irrigation Evaluations without Rebates

Sector: **Non-Residential- Home owner Associations Landscape Evaluations w/ Soil Moisture Sensor**

Year		Units	Cost/Account (\$/account)	Total Cost (\$)	Comments	Savings/Account (gpad)	Total Savings (gpd)	C/E
2007	Planned	20	8,010	160,200		35,000	700,000	0.23
	Reported	20	8,010	160,200		35,000	700,000	0.23
	Difference							
2008	Planned	20	8,010	160,200		35,000	700,000	0.23
	Reported	50	8,010	400,500		35,000	1,750,000	0.23
	Difference	30		240,300			1,050,000	
2009	Planned	20	8,010	160,200		35,000	700,000	0.23
	Reported							
	Difference							
2010	Planned	20	8,010	160,200		35,000	700,000	0.23
	Reported							
	Difference							
2011	Planned	20	8,010	160,200		35,000	700,000	0.23
	Reported							
	Difference							
2012	Planned	20	8,010	160,200		35,000	700,000	0.23
	Reported							
	Difference							
2013	Planned	20	8,010	160,200		35,000	700,000	0.23
	Reported							
	Difference							
2014	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							
2015	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							
2016	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							
2017	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							
2018	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							
2019	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							
2020	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							
2021	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							
2022	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							
2023	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							
2024	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							
2025	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							
2026	Planned	0	8,010	0		35,000	0	--
	Reported							
	Difference							

BMP Implementation for: Water-Efficient Landscape and Irrigation Evaluations and Rebates

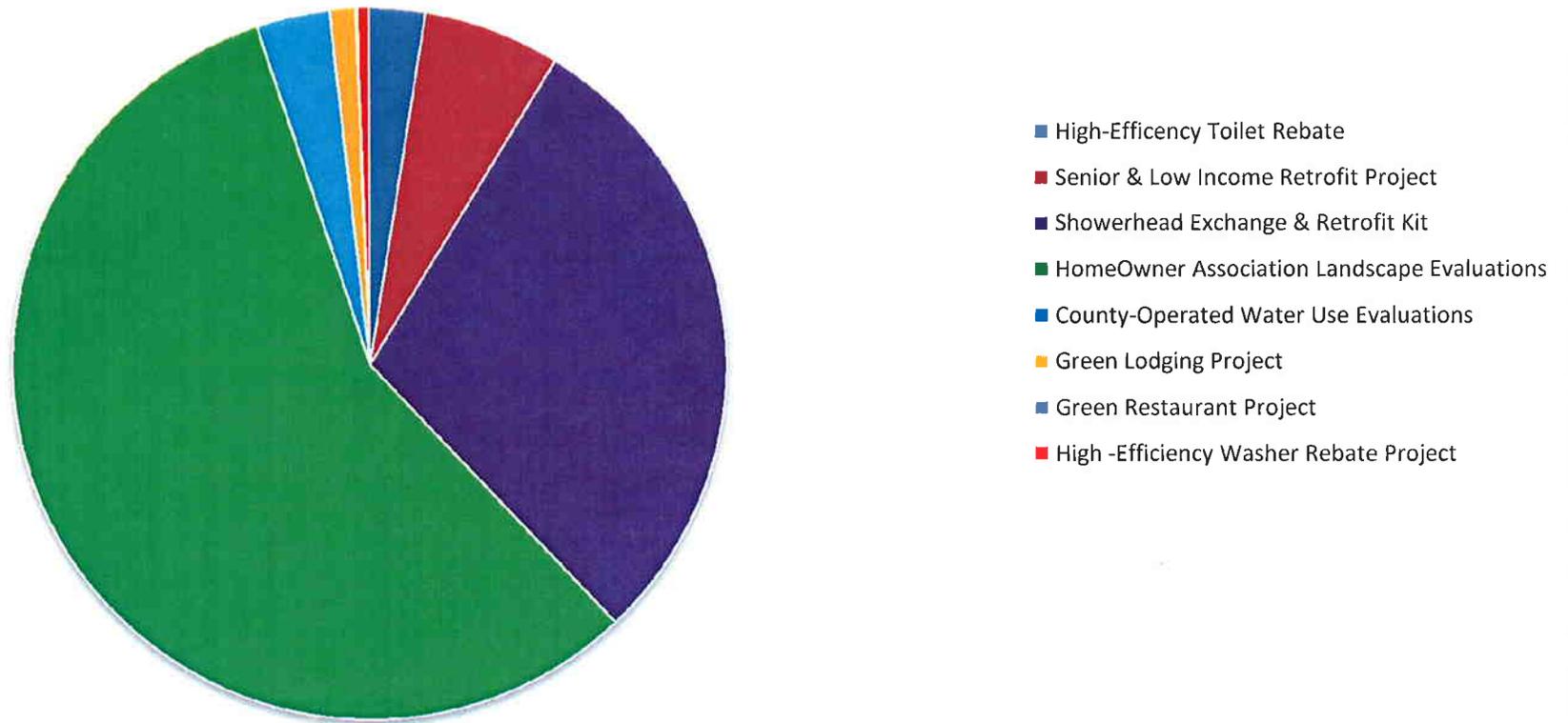
Category: Landscape and Irrigation Evaluations without Rebates

Sector: **Single Family Irrigation Evaluations w/ Soil Moisture Sensor**

Year		Units	Cost/Account (\$/account)	Total Cost (\$)	Comments	Savings/Account (gpad)	Total Savings (gpd)	C/E
2007	Planned	0	260	78,000		233	69,900	1.12
	Reported							
	Difference							
2008	Planned	0	260	78,000		233	69,900	1.12
	Reported							
	Difference							
2009	Planned	360	260	93,600		233	83,880	1.12
	Reported							
	Difference							
2010	Planned	360	260	93,600		233	83,880	1.12
	Reported							
	Difference							
2011	Planned	360	260	93,600		233	83,880	1.12
	Reported							
	Difference							
2012	Planned	360	260	93,600		233	83,880	1.12
	Reported							
	Difference							
2013	Planned	360	260	93,600		233	83,880	1.12
	Reported							
	Difference							
2014	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							
2015	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							
2016	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							
2017	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							
2018	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							
2019	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							
2020	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							
2021	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							
2022	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							
2023	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							
2024	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							
2025	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							
2026	Planned	340	260	88,400		233	79,220	1.12
	Reported							
	Difference							

Figure 3-2-1

Water Savings (gpd) per Water-Use Efficiency Project



Default and Optional Best Management Practices and Measures

Miami-Dade County Water and Sewer Department 2007 Plan Reporting Dashboard

Default BMPs

	BMP/Measure was implemented as exactly as planned	BMP/Measure was implemented differently than planned
Ultra Low Flush (ULF) Toilet Rebates	Yes	
Ultra Low Flush (ULF) Toilet Rebates		Yes
Ultra Low Flush (ULF) Toilet Rebates	Yes	
Ultra Low Flush (ULF) Toilet Rebates	Yes	
Ultra Low Flush (ULF) Toilet Rebates		Yes
Water-Efficient Landscape and Irrigation Evaluations and Rebates	Yes	
Water-Efficient Landscape and Irrigation Evaluations and Rebates		Yes

Default Measures

	BMP/Measure was implemented as exactly as planned	BMP/Measure was implemented differently than planned
Source-Water Metering	Yes	
Service-Connection Metering	Yes	
Fixed-Interval Meter Reading, Testing, Calibrating, Repairing, and Replacing	Yes	
System Audit	Yes	
Leak Detection and Repair	Yes	
Conservation Rate Structures	Yes	
Customer Leak Notification	Yes	
Informative Billing	Yes	
Water Bill Inserts	Yes	
Retrofit Kit Give Away	Yes	
Public Information/Education	Yes	
Customer Surveys	Yes	
Workshops	Yes	
Conservation Coordinator	Yes	
Advisory Committee	Yes	
Wholesale Water Supplier/ Water Supply Authority Assistance Programs	Yes	
Landscape/Irrigation Ordinance Development and Implementation	Yes	
Reuse Feasibility Study	Yes	

Optional BMPs

	BMP/Measure was implemented as exactly as planned	BMP/Measure was implemented differently than planned
BMP Template		Yes

High-Efficiency Clothes Washer Rebates		Yes
High-Efficiency Clothes Washer Rebates	Yes	
Non-residential Water-Use Evaluations/Implementations	Yes	
Non-residential Water-Use Evaluations/Implementations		Yes
Non-residential Water-Use Evaluations/Implementations	Yes	
Non-residential Water-Use Evaluations/Implementations	Yes	
Non-residential Water-Use Evaluations/Implementations		Yes

Optional Measures

	BMP/Measure was implemented as exactly as planned	BMP/Measure was implemented differently than planned
Selective Usage of Pressure-Stablization Valves	Yes	
Water Waste Prohibition		Yes

Miami-Dade Water and Sewer Department 2008 Plan Reporting Dashboard

Default BMPs

	BMP/Measure was implemented as exactly as planned	BMP/Measure was implemented differently than planned
Ultra Low Flush (ULF) Toilet Rebates	Yes	
Ultra Low Flush (ULF) Toilet Rebates		Yes
Ultra Low Flush (ULF) Toilet Rebates		Yes
Ultra Low Flush (ULF) Toilet Rebates		Yes
Ultra Low Flush (ULF) Toilet Rebates		Yes
Water-Efficient Landscape and Irrigation Evaluations and Rebates		Yes
Water-Efficient Landscape and Irrigation Evaluations and Rebates		Yes

Default Measures

	BMP/Measure was implemented as exactly as planned	BMP/Measure was implemented differently than planned
Source-Water Metering	Yes	
Service-Connection Metering	Yes	
Fixed-Interval Meter Reading, Testing, Calibrating, Repairing, and Replacing	Yes	
System Audit	Yes	
Leak Detection and Repair	Yes	
Conservation Rate Structures	Yes	
Customer Leak Notification	Yes	
Informative Billing	Yes	
Water Bill Inserts	Yes	
Retrofit Kit Give Away	Yes	
Public Information/Education	Yes	
Customer Surveys	Yes	
Workshops	Yes	
Conservation Coordinator	Yes	
Advisory Committee	Yes	
Wholesale Water Supplier/ Water Supply Authority Assistance Programs	Yes	
Landscape/Irrigation Ordinance Development and Implementation	Yes	
Reuse Feasibility Study	Yes	

Optional BMPs

	BMP/Measure was implemented as exactly as planned	BMP/Measure was implemented differently than planned
BMP Template		Yes

High-Efficiency Clothes Washer Rebates		Yes
High-Efficiency Clothes Washer Rebates		Yes
Non-residential Water-Use Evaluations/Implementations	Yes	
Non-residential Water-Use Evaluations/Implementations		Yes

Optional Measures

	BMP/Measure was implemented as exactly as planned	BMP/Measure was implemented differently than planned
Selective Usage of Pressure-Stabilization Valves	Yes	
Water Waste Prohibition		Yes

**Default Operational
Measures**

Source-Water Metering

Will all your water source(s) metered at the point of withdrawal (or point of entry for purchase water)?	Yes
---	-----

Service-Connection Metering

Will your utility require meters for all new connections?	Yes
Are all service connections currently metered?	Yes

Fixed-Interval Meter Reading, Testing, Calibrating, Repairing, and Replacing

Sector	Meter Size	How frequently will you?				
		Read your meters?	Test your meters?	Calibrate your meters?	Repair your meters?	Replace your meters?
Single Family	5/8 inch	quarterly	8 years	8 years	as needed	as needed
Single Family	3/4 inch	quarterly	8 years	8 years	as needed	as needed
Single Family	1 inch	quarterly	8 years	8 years	as needed	as needed
Single Family	1 1/2 inch	quarterly	8 years	8 years	as needed	as needed
Multi-Family	1 inch	monthly	8 years	8 years	as needed	as needed
Multi-Family	2 inch	monthly	semi-annually	semi-annually	as needed	as needed
Multi-Family	3 inch	monthly	semi-annually	semi-annually	as needed	as needed
Multi-Family	4 inch	monthly	semi-annually	semi-annually	as needed	as needed
Multi-Family	6 inch	monthly	semi-annually	semi-annually	as needed	as needed
Wholesale	6 inch	monthly	semi-annually	semi-annually	as needed	as needed
Wholesale	8 inch	monthly	semi-annually	semi-annually	as needed	as needed
Wholesale	10 inch	monthly	semi-annually	semi-annually	as needed	as needed
Wholesale	12 inch	monthly	semi-annually	semi-annually	as needed	as needed

System Audit

How often will your utility perform a system audit?	yearly
What water loss method will you use?	AWWA IWA

Leak Detection and Repair

Is your unaccounted for water use greater than 10% (SWFWMD 12%)?	No
If you do not agree that your estimated losses are correctly reflected by the IWA Water Audit Section, please indicate what your losses are and confirm that you identified the method used	

to estimate your losses in the System Audit section.	
Will your utility implement a leak detection and repair program?	Yes
Provide a description of the program, and methods used for detection.	The leak detection program uses state of the art acoustical detection equipment (aqua-scope with an electronic sound amplifier) to locate leaks which are recorded and subsequently repaired. The system-wide inspection takes a little under a year to complete.

Conservation Rate Structures

Sector	Water Use Type	Conservation Rate Structure will be present?
Single Family	Potable	Yes
Single Family	Potable for Irrigation Use	Yes
Single Family	Reclaimed	No
Multi-Family	Potable	Yes
Multi-Family	Potable for Irrigation Use	Yes
Multi-Family	Reclaimed	No
Non-Residential	Potable	No data provided
Non-Residential	Potable for Irrigation Use	No data provided
Non-Residential	Reclaimed	No data provided
Other	Potable	No data provided
Other	Potable for Irrigation Use	No data provided
Other	Reclaimed	No data provided
Wholesale	Potable	No
Wholesale	Potable for Irrigation Use	No
Wholesale	Reclaimed	No data provided

Customer Leak Notification

Does your utility inform customers when their meter reading indicates that a leak may be present on their property?	Yes
Please describe the program	If a meter reading is more than 200% from the previous consumption period, MDWASD 's billing system autogenerates a high bill message, which triggers a field inspection. An inspection is conducted and the findings are given in a written notification to the customer. If the reason for the high bill is not an over-read error, the customer will be offered an indoor water-use evaluation.

Informative Billing

Will your utility implement informative billing?	Yes
What information will be provided directly on the bill (not as a bill insert)?	amount of water used in the current month amount of water used in the previous month

Water Bill Inserts

Will your utility provide water conservation information via water bill inserts?	Yes
Describe the type of water conservation information to be provided on the bill inserts	Conservation tips are included in the department's newsletter. Additional information on new programs is also included.
How often will you include water conservation information on bill inserts?	quarterly

Retrofit Kit Give Away

Will your utility give away retrofit kits?	No- It is part of an Exchange Program
What is to be included in the kit?	showerhead(s) faucet aerators toilet leak detection tablets leak brochures water conservation brochures
How will the program be administered?	kits provided at public events customer pick-up
Will you be tracking the accounts the retrofit kit went to?	Yes
Do you evaluate before and after water use?	Yes

Customer Surveys

Will your utility conduct user surveys of customer attitudes and behaviors as a means of evaluating and enhancing water conservation programs?	Yes
Surveys will be conducted in conjunction with (check all that apply):	
When was the latest survey conducted?	2007
How often will such surveys be administered?	Every 3 years
Describe how your utility will use survey results to enhance their water conservation program.	Information is analyzed to identify customer's practices and behaviors

Conservation Coordinator

Will your utility have a water conservation	Yes
--	-----

coordinator(s) or a consultant(s) to help plan, implement and/or evaluate water conservation efforts?	
How many staff members (or consultants) will fulfill a water conservation coordinator role and/or support a water conservation coordinator on water conservation efforts?	3
How many hours per week will be dedicated to performing a water conservation role?	40
Please enter the expenditures budgeted for Year 1?	
Please enter the expenditures budgeted for Year 2?	903,000
Please enter the expenditures budgeted for Year 3?	1153000
Please enter the expenditures budgeted for Year 4?	
Please enter the expenditures budgeted for Year 5?	

Advisory Committee

Name of the committee	Name of the organization that established this committee	Committee Members
Water Resources Advisory Committee	South Florida Water Management District (SFWMD)	elected officials local business people interested citizens agency representatives representatives of concerned local groups water conservation coordinators member utilities my water supplier others
Advisory Committee to Address Water Conservation Issues and Alternative Water Supplies for the Development Community	Miami-Dade County	Business home builders & developers environmentalist trade organizations landscape & irrigation industry farmers, state agencies & county departments the general public
Comprehensive Water Conservation Program Development	SFWMD	Local government Environmental Organizations Golf Courses Agriculture Small Business Industrial/manufacturing Nursery/Landscape Business Hospitality and Service Industry

		Developers Utilities
--	--	-------------------------

Wholesale Water Supplier/ Water Supply Authority Assistance Programs

Does your organization have an assistance program?	Yes
Please provide a description of the program. Include the names of the utilities you help and the type of assistance provided	The MDWASD is working closely with the wholesale customers to assist them in preparing water conservation plans to implement for their customers. The MDWASD provides information and assistance with current consumption and how to use the Conserve Florida website. Assistance is also provided for development of their CDMP.

Reuse Feasibility Study

What was the date of your latest Reuse Feasibility Study?	2007
--	------

Selective Usage of Pressure-Stablization Valves

Will your utility use pressure-stabilizing valves as a water conservation measure?	No
---	----

Landscape/Irrigation Ordinance Development and Implementation

Will there be a Xeriscape or Florida-Friendly landscape ordinance requirement in the utility's service area?	Yes- it has been since 1992
What sectors are to be affected by the landscape ordinance?	Single Family Multi-Family Non-Residential Bulk
Will there be a water-efficient irrigation system ordinance requirement in place in the utility's service area?	Yes
What sectors are to be affected by the irrigation ordinance?	Single Family Multi-Family Non-Residential Bulk

Water Waste Prohibition

Will there be a water waste prohibition ordinance in your service area?	Yes
Provide a description of the ordinance, including the measures to be taken to ensure compliance.	Permanent two-day-a-week irrigation ordinance with code compliance enforcement as per 8-CC of the Code of Miami-Dade County.

Public Outreach and Education

Workshops

Type of Workshop	Is Funded?	Is Administered?	Do you track affected accounts?	How do you track affected accounts?	Does tracking include pre and post workshop comparisons?
Cooling Tower Workshop	Yes	FSAWWA	No	No	No
Irrigation Restriction Workshop	Yes	UF-IFAS, Miami-Dade County Consumer Service Department	No	No	No
Irrigation Efficiency Workshop	Yes	UF-IFAS, Miami-Dade County Consumer Service Department	No	No	No
How to prepare your Water Supply Facilities Work Plan & comprehensive Plan Amendments	Yes	MDWASD & SFWMD	No	No	No
SFWMD/MDWASD/Municipalities Water Supply Facilities Work Plan	Yes	MDWASD & SFWMD	No	No	No

Awards & Recognitions

Organization	Award	Project
FSAWWA	2008 Water Conservation Award for Excellence	Best-in-Class: MDWASD 2007 Annual Report
FSAWWA	2008 Water Conservation Award for Excellence	Best-in-Class: High Efficiency Washer Rebate Project
FSAWWA	2008 Water Conservation Award for Excellence	Show-of-Excellence: Landscape Irrigation Evaluation and Retrofit Project
FSAWWA	2008 Water Conservation Award for Excellence	Meritorious: Large Volume Showerhead Distribution Project

Policy Measures

Policy Development

Policy	Code Amendments	Adoption
Requirements for New Construction	Amending Sections 8-31, 32-84 and 8A-381 of the Code of Miami Dade County. Requiring new plumbing fixtures standards: <ul style="list-style-type: none"> ● Toilets- 1.28 gpf ● Showerheads – 1.5 gpm ● Faucets – 1.5 gpm ● Requiring submeters for multi-units buildings 	Board of County Commissioner adoption on 09/02/2008
Permanent 2-day Irrigation Requirements	Passed in the Government Operations Committee on 03/10/09	Board of County Commissioner adoption scheduled for April 2009

Appendix A
MDWASD Conserve Florida Plan

Utility Profile Module

Conserve Florida GUIDE

Utility Profile

Name of Utility: Miami Dade Water and Sewer

Type of Water Supplier: Retail and Wholsale

Address:

3071 SW 38 Ave

Miami, FL 33146

Miami-Dade

Description of Service Area: Miami-Dade Water and Sewer Department services most of Miami-Dade County as well as 15 wholesale customers listed below: Miami Beach, Hialeah, North Miami Beach, North Miami, Miami Springs, Opa-Locka, Hialeah Gardens, Medley, Bal Harbour, Bay Harbor Islands, North Bay Village, Surfside, West Miami, Indian Creek Village, Virginia Gardens.

Plan Horizon

What is the start year for your Plan? 2007

What is the last year of the implementation for your Plan? 2026

Permit Info

Permitting Agency: SFWMD

Permit Status: Existing permit (not being renewed or modified)

Permit Number: 04511-5

Permit Expiration Date: 12/1/2007 12:00:00 AM

Current Average Day Demand Quantity Currently Permitted: 349.760000 mgd

Current Peak Monthly Water Use Quantity Currently Permitted: 371.330000 mgd

Permitting Agency: SFWMD

Permit Status: Application for new permit

Project Name: Consolidated Water Use Permit

Request Duration of Permit: 20 years

Current Average Day Demand Quantity Requested: 421.320000 mgd

Current Peak Monthly Water Use Quantity Requested: 442.400000 mgd

Sectors and Meters

Sector: Single Family

Meters: 5/8 inch

5/8 inch

3/4 inch

3/4 inch

1 inch

1 inch

1 1/2 inch

1 1/2 inch

How often do you bill customers in this sector? Quarterly

Sector: Multi-Family

Meters: 1 inch

1 inch

2 inch

2 inch

3 inch
3 inch
4 inch
4 inch
6 inch
6 inch

How often do you bill customers in this sector? monthly

Sector: Non-Residential

Meters: 1 inch

2 inch
3 inch
4 inch
6 inch

How often do you bill customers in this sector? monthly

Sector: Wholesale

Meters: 6 inch

6 inch
8 inch
8 inch
10 inch
10 inch
12 inch
12 inch

How often do you bill customers in this sector?

High Use Customers

Description of the methodology used to identify the customer: The account information on all the accounts is reviewed and a query is done to see the top 100 users.

Name of customer: Aviation

Billing Address:

P.O. Box 025504
Miami, FL 33159
Miami-Dade

Service Address:

4200 NW 21 Street
Miami, FL 33142
Miami-Dade

Customer Classification: Industrial

Total average annual (for all meters at this site) quantity of water supplied to this customer: 1735626.40 gpd

Population and Potable Water Use Projections

Please enter your average per capita water use that is consistent with your water management district's required calculation (if applicable) in gallons per capita per day (gpcd): 155

Please provide calculations used to determine your per capita water use and provide the source of the calculations: #The per capita water use is calculated by taking the total amount of raw water that enters our water treatment and then the total population that is served by our water treatment plants, which is determined by using the TAZ. This is done for the last 5 years and an average is determined.

Select the water use projection method that is consistent with your water management district:

Method 1: I will enter population; please calculate my water use by multiplying my population by the per capita water use I provided.

Please enter your projected service area population yearly for the first five years, then in 5-year increments thereafter through a 20-year horizon that is consistent with your water management district's planning horizon:

Year	Population	Water Use (mgd)	Daily Per Capita Use (gpcd)
2007	2250944	348.890000	155
2008	2230895	345.780000	155
2009	2260476	350.370000	155
2010	2290058	354.950000	155
2011	2319639	359.540000	155
2016	2463169	381.790000	155
2021	2584918	400.660000	155
2026	2706668	419.530000	155

Please explain the population projections you have provided. For example, if the population projections you provided are for a functional population (population adjusted for seasonality), please indicate. Please provide a description of the source of your population projections with calculations: The population serviced is determined by the Miami-Dade Planning Department who projects the growth in population for the entire county.

IWA Water Audit

Raw water withdrawn:

Raw water imported:

Raw water exported:

Treated water produced:

Treated water imported:

Treated water exported:

Total volume billed:

Total volume of all unbilled metered use:

Net raw water:

Net treated water:

Non-revenue water:

Estimated system losses:

Cost of Water

Year Added: 2006

Description of source: Biscayne Aquifer

Volume supplied from source: 339.00 mgd

Total present worth cost of supply: 0.96 (\$/thousand gallons)

Utility Rate Structure

What year were your latest rates adopted? 2005

When was your last rate study? 2002

Are your user rates indexed? Yes

Single Family - Potable

Does the rate structure include a base charge? Yes

Please enter the monthly fixed (or base) charge for each meter size

Meter Size	Monthly Fixed (or Base) Charge
1 inch	8.22
1 1/2 inch	12.82
3/4 inch	0
5/8 inch	3.20

Does the rate structure include a variable charge? Yes

Are the tier threshold ranges based on a standard volume? For example are tiers arranged between set volumes rather than by a percent of the previous year's average monthly use?

Yes

Tier Number	Threshold Range (Tgal/month)		Tier Monthly Rate
	From	To	
Tier 1	0	3.750	0.50
Tier 2	3.751	7.5	1.91
Tier 3	7.51	12.750	2.61
Tier 4	12.751	max	3.82

Single Family - Potable for Irrigation Use

Does your rate structure include separately-metered potable water for irrigation use? No

Single Family - Reclaimed

Does your rate structure include reclaimed water? No

Multi-Family - Potable

Does the rate structure include a base charge? Yes

Please enter the monthly fixed (or base) charge for each meter size

Meter Size	Monthly Fixed (or Base) Charge
1 inch	8.22
2 inch	27.42
3 inch	58.51
4 inch	91.39
6 inch	146.22

Does the rate structure include a variable charge? Yes

Are the tier threshold ranges based on a standard volume? For example are tiers arranged between set volumes rather than by a percent of the previous year's average monthly use?

Yes

	Threshold Range (Tgal/month)	
--	------------------------------	--

Tier Number	From	To	Tier Monthly Rate
Tier 1	0	3.750	0.50
Tier 2	3.751	7.5	1.91
Tier 3	7.51	12.750	2.61
Tier 4	12.751	max	3.82

Multi-Family - Potable for Irrigation Use

Does your rate structure include separately-metered potable water for irrigation use? No

Multi-Family - Reclaimed

Does your rate structure include reclaimed water? No

Non-Residential - Potable

Does the rate structure include a base charge? No

Does the rate structure include a variable charge? No

Non-Residential - Potable for Irrigation Use

Does your rate structure include separately-metered potable water for irrigation use? No

Non-Residential - Reclaimed

Does your rate structure include reclaimed water? No

Other - Potable

Does the rate structure include a base charge? No

Does the rate structure include a variable charge? No

Other - Potable for Irrigation Use

Does your rate structure include separately-metered potable water for irrigation use? No

Other - Reclaimed

Does your rate structure include reclaimed water? No

Wholesale - Potable

Does the rate structure include a base charge? No

Does the rate structure include a variable charge? No

Wholesale - Potable for Irrigation Use

Does your rate structure include separately-metered potable water for irrigation use? No

Wholesale - Reclaimed

Does your rate structure include reclaimed water? No

Socio-economic

Estimated number of homes built before 1983: 258553

Estimated number of homes built between 1983 and 1995: 51065

Estimated number of homes built after 1995: 43358

The source and method of estimation (i.e. interpolation between 1980 and 1990 socio-economic data) for the estimated number of home built for the above: Information from Miami-Dade County Property Appraiser's office.

Median assessed value of homes in the service area: 113200

The source and method of estimation for the median assessed value of homes in the service area: Information from Miami-Dade County Property Appraiser's office.

Single family estimated average household size (people per home): 2.60

Multi-family estimated average household size (people per home): 2.30

Reuse Projects

Did the feasibility study determine that reuse projects were feasible?	Yes
Is the utility implementing reuse projects?	Yes

Water-Efficient Landscape and Irrigation Evaluations and Rebates

Number of applicable single-family accounts (number of accounts that have in-ground automatic irrigation systems that use potable water)	66522
Number of applicable single-family accounts that have received a water-efficient landscape and irrigation evaluation	0
Number of available single-family accounts	66522

Ultra Low Flush (ULF) Toilet Rebates

Number of SF accounts	352976
How many SF homes were built prior to 1983?	258553
How many SF homes were built between 1983 and 1995?	51065
Number of applicable accounts?	309618
Number of applicable accounts that have replaced at least one toilet with a ULFT as part of a water conservation BMP implemented by your utility	0
Number of applicable accounts that have replaced at least one toilet with a ULFT through remodeling efforts not associated with a water conservation measure implemented by your utility	0
Total number of applicable accounts that have replaced at least one toilet	0
Number of available accounts?	309618
Penetration rate	0 %

Source-Water Metering

Will all your water source(s) metered at the point of withdrawal (or point of entry for purchase water)?	Yes
---	-----

Service-Connection Metering

Will your utility require meters for all new connections?	Yes
Are all service connections currently metered?	Yes

Fixed-Interval Meter Reading, Testing, Calibrating, Repairing, and Replacing

Sector	Meter Size	How frequently do you?				
		Read your meters?	Test your meters?	Calibrate your meters?	Repair your meters?	Replace your meters?
Single Family	5/8 inch	quarterly	8 years	8 years	as needed	as needed
Single Family	3/4 inch	quarterly				
Single Family	1 inch	quarterly	8 years	8 years	as needed	as needed
Single Family	1 1/2 inch	quarterly	8 years	8 years	as needed	as needed
Multi-Family	1 inch	monthly	8 years	8 years	as needed	as needed
Multi-Family	2 inch	monthly	8 years	8 years	as needed	as needed
Multi-Family	3 inch	monthly	8 years	8 years	as needed	as needed
Multi-Family	4 inch	monthly	8 years	8 years	as needed	as needed
Multi-Family	6 inch	monthly	8 years	8 years	as needed	as needed
Non-Residential	1 inch	monthly	8 years	8 years	as needed	as needed
Non-Residential	2 inch	monthly	8 years	8 years	as needed	as needed
Non-Residential	3 inch	monthly	8 years	8 years	as needed	as needed
Non-Residential	4 inch	monthly	8 years	8 years	as needed	as needed
Non-Residential	6 inch	monthly	8 years	8 years	as needed	as needed
Wholesale	6 inch	monthly	8 years	8 years	as needed	as needed
Wholesale	8 inch	monthly	8 years	8 years	as needed	as needed
Wholesale	10 inch	monthly	8 years	8 years	as needed	as needed
Wholesale	12 inch	monthly	8 years	8 years	as needed	as needed

System Audit

How often will your utility perform a system audit?	yearly
What water loss method will you use?	AWWA IWA

Leak Detection and Repair

Is your unaccounted for water use greater than 10% (SWFWMD 12%)?	No
If you do not agree that your estimated losses are correctly reflected by the IWA Water Audit Section, please indicate what your losses are and confirm that you	9.73

identified the method used to estimate your losses in the System Audit section.	
Will your utility implement a leak detection and repair program?	Yes
Provide a description of the program, and methods used for detection.	The MDWASD Crews use acoustical detection equipment (aquascope with an electronic sound amplifier) to locate leaks which are recorded and subsequently repaired. The system-wide inspection takes a little under a year to complete.

Conservation Rate Structures

Sector	Water Use Type	Conservation Rate Structure is present?
Single Family	Potable	No
Single Family	Potable for Irrigation Use	Not applicable
Single Family	Reclaimed	Not applicable
Multi-Family	Potable	No
Multi-Family	Potable for Irrigation Use	Not applicable
Multi-Family	Reclaimed	Not applicable
Non-Residential	Potable	No
Non-Residential	Potable for Irrigation Use	Not applicable
Non-Residential	Reclaimed	Not applicable
Other	Potable	No
Other	Potable for Irrigation Use	Not applicable
Other	Reclaimed	Not applicable
Wholesale	Potable	No
Wholesale	Potable for Irrigation Use	Not applicable
Wholesale	Reclaimed	Not applicable

Customer Leak Notification

Does your utility inform customers when their meter reading indicates that a leak may be present on their property?	Yes
Please describe the program	If a meter reading varies more than 200% from the previous consumption period, the MDWASD billing system autogenerates a High Bill message, which triggers a field inspection. Written notification is handed to the customer if they are home during the inspection, or it is placed on their door. If the inspection finds that it may be a leak, an indoor water-use evaluation is offered.

Informative Billing

Will your utility implement informative billing?	Yes
What information will be provided directly on the bill (not as a bill insert)?	utility's rate structure amount of water used in the current month amount of water used in the previous month

Water Bill Inserts

Will your utility provide water conservation information via water bill inserts?	Yes
Describe the type of water conservation information to be provided on the bill inserts	The publication is called the "Pipeline"; it provides water conservation tips.
How often will you include water conservation information on bill inserts?	quarterly

Retrofit Kit Give Away

Will your utility give away retrofit kits?	Yes
What is to be included in the kit?	showerhead(s) faucet aerators toilet leak detection tablets leak brochures water conservation brochures
How will the program be administered?	kits provided at public events customer pick-up
Will you be tracking the accounts the retrofit kit went to?	Yes
Do you evaluate before and after water use?	Yes

Public Information/Education

Will your utility have a public information/education program?	Yes
What type of forum/media is to be used?	<p>in-school programs <i>Comments:</i> The program is called "Wet in the City" and it is a curriculum-based program that targets young water consumer who will hopefully train a waer-conservation ethic into their adult lives.</p> <p>speakers' bureaus <i>Comments:</i></p> <p>coordination with civic organizations <i>Comments:</i> Each year MDWASD contributes \$250,000 towards a countywide fund to prifive gran money to community based organizations that provide environmental education to children.</p> <p>booths at public events <i>Comments:</i> The MDWASD participates in various public events such as the TEam Metro "Citizen's Academy", Commisioner sponsored events, and Community Group Meetings.</p>

	<p>video materials Comments: Water Conservation and Landscape Irrigation information video.</p> <p>public service announcements Comments: Schedule Radio PSAs throughout the year.</p> <p>printed materials Comments: The MDWASD provides several publications. The Pipeline newsletter is sent out in the quarterly bills. The Customer information booklet: "All you need to know" is a guide to new customer on services offered by MDWASD and includes conservation. Another Customer Information Booklet is the "Saving Water at Home", this addresses water conservation practices at home.</p>
Source of program materials (check all that apply)?	<p>AWWA Water Management District Proprietary Developed in-house</p>

Customer Surveys

Will your utility conduct user surveys of customer attitudes and behaviors as a means of evaluating and enhancing water conservation programs?	Yes
Surveys will be conducted in conjunction with (check all that apply):	Water Supply Authority
When was the latest survey conducted?	2003
How often will such surveys be administered?	Every 3 years
Describe how your utility will use survey results to enhance their water conservation program.	The surveys are reviewed and customer responses are addressed accordingly.

Workshops

Type of Workshop	Is Funded?	Is Administered?	Do you track affected accounts?	How do you track affected accounts?	Does tracking include pre and post workshop comparisons?
builders	Yes	Yes	Yes	Review actual construction to see if followed building code compliance.	No

developers	Yes	Yes	Yes	Review actual construction to see if followed building code compliance.	No
landscape service providers	Yes	Yes	No		No
irrigation service providers	Yes	Yes	No		No

Conservation Coordinator

Will your utility have a water conservation coordinator(s) or a consultant(s) to help plan, implement and/or evaluate water conservation efforts?	Yes
How many staff members (or consultants) will fulfill a water conservation coordinator role and/or support a water conservation coordinator on water conservation efforts?	2
How many hours per week will be dedicated to performing a water conservation role?	40
Please enter the expenditures budgeted for Year 1?	600000
Please enter the expenditures budgeted for Year 2?	852436
Please enter the expenditures budgeted for Year 3?	952436
Please enter the expenditures budgeted for Year 4?	1002436
Please enter the expenditures budgeted for Year 5?	1077436

Advisory Committee

Name of the committee	Name of the organization that established this committee	Committee Members
FSAWWA Water Conservation	FSAWWA	representatives of concerned local groups water conservation coordinators member utilities

Wholesale Water Supplier/ Water Supply Authority Assistance Programs

Does your organization have an assistance program?	Yes
Please provide a description of the program. Include the names of the utilities you help and the type of assistance provided	The MDWASD has an open communication with the Wholesale Customers. Currently the MDWASD is in the process of assisting the wholesale customers with the regulations that

	require additional sampling and reporting by the wholesale customer. The MDWASD is also working with the wholesale customer to assist them in preparing their water conservation plans.
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Landscape/Irrigation Ordinance Development and Implementation

Will there be a Xeriscape or Florida-Friendly landscape ordinance requirement in the utility's service area?	Yes
What sectors are to be affected by the landscape ordinance.	Single Family Multi-Family Non-Residential
Will there be a water-efficient irrigation system ordinance requirement in place in the utility's service area?	Yes
What sectors are to be affected by the irrigation ordinance.	Single Family Multi-Family Non-Residential

Reuse Feasibility Study

What was the date of your latest Reuse Feasibility Study?	2006
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Non-Potable Irrigation Source Rebates

Does your utility provide rebates to customers who use potable water for irrigation if they change their irrigation source to a non-potable supply?	No
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High-Efficiency Clothes Washer Rebates

Does your utility currently provide rebates or retrofits for high-efficiency clothes washers?	No
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Urinal Rebates

Number of applicable accounts (number of NR accounts that pre-date 1995)	0
Number of applicable accounts that have replaced at least one urinal with a ULF or waterless urinal as part of a water conservation BMP implemented by your utility.	0
Number of applicable accounts that have replaced at least one urinal with a ULF or waterless urinal through remodeling efforts not associated with a water conservation BMP implemented by utility	0
Total number of applicable accounts that have replaced at least one urinal	0
Number of available accounts	0

Penetration rate	NaN %
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Non-residential Water-Use Evaluations/Implementations

Non-residential water use as a percent of total water use.	0.00 %
Number of applicable NR accounts	31412
Number of applicable NR accounts that have received a water use evaluation and/or implementation	0
Number of available accounts	31412
Penetration Rate	0

Selective Usage of Pressure-Stablization Valves

Will your utility use pressure-stabilizing valves as a water conservation measure?	No
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Water Waste Prohibition

Will there be a water waste prohibition ordinance in your service area?	No
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Baseline Plan Report

Conserve Florida GUIDE- Miami-Dade Water and Sewer Department (2007-2026)
Baseline Plan Report

Default BMPs

	Currently Implemented?	Guide-Recommended Action
Water-Efficient Landscape and Irrigation Evaluations and Rebates	No	Implement BMP
Ultra Low Flush (ULF) Toilet Rebates	No	Implement BMP
Reuse Projects	Yes	Continue to implement BMP to the extent practical

Default Measures

Source-Water Metering	Yes	Continue to implement measure
Service-Connection Metering	Yes	Continue to implement measure
Fixed-Interval Meter Reading, Testing, Calibrating, Repairing, and Replacing	See table for breakdown	To be determined by utility and Water Management District
System Audit	No	Perform system audits with each billing cycle
Leak Detection and Repair	Yes	Maintain unaccounted water below 10%(12% SWFWMD)
Conservation Rate Structures	See table for breakdown	
Informative Billing	Yes	Continue to implement measure
Water Bill Inserts	Yes	Continue to implement measure
Retrofit Kit Give Away	Yes	Continue to implement measure
Public Information/Education	Yes	Continue to implement measure
Workshops	Yes	Continue to implement measure
Conservation Coordinator	Yes	Continue to implement measure
Advisory Committee	Yes	Continue to implement measure
Wholesale Water Supplier/ Water Supply Authority Assistance Programs	Yes	Continue to implement measure
Landscape/Irrigation Ordinance Development and Implementation	Yes	Continue to implement measure

Customer Surveys	Yes	Continue to implement measure
Customer Leak Notification	Yes	Contintue to implement measure
Reuse Feasibility Study	Yes	Update the study a minimum of every 10 years

Optional BMPs

Non-Potable Irrigation Source Rebates	No	Implement BMP
High-Efficiency Clothes Washer Rebates	No	Implement BMP
Urinal Rebates	No	Implement BMP
Non-residential Water-Use Evaluations/Implementations	No	Implement BMP by targeting highest users

Optional Measures

Selective Usage of Pressure-Stablization Valves	No	Implement measure
Water Waste Prohibition	No	Implement measure

Planning Module

Water Conservation Tool Box

Conserve Florida Guide – Water Conservation Tool Box: Miami Dade Water and Sewer [2007 - 2026]
WATER CONSERVATION TOOLBOX REPORT

Default BMPs

	Guide-Recommended Action	Alternative Action or Comment
Water-Efficient Landscape and Irrigation Evaluations and Rebates	Implement BMP	Includes a moisture sensor retrofit
Ultra Low Flush (ULF) Toilet Rebates	Implement BMP	Using HETs for all Toilet BMPs. Retrofit programs include 1 toilet, 1 showerhead, and 2 aerators.
Reuse Projects	Continue to implement BMP to the extent practical	

Default Measures

Source-Water Metering	Continue to implement measure	
Service-Connection Metering	Continue to implement measure	
Fixed-Interval Meter Reading, Testing, Calibrating, Repairing, and Replacing	To be determined by utility and Water Management District	
System Audit	Perform system audits with each billing cycle	
Leak Detection and Repair	Maintain unaccounted water below 10%(12% SWFWMD)	
Conservation Rate Structures		
Informative Billing	Continue to implement measure	
Water Bill Inserts	Continue to implement measure	
Retrofit Kit Give Away	Continue to implement measure	Part of the Showerhead Exchange Program
Public Information/Education	Continue to implement measure	
Workshops	Continue to implement measure	
Conservation Coordinator	Continue to implement measure	
Advisory Committee	Continue to implement measure	
Wholesale Water Supplier/ Water Supply	Continue to implement measure	

Authority Assistance Programs		
Landscape/Irrigation Ordinance Development and Implementation	Continue to implement measure	
Customer Surveys	Continue to implement measure	
Customer Leak Notification	Contintue to implement measure	
Reuse Feasibility Study	Update the study a minimum of every 10 years	

Optional BMPs

Non-Potable Irrigation Source Rebates	Implement BMP	
High-Efficiency Clothes Washer Rebates	Implement BMP	MDWASD is testing the effectiveness of this BMP
Urinal Rebates	Implement BMP	
Non-residential Water-Use Evaluations/Implementations	Implement BMP by targeting highest users	This BMP includes evaluation and retrofit of county-owned buildings and privately-owned buildings, leak detection and repair for county-owned buildings, and a hotel program and restaurant program.

Optional Measures

Selective Usage of Pressure-Stablization Valves	Implement measure	
Water Waste Prohibition	Implement measure	

Removed Default BMPs

	Guide-Recommended Action	Removed Reason
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Removed Default Measures

Removed Optional BMPs

Removed Optional Measures

Implementation Plan
Report

BMP-IMPLEMENTATION PLAN REPORT -MDWASD 20-yr Water Use Efficiency Plan

Plan Summary:

Year	Planned Water Savings (mgd)	Forecasted Demand (mgd)		Forecasted Per Capita Demand (gpcd)		% Reduction
		Without Conservation	With Conservation	Without Conservation	With Conservation	
2007	0.95315	348.89	347.93685	155	154.57	0.28 %
2008	1.931409	345.78	343.848591	155	154.13	0.56 %
2009	3.061188	350.37	347.308812	155	153.64	0.87 %
2010	4.188652	354.95	350.761348	155	153.17	1.18 %
2011	5.461916	359.54	354.078084	155	152.64	1.52 %
2016	11.211156	381.79	370.578844	155	150.45	2.94 %
2021	15.331076	400.66	385.328924	155	149.07	3.83 %
2026	19.435996	419.53	400.094004	155	147.82	4.63 %

BMP Scenarios included in MDWASD 20-yr Water Use Efficiency Plan

BMP	Category	Sector	Water Savings Horizon	Implementation Schedule	Water Savings Rate	Present Worth Interest	Cost Per Account, Unit, Measure	Accounts Available	Number of Accounts, Units or Measures	Total BMP Cost	Total BMP Water Savings (TG)	BMP Cost Effectiveness (\$/TG)
BMP Template	Indoors	Multi-Family	20	See below for details	35 gpm/d	0 %	1.6	34160	34160	54,656	4,554,543,000	0.012
BMP Template	Indoors	Multi-Family	20	See below for details	12 gpm/d	0 %	2.38	34160	34160	81,300.8	1,561,557,600	0.052
BMP Template	Indoors	Single Family	20	See below for details	35 gpm/d	0 %	1.6	309618	35060	56,096	4,663,769,250	0.012
BMP Template	Indoors	Single Family	20	See below for details	12 gpm/d	0 %	2.38	309618	35060	83,442.8	1,599,006,600	0.052
High-Efficiency Clothes Washer Rebates	Common Area-MF - Rebate	Non-Residential	20	See below for details	48 gpud	0 %	300	11000	850	255,000	134,028,000	1.902
High-Efficiency Clothes Washer Rebates	Single Family Home Washers - Rebate	Single Family	20	See below for details	16.3 gp/d	5.375 %	150	320480	400	55,124.26	43,728,825	1.26
Non-residential Water-Use Evaluations/Implementations	Evaluations without Rebates	Non-Residential	20	See below for details	100 gpm/d	5.375 %	40	4397	228	5,627.69	83,220,000	0.067
Non-residential Water-Use Evaluations/Implementations	Evaluations without Rebates	Non-Residential	20	See below for details	1,617 gpm/d	0 %	667	268	228	152,076	1,345,667,400	0.113
Non-residential Water-Use Evaluations/Implementations	Evaluations without Rebates	Non-Residential	20	See below for details	1,500 gpm/d	0 %	3,600	1065	122	439,200	1,034,775,000	0.424
Non-residential Water-Use Evaluations/Implementations	Evaluations without Rebates	Non-Residential	20	See below for details	1,500 gpm/d	0 %	3,600	31412	3195	11,502,000	13,994,100,000	0.821
Non-residential Water-Use Evaluations/Implementations	Evaluations without Rebates	Non-Residential	20	See below for details	1,000 gpm/d	0 %	4,740	1065	530	2,512,200	1,808,575,000	1.389
Ultra Low Flush (ULF) Toilet Rebates	Rebate	Multi-Family	20	See below for details	29 gpud	0 %	130	33600	34190	4,444,700	2,954,379,350	1.504
Ultra Low Flush (ULF) Toilet Rebates	Rebate	Single Family	20	See below for details	29 gp/d	0 %	100	19500	19500	1,950,000	2,119,646,250	0.919
Ultra Low Flush (ULF) Toilet Rebates	Rebate	Single Family	20	See below for details	29 gp/d	0 %	130	308868	24450	3,178,500	2,070,426,000	1.535
Ultra Low Flush (ULF) Toilet Rebates	Retrofit	Multi-Family	20	See below for details	64 gpud	0 %	150	11000	5610	841,500	2,059,884,800	0.408
Ultra Low Flush (ULF) Toilet Rebates	Retrofit	Single Family	20	See below for details	64 gp/d	0 %	250	26077	19750	4,937,500	4,788,800,000	1.031
Water-Efficient Landscape and Irrigation Evaluations and Rebates	Landscape and Irrigation Evaluations without Rebates	Non-Residential	20	See below for details	35,000 gp/d	0 %	8,010	451	140	1,121,400	30,404,500,000	0.036
Water-Efficient Landscape and Irrigation Evaluations and Rebates	Landscape and Irrigation Evaluations without Rebates	Single Family	20	See below for details	233 gp/d	0 %	260	66522	6220	1,617,200	5,080,588,300	0.318

BMP Implementation Schedule for: Showerhead Exchange & Retrofit Kit

Category: Indoors

Sector: Multi-Family

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	34160	1600	56,000	56,000
2008	32560	1600	56,000	112,000
2009	30960	1720	60,200	172,200
2010	29240	1720	60,200	232,400
2011	27520	1720	60,200	292,600
2012	25800	1720	60,200	352,800
2013	24080	1720	60,200	413,000
2014	22360	1720	60,200	473,200
2015	20640	1720	60,200	533,400
2016	18920	1720	60,200	593,600
2017	17200	1720	60,200	653,800
2018	15480	1720	60,200	714,000
2019	13760	1720	60,200	774,200
2020	12040	1720	60,200	834,400
2021	10320	1720	60,200	894,600
2022	8600	1720	60,200	954,800
2023	6880	1720	60,200	1,015,000
2024	5160	1720	60,200	1,075,200
2025	3440	1720	60,200	1,135,400
2026	1720	1720	60,200	1,195,600

BMP Implementation Schedule for: Showerhead Exchange & Retrofit Kit

Category: Indoors

Sector: Multi-Family

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	34160	1600	19,200	19,200
2008	32560	1600	19,200	38,400
2009	30960	1720	20,640	59,040
2010	29240	1720	20,640	79,680
2011	27520	1720	20,640	100,320
2012	25800	1720	20,640	120,960
2013	24080	1720	20,640	141,600
2014	22360	1720	20,640	162,240
2015	20640	1720	20,640	182,880
2016	18920	1720	20,640	203,520
2017	17200	1720	20,640	224,160
2018	15480	1720	20,640	244,800
2019	13760	1720	20,640	265,440
2020	12040	1720	20,640	286,080
2021	10320	1720	20,640	306,720
2022	8600	1720	20,640	327,360
2023	6880	1720	20,640	348,000
2024	5160	1720	20,640	368,640
2025	3440	1720	20,640	389,280
2026	1720	1720	20,640	409,920

BMP Implementation Schedule for: Showerhead Exchange & Retrofit Kit

Category: Indoors

Sector: Single Family

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	309618	1600	56,000	56,000
2008	308018	1600	56,000	112,000
2009	306418	1770	61,950	173,950
2010	304648	1770	61,950	235,900
2011	302878	1770	61,950	297,850
2012	301108	1770	61,950	359,800
2013	299338	1770	61,950	421,750
2014	297568	1770	61,950	483,700
2015	295798	1770	61,950	545,650
2016	294028	1770	61,950	607,600
2017	292258	1770	61,950	669,550
2018	290488	1770	61,950	731,500
2019	288718	1770	61,950	793,450
2020	286948	1770	61,950	855,400
2021	285178	1770	61,950	917,350
2022	283408	1770	61,950	979,300
2023	281638	1770	61,950	1,041,250
2024	279868	1770	61,950	1,103,200
2025	278098	1770	61,950	1,165,150
2026	276328	1770	61,950	1,227,100

BMP Implementation Schedule for: Showerhead Exchange & Retrofit Kit

Category: Indoors

Sector: Single Family

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	309618	1600	19,200	19,200
2008	308018	1600	19,200	38,400
2009	306418	1770	21,240	59,640
2010	304648	1770	21,240	80,880
2011	302878	1770	21,240	102,120
2012	301108	1770	21,240	123,360
2013	299338	1770	21,240	144,600
2014	297568	1770	21,240	165,840
2015	295798	1770	21,240	187,080
2016	294028	1770	21,240	208,320
2017	292258	1770	21,240	229,560
2018	290488	1770	21,240	250,800
2019	288718	1770	21,240	272,040
2020	286948	1770	21,240	293,280
2021	285178	1770	21,240	314,520
2022	283408	1770	21,240	335,760
2023	281638	1770	21,240	357,000
2024	279868	1770	21,240	378,240
2025	278098	1770	21,240	399,480
2026	276328	1770	21,240	420,720

BMP Implementation Schedule for: High-Efficiency Clothes Washer Rebates

Category: Common Area-MF - Rebate

Sector: Non-Residential

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	11000	0	0	0
2008	11000	0	0	0
2009	11000	0	0	0
2010	11000	50	2,400	2,400
2011	10950	50	2,400	4,800
2012	10900	50	2,400	7,200
2013	10850	50	2,400	9,600
2014	10800	50	2,400	12,000
2015	10750	50	2,400	14,400
2016	10700	50	2,400	16,800
2017	10650	50	2,400	19,200
2018	10600	50	2,400	21,600
2019	10550	50	2,400	24,000
2020	10500	50	2,400	26,400
2021	10450	50	2,400	28,800
2022	10400	50	2,400	31,200
2023	10350	50	2,400	33,600
2024	10300	50	2,400	36,000
2025	10250	50	2,400	38,400
2026	10200	50	2,400	40,800

BMP Implementation Schedule for: High-Efficiency Clothes Washer Rebates

Category: Single Family Home Washers - Rebate

Sector: Single Family

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	320480	0	0	0
2008	320480	150	2,445	2,445
2009	320330	250	4,075	6,520
2010	320080	0	0	6,520
2011	320080	0	0	6,520
2012	320080	0	0	6,520
2013	320080	0	0	6,520
2014	320080	0	0	6,520
2015	320080	0	0	6,520
2016	320080	0	0	6,520
2017	320080	0	0	6,520
2018	320080	0	0	6,520
2019	320080	0	0	6,520
2020	320080	0	0	6,520
2021	320080	0	0	6,520
2022	320080	0	0	6,520
2023	320080	0	0	6,520
2024	320080	0	0	6,520
2025	320080	0	0	6,520
2026	320080	0	0	6,520

BMP Implementation Schedule for: Green Restaurant Program

Category: Evaluations without Rebates

Sector: Non-Residential

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	4397	0	0	0
2008	4397	12	1,200	1,200
2009	4385	12	1,200	2,400
2010	4373	12	1,200	3,600
2011	4361	12	1,200	4,800
2012	4349	12	1,200	6,000
2013	4337	12	1,200	7,200
2014	4325	12	1,200	8,400
2015	4313	12	1,200	9,600
2016	4301	12	1,200	10,800
2017	4289	12	1,200	12,000
2018	4277	12	1,200	13,200
2019	4265	12	1,200	14,400
2020	4253	12	1,200	15,600
2021	4241	12	1,200	16,800
2022	4229	12	1,200	18,000
2023	4217	12	1,200	19,200
2024	4205	12	1,200	20,400
2025	4193	12	1,200	21,600
2026	4181	12	1,200	22,800

BMP Implementation Schedule for: Green Lodging Program

Category: Evaluations without Rebates

Sector: Non-Residential

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	268	0	0	0
2008	268	12	19,404	19,404
2009	256	12	19,404	38,808
2010	244	12	19,404	58,212
2011	232	12	19,404	77,616
2012	220	12	19,404	97,020
2013	208	12	19,404	116,424
2014	196	12	19,404	135,828
2015	184	12	19,404	155,232
2016	172	12	19,404	174,636
2017	160	12	19,404	194,040
2018	148	12	19,404	213,444
2019	136	12	19,404	232,848
2020	124	12	19,404	252,252
2021	112	12	19,404	271,656
2022	100	12	19,404	291,060
2023	88	12	19,404	310,464
2024	76	12	19,404	329,868
2025	64	12	19,404	349,272
2026	52	12	19,404	368,676

BMP Implementation Schedule for: County Owned Facilities Water-Use Evaluations

Category: Evaluations without Rebates

Sector: Non-Residential

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	1065	22	33,000	33,000
2008	1043	10	15,000	48,000
2009	1033	10	15,000	63,000
2010	1023	10	15,000	78,000
2011	1013	10	15,000	93,000
2012	1003	10	15,000	108,000
2013	993	10	15,000	123,000
2014	983	10	15,000	138,000
2015	973	10	15,000	153,000
2016	963	10	15,000	168,000
2017	953	10	15,000	183,000
2018	943	0	0	183,000
2019	943	0	0	183,000
2020	943	0	0	183,000
2021	943	0	0	183,000
2022	943	0	0	183,000
2023	943	0	0	183,000
2024	943	0	0	183,000
2025	943	0	0	183,000
2026	943	0	0	183,000

BMP Implementation Schedule for: Private Industrial Commercial & Institutional Water-Use Evaluations

Category: Evaluations without Rebates

Sector: Non-Residential

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	31412	0	0	0
2008	31412	0	0	0
2009	31412	0	0	0
2010	31412	0	0	0
2011	31412	0	0	0
2012	31412	213	319,500	319,500
2013	31199	213	319,500	639,000
2014	30986	213	319,500	958,500
2015	30773	213	319,500	1,278,000
2016	30560	213	319,500	1,597,500
2017	30347	213	319,500	1,917,000
2018	30134	213	319,500	2,236,500
2019	29921	213	319,500	2,556,000
2020	29708	213	319,500	2,875,500
2021	29495	213	319,500	3,195,000
2022	29282	213	319,500	3,514,500
2023	29069	213	319,500	3,834,000
2024	28856	213	319,500	4,153,500
2025	28643	213	319,500	4,473,000
2026	28430	213	319,500	4,792,500

BMP Implementation Schedule for: Leak Detection and Retrofits of County Facilities

Category: Evaluations without Rebates

Sector: Non-Residential

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	1065	0	0	0
2008	1065	0	0	0
2009	1065	0	0	0
2010	1040	25	25,000	25,000
2011	1015	30	30,000	55,000
2012	985	30	30,000	85,000
2013	955	30	30,000	115,000
2014	925	30	30,000	145,000
2015	895	30	30,000	175,000
2016	865	30	30,000	205,000
2017	835	30	30,000	235,000
2018	805	30	30,000	265,000
2019	775	30	30,000	295,000
2020	745	30	30,000	325,000
2021	715	30	30,000	355,000
2022	685	30	30,000	385,000
2023	655	30	30,000	415,000
2024	625	30	30,000	445,000
2025	595	30	30,000	475,000
2026	565	30	30,000	505,000

BMP Implementation Schedule for: Ultra Low Flush (ULF) Toilet Rebates

Category: Rebate

Sector: Multi-Family-High-Efficiency Toilet Rebate Project

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	33600	0	0	0
2008	33600	140	4,060	4,060
2009	33460	150	4,350	8,410
2010	33310	150	4,350	12,760
2011	33160	150	4,350	17,110
2012	33010	2240	64,960	82,070
2013	30770	2240	64,960	147,030
2014	28530	2240	64,960	211,990
2015	26290	2240	64,960	276,950
2016	24050	2240	64,960	341,910
2017	21810	2240	64,960	406,870
2018	19570	2240	64,960	471,830
2019	17330	2240	64,960	536,790
2020	15090	2240	64,960	601,750
2021	12850	2240	64,960	666,710
2022	10610	2240	64,960	731,670
2023	8370	2240	64,960	796,630
2024	6130	2240	64,960	861,590
2025	3890	2240	64,960	926,550
2026	1650	2240	64,960	991,510

BMP Implementation Schedule for: Ultra Low Flush (ULF) Toilet Rebates

Category: Rebate

Sector: Single Family- High-Efficiency Toilet Rebate Project

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	19500	750	21,750	21,750
2008	18750	750	21,750	43,500
2009	18000	1000	29,000	72,500
2010	17000	1000	29,000	101,500
2011	16000	1000	29,000	130,500
2012	15000	1000	29,000	159,500
2013	14000	1000	29,000	188,500
2014	13000	1000	29,000	217,500
2015	12000	1000	29,000	246,500
2016	11000	1000	29,000	275,500
2017	10000	1000	29,000	304,500
2018	9000	1000	29,000	333,500
2019	8000	1000	29,000	362,500
2020	7000	1000	29,000	391,500
2021	6000	1000	29,000	420,500
2022	5000	1000	29,000	449,500
2023	4000	1000	29,000	478,500
2024	3000	1000	29,000	507,500
2025	2000	1000	29,000	536,500
2026	1000	1000	29,000	565,500

BMP Implementation Schedule for: Ultra Low Flush (ULF) Toilet Rebates

Category: Rebate

Sector: Single Family- High-Efficiency Toilet Exchange Program

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	308868	0	0	0
2008	308868	0	0	0
2009	308868	0	0	0
2010	308868	0	0	0
2011	308868	0	0	0
2012	308868	1630	47,270	47,270
2013	307238	1630	47,270	94,540
2014	305608	1630	47,270	141,810
2015	303978	1630	47,270	189,080
2016	302348	1630	47,270	236,350
2017	300718	1630	47,270	283,620
2018	299088	1630	47,270	330,890
2019	297458	1630	47,270	378,160
2020	295828	1630	47,270	425,430
2021	294198	1630	47,270	472,700
2022	292568	1630	47,270	519,970
2023	290938	1630	47,270	567,240
2024	289308	1630	47,270	614,510
2025	287678	1630	47,270	661,780
2026	286048	1630	47,270	709,050

BMP Implementation Schedule for: Ultra Low Flush (ULF) Toilet Rebates

Category: Retrofit

Sector: Multi-Family-Full Retrofit Project

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	11000	0	0	0
2008	11000	0	0	0
2009	11000	310	19,840	19,840
2010	10690	300	19,200	39,040
2011	10390	2500	160,000	199,040
2012	7890	2500	160,000	359,040
2013	5390	0	0	359,040
2014	5390	0	0	359,040
2015	5390	0	0	359,040
2016	5390	0	0	359,040
2017	5390	0	0	359,040
2018	5390	0	0	359,040
2019	5390	0	0	359,040
2020	5390	0	0	359,040
2021	5390	0	0	359,040
2022	5390	0	0	359,040
2023	5390	0	0	359,040
2024	5390	0	0	359,040
2025	5390	0	0	359,040
2026	5390	0	0	359,040

BMP Implementation Schedule for: Ultra Low Flush (ULF) Toilet Rebates

Category: Retrofit

Sector: Single Family- Senior and Low Income Full Retrofit Project

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	26077	750	48,000	48,000
2008	25327	1000	64,000	112,000
2009	24327	1000	64,000	176,000
2010	23327	1000	64,000	240,000
2011	22327	1000	64,000	304,000
2012	21327	1000	64,000	368,000
2013	20327	1000	64,000	432,000
2014	19327	1000	64,000	496,000
2015	18327	1000	64,000	560,000
2016	17327	1000	64,000	624,000
2017	16327	1000	64,000	688,000
2018	15327	1000	64,000	752,000
2019	14327	1000	64,000	816,000
2020	13327	1000	64,000	880,000
2021	12327	1000	64,000	944,000
2022	11327	1000	64,000	1,008,000
2023	10327	1000	64,000	1,072,000
2024	9327	1000	64,000	1,136,000
2025	8327	1000	64,000	1,200,000
2026	7327	1000	64,000	1,264,000

BMP Implementation Schedule for: Water-Efficient Landscape and Irrigation Evaluations and Rebates

Category: Landscape and Irrigation Evaluations without Rebates

Sector: Non-Residential-Homeowner Association Landscape Irrigation Evaluations w/ Soil Moisture Sensors

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	451	20	700,000	700,000
2008	431	20	700,000	1,400,000
2009	411	20	700,000	2,100,000
2010	391	20	700,000	2,800,000
2011	371	20	700,000	3,500,000
2012	351	20	700,000	4,200,000
2013	331	20	700,000	4,900,000
2014	311	0	0	4,900,000
2015	311	0	0	4,900,000
2016	311	0	0	4,900,000
2017	311	0	0	4,900,000
2018	311	0	0	4,900,000
2019	311	0	0	4,900,000
2020	311	0	0	4,900,000
2021	311	0	0	4,900,000
2022	311	0	0	4,900,000
2023	311	0	0	4,900,000
2024	311	0	0	4,900,000
2025	311	0	0	4,900,000
2026	311	0	0	4,900,000

BMP Implementation Schedule for: Water-Efficient Landscape and Irrigation Evaluations and Rebates

Category: Landscape and Irrigation Evaluations without Rebates

Sector: Single Family- Landscape irrigation Evaluations w/ soil Moisture Sensor

Year	Accounts Remaining	Implementations per Year	Yearly Savings (gpy)	Cumulative Water Savings
2007	66522	0	0	0
2008	66522	0	0	0
2009	66522	360	83,880	83,880
2010	66162	360	83,880	167,760
2011	65802	360	83,880	251,640
2012	65442	360	83,880	335,520
2013	65082	360	83,880	419,400
2014	64722	340	79,220	498,620
2015	64382	340	79,220	577,840
2016	64042	340	79,220	657,060
2017	63702	340	79,220	736,280
2018	63362	340	79,220	815,500
2019	63022	340	79,220	894,720
2020	62682	340	79,220	973,940
2021	62342	340	79,220	1,053,160
2022	62002	340	79,220	1,132,380
2023	61662	340	79,220	1,211,600
2024	61322	340	79,220	1,290,820
2025	60982	340	79,220	1,370,040
2026	60642	340	79,220	1,449,260

Source-Water Metering

Will all your water source(s) metered at the point of withdrawal (or point of entry for purchase water)?	Yes
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Service-Connection Metering

Will your utility require meters for all new connections?	Yes
Are all service connections currently metered?	Yes

Fixed-Interval Meter Reading, Testing, Calibrating, Repairing, and Replacing

Sector	Meter Size	How frequently will you?				
		Read your meters?	Test your meters?	Calibrate your meters?	Repair your meters?	Replace your meters?
Single Family	5/8 inch	quarterly	8 years	8 years	as needed	as needed
Single Family	3/4 inch	quarterly	8 years	8 years	as needed	as needed
Single Family	1 inch	quarterly	8 years	8 years	as needed	as needed
Single Family	1 1/2 inch	quarterly	8 years	8 years	as needed	as needed
Multi-Family	1 inch	monthly	8 years	8 years	as needed	as needed
Multi-Family	2 inch	monthly	semi-annually	semi-annually	as needed	as needed
Multi-Family	3 inch	monthly	semi-annually	semi-annually	as needed	as needed
Multi-Family	4 inch	monthly	semi-annually	semi-annually	as needed	as needed
Multi-Family	6 inch	monthly	semi-annually	semi-annually	as needed	as needed
Wholesale	6 inch	monthly	semi-annually	semi-annually	as needed	as needed
Wholesale	8 inch	monthly	semi-annually	semi-annually	as needed	as needed
Wholesale	10 inch	monthly	semi-annually	semi-annually	as needed	as needed
Wholesale	12 inch	monthly	semi-annually	semi-annually	as needed	as needed

System Audit

How often will your utility perform a system audit?	yearly
What water loss method will you use?	AWWA IWA

Leak Detection and Repair

Is your unaccounted for water use greater than 10% (SWFWMD 12%)?	No
If you do not agree that your estimated losses are correctly reflected by the IWA Water Audit Section, please indicate what your losses are and confirm that you identified the method used to estimate your losses in the System Audit section.	
Will your utility implement a leak detection and repair program?	Yes
Provide a description of the program, and methods used for detection.	The leak detection program uses state of the art acoustical detection equipment (aqua-scope with

an electronic sound amplifier) to locate leaks which are recorded and subsequently repaired. The system-wide inspection takes a little under a year to complete.

Conservation Rate Structures

Sector	Water Use Type	Conservation Rate Structure will be present?
Single Family	Potable	Yes
Single Family	Potable for Irrigation Use	Yes
Single Family	Reclaimed	No
Multi-Family	Potable	Yes
Multi-Family	Potable for Irrigation Use	Yes
Multi-Family	Reclaimed	No
Non-Residential	Potable	No data provided
Non-Residential	Potable for Irrigation Use	No data provided
Non-Residential	Reclaimed	No data provided
Other	Potable	No data provided
Other	Potable for Irrigation Use	No data provided
Other	Reclaimed	No data provided
Wholesale	Potable	No
Wholesale	Potable for Irrigation Use	No
Wholesale	Reclaimed	No data provided

Customer Leak Notification

Does your utility inform customers when their meter reading indicates that a leak may be present on their property?	Yes
Please describe the program	If a meter reading is more than 200% from the previous consumption period, MDWASD 's billing system auto generates a high bill message, which triggers a field inspection. An inspection is conducted and the findings are given in a written notification to the customer. If the reason for the high bill is not an over-read error, the customer will be offered an indoor water-use evaluation.

Informative Billing

Will your utility implement informative billing?	Yes
What information will be provided directly on the bill (not as a bill insert)?	amount of water used in the current month amount of water used in the previous month

Water Bill Inserts

Will your utility provide water conservation information via water bill inserts?	Yes
Describe the type of water conservation	Conservation tips are included in the department's

information to be provided on the bill inserts	newsletter. Additional information on new programs is also included.
How often will you include water conservation information on bill inserts?	quarterly

Retrofit Kit Give Away

Will your utility give away retrofit kits?	Yes
What is to be included in the kit?	showerhead(s) faucet aerators toilet leak detection tablets leak brochures water conservation brochures
How will the program be administered?	kits provided at public events customer pick-up
Will you be tracking the accounts the retrofit kit went to?	Yes
Do you evaluate before and after water use?	Yes

Public Information/Education

Will your utility have a public information/education program?	Yes
What type of forum/media is to be used?	<p>in-school programs Comments: A curriculum based K-12 education program is a key component of the education program. Teachers are provided with instructional material to use in their classrooms.</p> <p>booths at public events Comments: The Department participates in a number of events thought the year including; Earth Day, Youth Fair, Water Fest, and Commission and Mayor sponsor public meetings.</p> <p>printed materials Comments: Brochures, reports, flyers.</p> <p>public service announcements Comments: Water conservation information is provided through a contract with several radio stations and cable TV.</p>
Source of program materials (check all that apply)?	AWWA Water Management District Developed in-house

Customer Surveys

Will your utility conduct user surveys of customer attitudes and behaviors as a means of evaluating and enhancing water conservation programs?	Yes
Surveys will be conducted in conjunction with (check all that apply):	
When was the latest survey conducted?	2003
How often will such surveys be administered?	Every 3 years
Describe how your utility will use survey results to enhance their water conservation program.	Information is analyzed to identify customer's practices and behaviors

Workshops

Type of Workshop	Is Funded?	Is Administered?	Do you track affected accounts?	How do you track affected accounts?	Does tracking include pre and post workshop comparisons?

Conservation Coordinator

Will your utility have a water conservation coordinator(s) or a consultant(s) to help plan, implement and/or evaluate water conservation efforts?	Yes
How many staff members (or consultants) will fulfill a water conservation coordinator role and/or support a water conservation coordinator on water conservation efforts?	2
How many hours per week will be dedicated to performing a water conservation role?	40
Please enter the expenditures budgeted for Year 1?	595936
Please enter the expenditures budgeted for Year 2?	852436
Please enter the expenditures budgeted for Year 3?	952436
Please enter the expenditures budgeted for Year 4?	1002436
Please enter the expenditures budgeted for Year 5?	1077436

Selective Usage of Pressure-Stablization Valves

Will your utility use pressure-stabilizing valves as a water conservation measure?	
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Water Waste Prohibition

Will there be a water waste prohibition ordinance in your service area?	
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Advisory Committee

Name of the committee	Name of the organization that established this committee	Committee Members
Water Resources Advisory Committee	South Florida Water Management District	elected officials local business people interested citizens agency representatives representatives of concerned local groups water conservation coordinators member utilities my water supplier others

Wholesale Water Supplier/ Water Supply Authority Assistance Programs

Does your organization have an assistance program?	Yes
Please provide a description of the program. Include the names of the utilities you help and the type of assistance provided	The MDWASD is working closely with the wholesale customers to assist them in preparing water conservation plans to implement for their customers. The MDWASD provides information and assistance with current consumption and how to use the Conserve Florida website.

Landscape/Irrigation Ordinance Development and Implementation

Will there be a Xeriscape or Florida-Friendly landscape ordinance requirement in the utility's service area?	Yes
What sectors are to be affected by the landscape ordinance.	Single Family Multi-Family Non-Residential Bulk
Will there be a water-efficient irrigation system ordinance requirement in place in the utility's service area?	Yes
What sectors are to be affected by the irrigation ordinance.	Single Family Multi-Family Non-Residential Bulk

Reuse Feasibility Study

What was the date of your latest Reuse Feasibility Study?	2006
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Appendix B
Sample BMP Implementation Report
for Wholesale Customers

**City of Miami Beach, MB 02
BMP Implementation Report**

MDWASD BMP	Category	Sector	Cost/ measure ⁷	Savings Rate (gallons per meas. per day)	Yearly Implementation								Present Worth Cost ⁸	C/E _{WSH} (C/E across the 20-yr WSH (\$/TG)
					2007				2008					
					No. of Meas. in 2007	2007 Cost	2007 Water Savings (GPD)	2007 Cumula- tive Water Savings (GPD)	No. of Meas. in 2008	2008 Cost	2008 Water Savings (GPD)	2008 Cumula- tive Water Savings (GPD)		
Water-Efficient Landscape and Irrigation Evaluations and Rebates with Rain Sensor Retrofit	Landscape & Irrigation Evaluations plus Rain Sensor Retrofit (without Rebate) ¹	SF	\$260	233	0	\$0	0	0	0	\$0	0	0	\$0	--
	NR County- Owned (~25 irrigated acres)		\$8,010	35,000	0	\$0	0	0	3	\$24,030	105,000	105,000	\$22,804	\$0.031
	Landscape & Irrigation Evaluations plus Rain Sensor Retrofit (with Rebate) ²	SF	\$260	233	0	\$0	0	0	0	\$0	0	0	\$0	--
High-Efficiency Clothes Washer Rebale	Residential	SF	\$150	16	0	\$0	2,400	2,400	7	\$1,050	112	2,512	\$996	\$0.054
	Common-area Washers	MF	\$300	48	0	\$0	2,400	2,400	0	\$0	0	2,400	\$0	\$0.000
Ultra Low Flush (ULF) Toilet Retrofit/Rebale	Rebate(Toilet Only) ⁴	SF	\$100	29	4	\$400	116	116	21	\$2,100	609	725	\$2,393	\$0.472
		MF	\$100	29	3	\$300	87	87	19	\$1,900	551	638	\$2,103	\$0.472
	Senior Retrofit (includes showerhead and aerators) ³	SF	\$250	64	23	\$5,750	1,472	1,472	1	\$250	64	1,536	\$5,987	\$0.535
Showerhead Exchange	No Categories	SF	\$2.88	35	17	\$49	595	595	189	\$544	6,615	7,210	\$566	\$0.011
	No Categories	MF	\$2.88	35	31	\$89	1,085	1,085	711	\$2,048	24,885	25,970	\$2,033	\$0.011
Retrofit Kit Give Away	No Categories	SF	\$2.87	12	11	\$32	132	132	97	\$278	1,164	1,296	\$296	\$0.033
	No Categories	MF	\$2.87	12	36	\$103	432	432	679	\$1,949	8,148	8,580	\$1,953	\$0.033
Industrial, Commercial and Institutional Water Use Evaluation/ Implementation	Leak Detection and Repair of City- owned Facilities	NR	\$4,740	1,000	0	\$0	0	0	0	\$0	0	0	\$0	--
	Evaluate and Retrofit City-owned Administrative Buildings ⁵	NR	\$1,600	1,500	0	\$0	0	0	0	\$0	0	0	\$0	--
	Restaurant program	NR	\$3	100	0	\$0	0	0	0	\$0	0	0	\$0	--
	Hotel Program ⁶	NR	\$667	1,617	0	\$0	0	0	3	\$2,001	4,851	4,851	\$1,899	\$0.056
Plan Total					For 2007	\$6,723	8,719	8,719	For 2008	\$36,150	151,999	160,718	\$41,029	\$0.037

gpm - gallons per measure (i.e., toilet, clothes washer) per day
GPD = gallons per day

WSH = water savings horizon
TG = thousand gallons

Notes

* Throughout Plan, costs do not include County staff labor

¹ Cost includes labor to perform evaluation, install a rain sensor (\$65/sensor), and provide a report (\$300).

² Cost includes labor to perform evaluation, install a rain sensor, and provide a report (\$300); plus a \$50 rebate to the customer, and \$30/rebate to outsource rebate processing.

³ Cost and savings include 1 toilet, 1 showerhead, and 2 aerators (1 for the bathroom; one for the kitchen), and installation costs

⁴ Cost includes a \$100 rebate to the customer

⁵ Cost is only for intradepartment assistance from WASD to other County departments for retrofit. Assistance may be in the form of a rebate or a credit on water bill.

⁶ Savings shown are for a hotel with 50 to 100 rooms (SWFWMD Water CHAMP)

⁷ Costs include equipment and outsourcing; costs do not include County staff time

⁸ Present worth cost of BMP over the duration of implementation shown in 2006 dollars

City of Hialeah, HIA 04
BMP Implementation Report

MDWASD BMP	Category	Sector	Cost/ measure ⁷	Savings Rate (gallons per meas. per day)	Yearly Implementation								Present Worth Cost ⁸	C/E _{WSH} (C/E across the 20-yr WSH (\$/TG)
					2007				2008					
					No. of Meas. in 2007	2007 Cost	2007 Water Savings (GPD)	2007 Cumula- tive Water Savings (GPD)	No. of Meas. in 2008	2008 Cost	2008 Water Savings (GPD)	2008 Cumula- tive Water Savings (GPD)		
Water-Efficient Landscape and Irrigation Evaluations and Rebates with Rain Sensor Retrofit	Landscape & Irrigation Evaluations plus Rain Sensor Retrofit (without Rebate) ¹	SF	\$260	233	0	\$0	0	0	0	\$0	0	0	\$0	--
	Landscape & Irrigation Evaluations plus Rain Sensor Retrofit (with Rebate) ²	NR County- Owned (~25 irrigated acres)	\$8,010	35,000	0	\$0	0	0	0	\$0	0	0	\$0	--
	Landscape & Irrigation Evaluations plus Rain Sensor Retrofit (with Rebate) ²	SF	\$260	233	0	\$0	0	0	0	\$0	0	0	\$0	--
High-Efficiency Clothes Washer Rebate	Residential	SF	\$150	16	0	\$0	2,400	2,400	63	\$9,450	1,008	3,408	\$8,968	\$0.366
	Common-area Washers	MF	\$150	48	0	\$0	2,400	2,400	0	\$0	0	2,400	\$0	\$0.000
Ultra Low Flush (ULF) Toilet Retrofit/Rebate	Rebate(Toilet Only) ⁴	SF	\$100	29	40	\$4,000	1,160	1,160	63	\$6,300	1,827	2,987	\$9,979	\$0.472
		MF	\$100	29	4	\$400	116	116	23	\$2,300	667	783	\$2,583	\$0.472
	Senior Retrofit (includes showerhead and aerators) ³	SF	\$250	64	77	\$19,250	4,928	4,928	24	\$6,000	1,536	6,464	\$24,944	\$0.535
Showerhead Exchange	No Categories	SF ⁹	\$2.88	35	667	\$1,921	23,345	23,345	1371	\$3,948	47,985	71,330	\$5,668	\$0.011
	No Categories	MF ⁹	\$2.88	35	351	\$1,011	12,285	12,285	3357	\$9,668	117,495	129,780	\$10,186	\$0.011
Retrofit Kit Give Away	No Categories	SF ⁹	\$2.87	12	409	\$1,174	4,908	4,908	1242	\$3,565	14,904	19,812	\$4,557	\$0.033
	No Categories	MF ⁹	\$2.87	12	313	\$898	3,756	3,756	3316	\$9,517	39,792	43,548	\$9,930	\$0.033
Industrial, Commercial and Institutional Water Use Evaluation/ Implementation	Leak Detection and Repair of City- owned Facilities	NR	\$4,740	1,000	0	\$0	0	0	0	\$0	0	0	\$0	--
	Evaluate and Retrofit City-owned Administrative Buildings ⁵	NR	\$1,600	1,500	0	\$0	0	0	0	\$0	0	0	\$0	--
	Restaurant program	NR	\$3	100	0	\$0	0	0	0	\$0	0	0	\$0	--
	Hotel Program ⁶	NR	\$667	1,617	0	\$0	0	0	0	\$0	0	0	\$0	--
Plan Total					For 2007	\$28,654	55,298	55,298	For 2008	\$50,748	225,214	280,512	\$76,814	\$0.039

gpm/d - gallons per measure (i.e., toilet, clothes washer) per day
GPD = gallons per day

WSH = water savings horizon
TG = thousand gallons

Notes

* Throughout Plan, costs do not include County staff labor

¹ Cost includes labor to perform evaluation, install a rain sensor (\$65/sensor), and provide a report (\$300).

² Cost includes labor to perform evaluation, install a rain sensor, and provide a report (\$300); plus a \$50 rebate to the customer, and \$30/rebate to outsource rebate processing

³ Cost and savings include 1 toilet, 1 showerhead, and 2 aerators (1 for the bathroom; one for the kitchen), and installation costs.

⁴ Cost includes a \$100 rebate to the customer

⁵ Cost is only for intradepartment assistance from WASD to other County departments for retrofit. Assistance may be in the form of a rebate or a credit on water bill.

⁶ Savings shown are for a hotel with 50 to 100 rooms (SWFWMD Water CHAMP)

⁷ Costs include equipment and outsourcing; costs do not include County staff time

⁸ Present worth cost of BMP over the duration of implementation shown in 2006 dollars

⁹ City of Hialeah performed 2 events where they purchased and distributed showerheads in 2008.