



Indio Water Authority

2005 Urban Water Management Plan Addendum

September 2008



INDIO WATER AUTHORITY 2005 URBAN WATER MANAGEMENT PLAN ADDENDUM

OVERVIEW

An Urban Water Management Plan (UWMP) is a planning tool that generally guides the actions of water management agencies. It provides managers and the public with a broad perspective on a number of water supply issues. This UWMP can be viewed as a long-term, general planning document, rather than an exact blueprint for supply and demand management.

The California Urban Water Management Planning Act (Act) requires preparation of a plan that:

- Accomplishes water supply planning over a 20-year period in five year increments
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years
- Implements conservation and efficient use of urban water supplies

This document presents an Addendum to Indio Water Authority's (IWA's) Final 2005 Urban Water Management Plan, dated August 2006. In review of IWA's 2005 UWMP, the California Department of Water Resources representative noted items that either required completion or clarification. This Addendum serves to respond to DWR's comments on the initial 2005 UWMP prepared by IWA.

IWA staff and its consultant met with the DWR representative on July 22, 2008, to review any comments requiring incorporation into the 2005 UWMP. This Addendum incorporates IWA's responses to all comments received from DWR and reference is provided to all tables to match the organization of the DWR "Guidebook to Assist Water Suppliers in the Preparation of a 2005 Urban Water Management Plan."

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Abbreviations

acre-feet per year	AFY
Best Management Practices	BMPs
California Urban Water Conservation Council	CUWCC
Carbonaceous Biological Oxygen Demand	CBOD
Central Basin Municipal Water District	CBMWD
Chlorine	Cl
Coachella Valley Storm Channel	CVCS
Coachella Valley Water District	CVWD
Department of Water Resources	DWR
Indio Water Authority	IWA
Memorandum of Understanding	MOU
milligrams per liter	mg/L
million gallon per day	mgd
Most Probable Number per 100 milliliters	MPN/100ml
N/A	Not Applicable
National Pollutant Discharge Elimination System	NPDES
Return on Investment	ROI
Total Suspended Solids	TSS
Ultra-Low-Flush	ULF
Urban Water Management Plan	UWMP
Valley Sanitary District	VSD
Wastewater Treatment Plant	WWTP
Water Recharge District	WRD
Water Resources Development Plan	WRDP
Water Treatment Plant	WTP

1 AGENCY COORDINATION

1.1 COORDINATION WITH APPROPRIATE AGENCIES

Participation in local and regional planning is integral to the management of Indio Water Authority’s (IWA’s) water resources. IWA is an active participant to the development of a regional Water Management Plan.

Table 1: Coordination with Appropriate Agencies (DWR Table 1)

Agency	Participated in developing the plan	Commented on the draft	Attended public meetings	Was contacted for assistance	Was sent a copy of the draft plan	Was sent a notice of intention to adopt	Not Involved / No Information
CVWD				x			
DWA				x			
City of Coachella				x			
VSD				x			
Other							

Coordination was not done with area agencies and stakeholders outside of contacting them for assistance and information as needed. This addendum will be circulated with appropriate agencies and related comments will be incorporated in Appendix A.

IWA’s UWMP was adopted by resolution at a public meeting. Prior to the meeting standard notification of intent to adopt was done via the IWA website, at the public library and the City Hall counter. The UWMP was available for viewing at the city clerk’s office.

1.2 RESOURCE MAXIMIZATION/IMPORT MINIMIZATION PLAN

In order to establish a sustainable water supply that will allow development without increasing reliance on the overdrafted groundwater basin, it is desirable for IWA to diversify its resources to the extent possible. This diversification includes not only tapping into new resources or reusing existing resources, but also conserving available resources. Water management alternatives to be implemented include the following elements: regional cooperation, source substitution, groundwater recharge, and water efficiency measures.

Regional cooperation and development of partnerships are crucial for ensuring the sustainable management of water resources in the Valley, and are integral to many of the alternatives considered.

The following seven alternatives have been identified through a Water Resources Development Plan (WRDP) (IWA, 2008) as having a high priority for implementation in order to diversify water supply options and reduce reliance on groundwater:

- ▼ Use recycled water from Valley Sanitary District's (VSD) wastewater treatment plant (WWTP)
- ▼ Use recycled water from remote recycling plants
- ▼ Treatment of canal water for urban use
- ▼ Agricultural use of canal water in-lieu of groundwater
- ▼ Groundwater recharge – spreading
- ▼ Agricultural conservation
- ▼ Urban water conservation

1.3 URBAN WATER MANAGEMENT PLAN ADOPTION

The Indio Water Authority, of the City of Indio, approved the 2005 Indio Water Authority Urban Water Management Plan per Resolution No. 2006-34 at a regular meeting held July 17, 2006; a copy of this resolution can be found in Appendix B.

2 WATER SOURCES

2.1 CURRENT AND PLANNED WATER SUPPLIES

Currently, groundwater is the sole supply source for IWA. The 2005 reported value for total Water Supply in Table 2 is the amount that was actually pumped. Water supply totals for 2010-2030 are projected demands less preliminary savings for a moderate conservation program (IWA, 2008).

Additional assumptions to develop the projected water supply values include:

- ▼ Supply from a 10 million gallon per day (mgd) Water Treatment Plant (WTP) for canal water is online by 2018.
- ▼ Supplies from recycled water are available by 2015.
- ▼ Any recycled water that is not reused will be used for aquifer recharge

Table 2: Current and Planned Water Supplies – AFY (DWR Table 4)

Water Supply Sources	2005 ¹	2010	2015	2020	2025	2030 - opt
Surface Water	N/A	N/A	N/A	N/A	N/A	N/A
Wholesale Water	N/A	N/A	N/A	N/A	N/A	N/A
Supplier Produced Groundwater	20,165	26,448	22,541	11,034	16,500	21,909
Transfers In or Out	0	0	0	11,200	11,200	11,200
Recycled Water (Projected Use)	0	0	5,313	5,760	6,222	6,680
Aquifer Storage and Recharge	0	0	4,198	9,355	8,893	8,435
Total	20,165	26,448	32,052	37,349	42,815	48,224

^{1.} This value is based on actual production data provided by Indio. Values reported in IWA 2008a were based on numbers reported in the IWA 2005 DWR Report.

^{2.} Spreading credits are not available with an un-adjudicated basin.

2.2 WATER SOURCES – GROUND WATER

Groundwater is the primary source of water supply in the Valley. The groundwater in the Valley is from the Whitewater River Basin which is un-adjudicated basin in an overdraft condition. The amount of water pumped in the Valley has annually exceeded the natural and artificial recharge. Currently IWA does not have a Basin Management Plan. Another water purveyor in the valley, Coachella Valley Water District (CVWD), considers their 2002 Final Water Management Plan (CVWD, 2002) to be a Basin Management Plan.

Supplies for the City of Indio are primarily from the Lower Aquifer in the Lower Whitewater River Subbasin. IWA production accounts for approximately 4-6 percent of the total volume of water pumped in the valley.

Table 3: Amount of Groundwater Pumped – AFY (DWR Table 6)

Year	2000	2001	2002	2003	2004
Whitewater River Basin	17,861	17,222	19,493	19,519	20,925
% of Total Water Supply	100%	100%	100%	100%	100%

Table 4: Amount of Groundwater Projected to be Pumped – AFY (DWR Table 7)

Year	2010	2015	2020	2025	2030 - opt
Whitewater River Basin	26,448	22,541	11,034	16,500	21,909
% of Total Water Supply	100%	70%	30%	39%	45%

As development increases, urban demand for water is expected to increase, and agricultural water demand is expected to remain at about the same level. To supply growing urban demand and to resolve the groundwater overdraft condition, it is recommended that a diversified portfolio of water resources be evaluated and developed.

To meet growing demand, groundwater supplies for IWA may be supplemented by the following:

- ▼ Imported Colorado River Water
- ▼ Reuse/Recycled water obtained from local wastewater treatment facilities

2.3 RELIABILITY OF SUPPLY

The Coachella valley groundwater basin is un-adjudicated and has sufficient storage to meet all current needs. Thus, issues related to reliability of supply & vulnerability to seasonal and climatic changes do not significantly affect the reliability of the Coachella Valley Groundwater Basin. Currently 100 percent of water consumed by IWA comes from this source.

Alternative supply sources as well as a groundwater recharge program are being developed to assist in mitigating the current overdraft condition of the basin. An Urban Conservation Program is being developed to implement Demand Management Measures (DMMs) and decrease the annual volume consumed.

Table 5: Supply Reliability – AFY (DWR Table 8)

Average / Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
		Year 1	Year 2	Year 3
20,925	20,925	20,925	20,925	20,925
% of Normal	100.0%	100.0%	100.0%	100.0%

Water year data used to form projected future demand and single-dry and multiple-dry year demand for reliability scenarios were as follows.

Table 6: Basis of Water Year Data (DWR Table 9)

Water Year Type	Base Year(s)
Average Water Year	2004
Single-Dry Water Year	1977
Multiple-Dry Water Years	1990-1992

2.4 WATER USE

IWA currently tracks both the number of water user accounts and water use by sector. Actual and projected values are presented in Table 7. Values for 2000 and 2005 are based on historical deliveries data provided by the City. Projected use values for 2010 through 2030, which were developed in 2005 by Metcalf and Eddy, do not account for any reductions which will result from the proposed conservation program to be implemented in 2009. Unaccounted for losses, which are not included in the totals, are estimated to be 6 percent of deliveries for projected values for 2010 through 2030.

Table 7: Past, Current and Projected Water Deliveries (DWR Table 12)

Metered Account Data – 2000 ¹			Metered Account Data - 2005		
Water Use Sectors	# of Accounts	Deliveries AFY	Water Use Sectors	# of Accounts	Deliveries AFY
Single Family	9,848	4,480	Single Family	14,485	10,129
Multi-Family	-	1,342	Multi-Family	375	3,145
Commercial	1,126	2,199	Commercial	931	4,101
Industrial	-	109	Industrial	70	231
Landscape	1,113	639	Landscape	384	2,559
Other	0	0	Other	0	0
Total	12,087	8,769	Total	16,245	20,165
Metered Account Data - 2010			Metered Account Data - 2015		
Water Use Sectors	# of Accounts	Deliveries AFY	Water Use Sectors	# of Accounts	Deliveries AFY
Single Family	19,330	18,009	Single Family	21,852	21,825
Multi-Family	420	4,805	Multi-Family	462	5,823
Commercial	1,064	8,335	Commercial	1,209	10,102
Industrial	79	534	Industrial	83	647
Landscape	548	2,236	Landscape	604	2,710
Other	0	0	Other	0	0
Total	21,441	33,919	Total	24,209	41,107
Metered Account Data - 2020			Metered Account Data - 2025		
Water Use Sectors	# of Accounts	Deliveries AFY	Water Use Sectors	# of Accounts	Deliveries AFY
Single Family	24,710	25,432	Single Family	27,951	29,154
Multi-Family	507	6,786	Multi-Family	557	7,779
Commercial	1,376	11,771	Commercial	1,568	13,494
Industrial	87	754	Industrial	91	864
Landscape	666	3,157	Landscape	735	3,619
Other	0	0	Other	0	0
Total	27,346	47,900	Total	30,902	54,910

Metered Account Data - 2030 - opt		
Water Use Sectors	# of Accounts	Deliveries AFY
Single Family	31,627	32,837
Multi-Family	612	8,761
Commercial	1,789	15,198
Industrial	96	974
Landscape	811	4,077
Other	0	0
Total	0	61,847

¹ For the number of accounts in 2000, Water Use Sectors were identified more generally resulting in a higher number of accounts per sector than will be seen in later years.

2.5 PLANNED WATER SUPPLY PROJECTS AND PROGRAMS

IWA has initiated planning processes to develop a more reliable water supply for the City of Indio while reducing the groundwater overdraft. Viable water management alternatives were identified and screened. A Water Resources Development Plan was developed identifying preferred alternatives which will be given a high priority for implementation. These preferred alternatives will help to diversify IWA’s supply and reduce groundwater production by the Authority. These projects include:

- ▼ Urban Conservation Program
 - Public outreach
 - Implementation of DMMs
 - Water use ordinances
 - Best Management Practices (BMPs)
 - Savings of 9,500 to 17,300 acre-feet per year (AFY). Potential 26 percent reduction in total demand

- ▼ Recycled Water
 - Develop Reuse Master Plan
 - Upgrade local WWTP to tertiary treatment
 - Identify potential uses
 - Use excess flows for groundwater recharge
 - Potential 6,600 to 18,000 AFY.

- ▼ Coachella Canal Water WTP
 - Develop Feasibility Study
 - Requires agreement with CVWD for canal water
 - Site, design, and construct a new water treatment plant
 - Estimated plant capacity of 5,600 to 16,800 AFY

- ▼ Groundwater Recharge
 - Develop Feasibility Study

- Potential sources include tertiary treated recycled water and/or canal water
- Site, and construct recharge basins
- Estimated amount available is a range from 6,600 to 18,000 AFY

For the purposes of projecting savings and supply due to these projects, the ‘Normal’ year data are based on ultimate build-out (2030) demand projections and volumes of wastewater available.

All future water supply projects are considered 100 percent reliable.

Table 8: Future Water Supply Projects (DWR Table 17)

Project Name	Projected Start Date	Projected Completion Date	Normal-Year AF to Agency	Single-Dry Year Yield AF	Multiple-Dry-Year 1 AF	Multiple-Dry-Year 2 AF	Multiple-Dry-Year 3 AF
Urban Conservation Program (savings)	2007	On-going	15354	15,354	15,354	15,354	15,354
Recycled Water	2008	2015	6,680	6,680	6,680	6,680	6,680
Coachella Canal Water WTP	2008	2018	11,200	11,200	11,200	11,200	11,200
Groundwater Recharge	2008	2015	8,435	8,435	8,435	8,435	8,435
Total			41,669	41,669	41,669	41,669	41,669

2.6 DEVELOPMENT OF DESALINATED WATER

Desalination has been identified by the Authority as a long term solution to diversification of their water supply but IWA is not looking at it in the short term due to a variety of constraints.

The potential for reducing the overdraft is moderate when compared to the technological, environmental and scheduling constraints. Desalination requires complicated technologies and is a high energy consuming process. Additional difficulties are associated with mitigation for negative environmental impacts resulting from waste (brine) from desalination plants.

Developing desalination as a water resource may require multiple partnerships: a) a partnership with the plant owner, and b) a partnership with Metropolitan Water District or San Diego County to exchange desalinated water for Colorado River water. Additionally, the planning, permitting and construction processes may take years to decades to complete.

2.7 CALIFORNIA URBAN WATER CONSERVATION COUNCIL

The California Urban Water Conservation Council (CUWCC) was created to increase efficient water use statewide through partnerships among urban water agencies, public interest organizations, and private entities.

A Memorandum of Understanding (MOU) was signed by nearly 100 urban water agencies and environmental groups in December, 1991. Since then the Council has grown to 384 members. IWA is currently not a signatory to the MOU.

Those signing the MOU pledge to develop and implement fourteen comprehensive conservation BMPs. The signatory water suppliers will submit standardized reports every other year to the Council providing sufficient information to inform the Council on the progress being made towards implementing the BMP process. IWA will be a member signatory by December 2008.

IWA, along with the other water providers in the basin have formed an urban water group that meets monthly to discuss issues within the region. They have drafted an MOU of their own that should be completed and signed in 2008. Additionally IWA will be obtaining the appropriate forms to become a signatory of the CUWCC MOU.

2.8 WHOLESALE WATER

IWA does not receive wholesale water, has no plans to receive wholesale water and is not a wholesale provider.

2.9 WATER SUPPLY

IWA and the Coachella Valley have experienced and will continue to experience substantial growth over the next 20 years. At present, IWA relies solely on local groundwater from an un-adjudicated basin. As such, supply is not affected in single-dry or multiple-dry year scenarios.

Table 9: Three-Year Estimated Minimum Water Supply – AFY (DWR Table 24)

Source	Normal	2006	2007	2008
Whitewater River Basin	20,165	21,944	23,070	24,196
Total	20,165	21,944	23,070	24,196

3 DEMAND MANAGEMENT MEASURES

3.1 REVIEW OF DMMS FOR COMPLETENESS

IWA is in the planning phase for an Urban Conservation Program, which will include most of the DMMS that have not yet been implemented. The Conservation Program was initiated in 2008, and has thus far culminated in a Landscaping and Water Conservation Ordinance. The Urban Conservation Program will include the following previously non-implemented DMMS, many of which have already been formerly recommended to the Board for approval:

- ▼ Water Survey Program for Single Family and Multi-Family Residential Customers
- ▼ Residential Plumbing Retrofit Program
- ▼ Landscape Conservation Programs and Incentives Program
- ▼ High Efficiency Washing Machine Rebate Program
- ▼ Conservation Programs for Commercial, Industrial & Institutional Accounts Program
- ▼ Rates: Conservation Pricing
- ▼ Residential Ultra-Low-Flush Toilet Replacement Program
- ▼ School Education Program

IWA has already implemented six of the 14 water conservation measures. Those measures that have been implemented include:

- ▼ System Water Audits, Leak Detection and Repair Program. Audit forms have been created and are being used.
- ▼ Metering with Commodity Rates for New Accounts and Retrofit Existing Accounts Program
- ▼ Public Information Program
- ▼ Water Conservation Coordinator Program
- ▼ Water Waste Prohibition Program

IWA was not incorporated until 2001; data prior to this date is not available pertaining to numbers of accounts, flow volumes or DMM implementation.

3.1.1 Residential Surveys

Residential surveys will be a component of the Urban Conservation Program by assisting homeowners in identifying water uses that are wasteful or could be reduced. Survey results will assist IWA in identifying conservation trends in the surveyed households. Specifics of this program, including measures of success and cost/benefits will be developed in the Conservation Master Plan to be developed in 2009. Methods used to evaluate the effectiveness of this DMM will also be addressed in the Conservation Master Plan.

The steps necessary to implement this DMM will be identified in the Water Conservation Master Plan and will follow those suggested in DWR's UMWP Guidance document as well as those outlined by the CUWCC. Such steps may include:

- ▼ Develop and implement a targeting/ marketing strategy for single and multi-family residential water use surveys?
- ▼ Do the surveys, including the following activities:
 - check for leaks, including toilets, faucets and use of meter to check for leaks
 - check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary
 - check toilet flow rates and direct customer to ULFT replacement, as necessary; replace leaking toilet flapper, as necessary
 - Check irrigation system and timers
 - Review or develop customer irrigation schedule
 - Measure landscaped area
 - Measure total irrigable area
- ▼ Provide customers with information packets that include evaluation results and water savings recommendations after the surveys have been completed.
- ▼ Develop a tracking system for the number of surveys offered and completed, survey results, and survey costs.

At this time, estimates for the projected numbers of single family and multi-family surveys, projected expenditures and projected water savings resulting from the residential survey program are not available. Although we estimate that the entire Conservation Program could reduce demand by at least 15,000 AFY by ultimate build-out in 2030.

3.1.2 Residential Retrofits

Residential retrofits will be another component of the Urban Conservation Program for promoting indoor water use conservation. Specifics of Residential Retrofit Program will be developed in the Conservation Master Plan to be developed in 2009. Methods used to evaluate the effectiveness of this DMM will also be addressed in the Conservation Master Plan.

The steps necessary to implement this DMM will be identified in the Water Conservation Master Plan and will follow those suggested in DWR's UMWP Guidance document as well as those outlined by the CUWCC. Such steps may include:

- ▼ Adopt an enforceable ordinance requiring replacement of high-flow showerheads and other water use fixtures with their low flow counterparts.
- ▼ Determine saturation in percent of single and multi-family households with low-flow showerheads.
 - Describe how saturation was determined, including the dates and results of any survey research.
 - Describe your survey methodology.
- ▼ Develop a targeting/ marketing strategy for distributing low flow devices.
 - Describe your targeting/ marketing methods.

- Describe your targeting/ marketing strategy. (e.g., distribute devices, install devices)
- Number of low-flow showerheads distributed
- Number of toilet flappers distributed
- Number of faucet aerators distributed
- ▼ Develop a tracking system for the distribution and cost of low-flow devices

At this time, estimates for the projected numbers of single family and multi-family devices, and projected expenditures for the Residential Retrofit Program are not available. We have initially estimated a total reduction in residential indoor water use of 18 percent. Projected water savings as a result of the program for 2010 are in Table B2. We estimate that the entire Conservation Program could reduce demand by at least 15,000 AFY by ultimate build-out in 2030.

Table 10: Projected Water Savings from Residential Retrofits (DWR Table B2)

Planned	2006	2007	2008	2009	2010
# of Single Family Devices	N/A	N/A	N/A	N/A	N/A
# of Multi-Family Devices	N/A	N/A	N/A	N/A	N/A
Projected Expenditures - \$	N/A	N/A	N/A	N/A	N/A
Projected Water Savings - AFY	N/A	N/A	N/A	N/A	1,772

3.1.3 System Water Audits

The System Water Audit Program was started in 2001. The last annual audit was completed in 2007, although monthly audits are also performed. The last monthly audit was in July 2008.

Table 11: Actual Water Savings from Water System Audits (DWR Table C1)

Actual	2001	2002	2003	2004	2005
% of Unaccounted Water	5.7%	5.7%	5.7%	4.8%	4.5%
Miles of Mains Surveyed	N/A	N/A	N/A	N/A	N/A
Miles of Lines Repaired	N/A	N/A	N/A	N/A	N/A
Actual Expenditures - \$	N/A	N/A	N/A	N/A	N/A
Actual Water Savings - AFY	N/A	N/A	N/A	N/A	N/A

Table 12: Planned Water Savings from Water System Audits (DWR Table C2)

Planned	2006	2007	2008	2009	2010
% of Unaccounted Water	5.8%	7.5%	< 2%	< 2%	< 2%
Miles of Mains Surveyed	N/A	N/A	N/A	N/A	N/A
Miles of Lines Repaired	N/A	N/A	N/A	N/A	N/A
Projected Expenditures - \$	N/A	N/A	N/A	N/A	N/A
Projected Water Savings - AFY	N/A	N/A	N/A	N/A	793

Although leak and/or line break repairs are performed by the Authority, through 2006 there were no records associated with these activities. As well, there are no records for official auditing or other leak detection data. At this time, estimates for the miles of

mains surveyed, miles of lines repaired, actual expenditures and actual water savings resulting from the System Water Audits Program are not available. In 2006, the IWA expanded its record-keeping associated with their leak detection activities with data including:

- ▼ Incident description
- ▼ Number of leaks repaired last year
- ▼ Annual leak repair cost
- ▼ Water leak size

The program will be further expanded with the development of the Conservation Master Plan. The IWA's goal is to maintain less than a two percent annual water loss in the distribution system. This goal will be measured by reviewing monthly and annual water consumption and production data currently being tracked. Expansion of this program will enhance the IWA's knowledge and awareness of their system, which would allow for more accurate targeting of problem areas for future maintenance or replacement. Areas of expansion currently in effect are:

- ▼ Implementation of a change in the way IWA performs fire flows, utilizing hydraulic modeling software to predict the available fire flow without using any water at all.
- ▼ IWA has had its own inspector since mid 2007 to monitor water use at construction sites and ensure all flows are being monitored.
- ▼ IWA has acquired an electronic leak-detection device that will be the first step in implementing a leak detection/prevention program. We expect this program will get under way in 2008.
- ▼ IWA has initiated a private hydrant lock-out program to minimize losses due to illegal connections to the system.

3.1.4 Metering

One hundred percent of IWA's customers are metered. The meters are billed based on volume of use. IWA does have mixed use meters serving both domestic use and landscaping irrigation. All future water users will require metering on their service connection. IWA will require separate meters for irrigation on all commercial properties. Due to the large service area, the losses in revenue from illegal hydrant connections have increased significantly over the past few years. Diligence by field staff with the assistance of Code Enforcement is helping to reduce the illegal connections. IWA has initiated a private hydrant lock-out program.

Past history in the water industry shows that water meters always slow down as they become old and worn resulting in loss of revenue for the water agency. At the end of 2006, IWA had 18,593 connections. Of these, 8,060 meters range in age from 12 to 27 years old. A meter 10 years and older could register 4 percent to 20 percent less than the actual water usage. The older the meter, the less accurate it becomes. IWA will replace all the old meters starting with the oldest in the next 5 years.

IWA’s meter replacement program began in 2006 and consists of two phases. Phase one work involves the replacement of all existing direct-read water meters installed prior to 2006 with the newer Neptune T-10 models incorporating a wireless automated meter reading system. The older service installations are the most susceptible to failure and have been assigned a higher priority for replacement. The meter replacement program will be an on-going process, allowing IWA to systematically focus its meter replacement efforts on the areas with the highest probability of failure.

Table 13: Actual Water Savings from Metering (DWR Table D1)

Actual	2001	2002	2003	2004	2005
# of Un-Metered Accounts ¹	0	0	0	0	0
# of Retrofit Meters Installed	0	0	0	0	0
# of Accounts w/o Commodity Rates	0	0	0	0	0
Actual Expenditures - \$	0	0	0	0	0
Actual Water Savings - AFY	0	0	0	0	0
¹ . System is 100% metered.					

Table 14: Projected Water Savings from Metering (DWR Table D2)

Planned	2006	2007	2008	2009	2010
# of Un-Metered Accounts ¹	0	0	0	0	0
# of Retrofit Meters Installed	2000	2200	2500	3000	3000
# of Accounts w/o Commodity Rates	0	0	0	0	0
Projected Expenditures - \$	\$400,000	\$440,000	\$500,000	\$550,000	\$550,000
Projected Water Savings - AFY	N/A	N/A	N/A	N/A	N/A
¹ . System is 100% metered.					

In terms of return on investment (ROI), IWA has measured the effectiveness of large meter change out in their SEERS model. Additionally, they will be projecting ROI with respect to residential meter change out assuming 75 percent completion by 2009. There are neither estimates of existing conservation savings on water use nor estimates for the effect of such savings on the supplier’s ability to further reduce demand as a result of this program.

3.1.5 Large Landscape Conservation Programs and Incentives

Large Landscape Conservation Programs and Incentives will be another component of the Urban Conservation Program for promoting outdoor water use conservation. IWA adopted a Landscaping and Conservation Ordinance (54.054) in 2008 as the groundwork for future conservation efforts. A copy of the ordinance can be found in Appendix C. The ordinance requires all commercial, industrial and apartment buildings to have separate landscaping meters installed by January 1, 2013. Additional landscaping equipment required under the ordinance includes:

- ▼ Automatic evapotranspiration controller systems
- ▼ Separate valves for plants requiring different amounts of water
- ▼ Anti-drain valves to minimize or prevent low-head drainage.
- ▼ Sprinkler heads or emitters with consistent application



- ▼ Rain sensing override devices
- ▼ Soil moisture sensing devices
- ▼ Vertical stops on sprinklers
- ▼ Master Values on all systems for automatic shutoff at 10 percent overflow rate.

Additional specifics of the Large Landscape Conservation Programs and Incentives will be addressed in the Conservation Master Plan to be developed in fiscal year 2008-2009.

Number of accounts, surveys and costs are currently not available as there is no data but will be available upon completion of the Conservation master Plan. Additional steps necessary to implement this DMM will be identified in the Water Conservation Master Plan and will follow those suggested in DWR's UMWP Guidance document as well as those outlined by the CUWCC. Such steps may include:

- ▼ Provide water use notices to accounts with budgets each billing cycle
- ▼ Develop a marketing / targeting strategy for landscape surveys including:
 - Description of marketing / targeting strategy and when you began implementing this strategy
 - Indication of which of the following Landscape Elements are part of your survey: Irrigation System Check, Distribution Uniformity Analysis, Review / Develop Irrigation Schedules, Measure Landscape Area, Measure Total Irrigable Area, Provide Customer Report / Information
- ▼ Develop a tracking system for survey offers and results
- ▼ Provide follow-up surveys for previously completed surveys, financial incentives to improve landscape water use efficiency, and customer notices at the start and end of the irrigation season
- ▼ Provide landscape water use efficiency information to new customers and customers changing services

Landscape Rebate Program forms can be found in Appendix D. Methods used to evaluate the effectiveness of this DMM will also be addressed in the Conservation Master Plan. At this time, estimates for the number of budgets developed, number of surveys completed number of follow-up visits, projected expenditures and projected water savings resulting from the Large Landscape Conservation Programs and Incentives are not available. Currently, there are not any estimates of existing conservation savings on water use as a result of this program.

3.1.6 High-Efficiency Washing Machine Rebate Program

A High Efficiency Washing Machine Rebate Program will be another component of the Urban Conservation Program for promoting indoor water use conservation. Specifics of the program will be adopted in the Conservation Master Plan to be developed in 2009. Methods used to evaluate the effectiveness of this DMM will also be addressed in the Conservation Master Plan.

The steps necessary to implement this DMM will be identified in the Water Conservation Master Plan and will follow those suggested in DWR's UMWP Guidance document as well as those outlined by the CUWCC. Such steps may include:

- ▼ Determine if any energy service providers or wastewater utilities in your service area offer rebates for high-efficiency washers.
- ▼ Describe the offerings and incentives as well as whom the energy/wastewater utility provider is.
- ▼ Determine IWA rebates for high-efficiency washers and track, including:
 - What is the level of the rebate
 - Number of rebates awarded

At this time, estimates for the amount of rebates, the number of rebates, projected expenditures and projected water savings resulting from the High Efficiency Washing Machine Rebate Program are not available. Although we estimate that the entire Conservation Program could reduce demand by at least 15,000 AFY by ultimate build-out in 2030.

3.1.7 Public Information Program

Refer to 2005 UWMP prepared by Metcalf & Eddy for a description of the program. The Public Information Program was started in 2006 and has since expanded to include outreach to schools.

Table 15: Actual Expenditures for the Public Information Program (DWR Table G1)

Actual	2001	2002	2003	2004	2005
a). Paid advertising	0	0	0	0	0
b). Public Service Announcements	0	0	0	0	0
c). Bill inserts/Newsletters/Brochures	0	0	0	0	\$425.00
d). Bill showing water usage in comparison to previous year's usage	0	0	No extra cost, included in standard bill print.	No extra cost, included in standard bill print.	No extra cost, included in standard bill print.
e). Demonstration Gardens	0	0	0	0	0
f). Special Events, Media Events	0	0	\$2,500	\$2,500	\$2,500
g). Speakers Bureau	0	0	0	0	0
h). Program to coordinate with other government agencies industry and public interest groups and media	0	0	0	0	0
Actual Expenditures - \$	0	0	\$2,500	\$ 2,500	\$2,925

Table 16: Projected Expenditures for the Public Information Program (DWR Table G2)

Planned	2010	2015	2020	2025	2030
a). Paid advertising	0	\$5,000	\$5,000	\$5,000	\$5,000
b). Public Service Announcements	0	0	0	0	0
c). Bill inserts/Newsletters/Brochures	\$1,500	\$3,000	\$3,000	\$3,000	\$3,000
d). Bill showing water usage in comparison to previous year's usage	0	0	0	0	0
e). Demonstration Gardens	No extra cost, included in standard bill print.	No extra cost, included in standard bill print.	No extra cost, included in standard bill print.	No extra cost, included in standard bill print.	No extra cost, included in standard bill print.
f). Special Events, Media Events	\$5,000	\$10,000	\$20,000	\$20,000	\$20,000
g). Speakers Bureau	0	0	0	0	0
h). Program to coordinate with other government agencies industry and public interest groups and media	0	\$5,000	\$10,000	\$10,000	\$10,000
Projected Expenditures - \$	\$6,500	\$18,000	\$33,000	\$33,000	\$33,000

The IWA is currently working with the other water agencies in the Coachella Valley to develop a partnered outreach program that will be beneficial to all Coachella Valley water agencies. It will benefit all agencies with cost sharing and outreach messages that will be uniform throughout the valley. This program will be expanded with the development of the Conservation Master Plan.

A tracking system for public outreach is being developed and will be incorporated into the water and environmental programs tracking system. Additional methods to evaluate the Public Information Program will be addressed in the Conservation Master Plan. We estimate that the entire Conservation Program could reduce demand by at least 15,000 AFY by ultimate build-out in 2030.

3.1.8 School Education Programs

The School Education Program will be another component of the Urban Conservation Program for promoting water conservation. Specifics of program will be developed in the Conservation Master Plan to be developed in 2009. Methods used to evaluate the effectiveness of this DMM will also be addressed in the Conservation Master Plan.

The steps necessary to implement this DMM will be identified in the Water Conservation Master Plan and will follow those suggested in DWR's UMWP Guidance document as well as those outlined by the CUWCC. Such steps may include:

- ▼ Implement a school information program to promote water conservation. Program should be tailored and implemented by grade level:
 - Grades K-3rd
 - Grades 4th-6th
 - Grades 7th-8th

- High School
- ▼ Track the following:
 - Materials distributed. Determine requirements to make materials meet state education framework requirements and that they are grade appropriate.
 - No. of class presentations
 - No. of students reached
 - No. of teachers' workshops

Methods to evaluate the School Education Program will be addressed in the Conservation Master Plan. We estimate that the entire Conservation Program could reduce demand by at least 15,000 AFY by ultimate build-out in 2030.

3.1.9 Conservation Programs for Commercial, Industrial and Institutional (CII)

CII Conservation Programs will be another component of the Urban Conservation Program for promoting water use conservation. Specifics of the program will be developed in the Conservation Master Plan to be developed in 2009. Methods used to evaluate the effectiveness of this DMM will also be addressed in the Conservation Master Plan.

The steps necessary to implement this DMM will be identified in the Water Conservation Master Plan and will follow those suggested in DWR's UMWP Guidance document as well as those outlined by the CUWCC. Such steps may include:

- ▼ Determine the number of Commercial, Industrial and Institutional accounts
- ▼ Provide estimates of existing conservation savings on water use and the effect of such savings on the ability to further reduce demand.
- ▼ Determine plan to implement CII toilet replacement

At this time, estimates for the projected numbers of surveys to be annually completed, incentives to be provided, follow-up visits, and projected expenditures for the CII Conservation Program are not available. We have initially estimated a total reduction in commercial water use of 15 percent. The entire Conservation Program could reduce demand by at least 15,000 AFY by ultimate build-out in 2030.

Table 17: Projected Water Savings from the Conservation Programs CII (DWR Table I2)

Planned	2006	2007	2008	2009	2010
# of Surveys Completed	N/A	N/A	N/A	N/A	N/A
Were Incentives Provided	N/A	N/A	N/A	N/A	N/A
# of Follow-up Visits	N/A	N/A	N/A	N/A	N/A
Projected expenditures - \$	N/A	N/A	N/A	N/A	N/A
Projected Water Savings - AFY	N/A	N/A	N/A	N/A	1,250

3.1.10 Conservation Programs for Commercial, Industrial and Institutional (CII) – Toilet Replacement

CII Toilet Replacement Program will be a component of the Urban Conservation Program for promoting CII water use conservation. Specifics of the program will be developed in the Conservation Master Plan to be developed in fiscal year 2008-2009. Methods used to evaluate the effectiveness of this DMM will also be addressed in the Conservation Master Plan.

The steps necessary to implement this DMM will be identified in the Water Conservation Master Plan and will follow those suggested in DWR's UMWP Guidance document as well as those outlined by the CUWCC. Such steps may include:

- ▼ Determine Number of agencies to be assisted
- ▼ Provide estimates of existing conservation savings on water use and the effect of such savings on the ability to further reduce demand
- ▼ Describe activities being implemented and related expenditures

At this time, estimates for the projected numbers of replacements, projected expenditures and projected water savings resulting from the CII Toilet Replacement Program are not available. The entire Conservation Program could reduce demand by at least 15,000 AFY by ultimate build-out in 2030.

3.1.11 Wholesale Agency Program

Refer to 2005 UWMP prepared by Metcalf & Eddy report.

3.1.12 Conservation Pricing

Conservation Pricing will be a component of the Urban Conservation Program for promoting water use conservation. IWA does have the authority to implement a tiered rating structure. Specifics of the pricing program will be developed in the Conservation Master Plan to be adopted in 2009. Methods used to evaluate the effectiveness of this DMM will also be addressed in the Conservation Master Plan.

The steps necessary to implement this DMM will be identified in the Water Conservation Master Plan and will follow those suggested in DWR's UMWP Guidance document as well as those outlined by the CUWCC. Such steps may include:

- ▼ Determine/describe the methods that will be used to measure this DMM's effectiveness
- ▼ Provide estimates of existing conservation savings on water use and the effect of such savings on the ability to further reduce demand
- ▼ Describe the water rate structure and sewer rate structure for all accounts types that apply to IWA

At this time, the tiered water rate structure for conservation pricing has not been established. The entire Conservation Program could reduce demand by at least 15,000 AFY by ultimate build-out in 2030.

3.1.13 Water Conservation Coordinator

IWA has implemented a Water Conservation Coordinator. A full-time Environmental Programs Coordinator was hired in 2007 to oversee water conservation and other environmental programs. Addition of this position as well as supporting staff; one full-time water quality specialist and two full-time water utility specialists, enhance the water conservation efforts of the IWA. There are currently no plans to increase the number of staff in the future.

Specifics of this DMM will be further developed in the Conservation Master Plan to be developed in 2009. Methods used to evaluate the effectiveness of this DMM will also be addressed in the Conservation Master Plan.

No actual expenditure data for 2001-2005 is available as the program began in 2006. Actual 2006 and 2007 data were used to project future expenditures with an annual increase of approximately 5 percent for inflation to the budget and salaries.

Table 18: Projected Expenditures for a Water Conservation Coordinator (DWR Table L1)

Planned	2006	2007	2008	2009	2010
# of Full-time Positions	4	4	4	4	4
# of Part-time Positions	0	0	0	0	0
Projected Program Budget - \$	\$37,500	\$42,500	\$44,500	\$46,500	\$48,500
Projected Staff Budget - \$	\$240,452	\$358,281	\$376,195	\$395,005	\$414,755
Projected Expenditures - \$	\$277,952	\$400,781	\$420,695	\$441,505	\$463,255

3.1.14 Waste Water Prohibition

IWA adopted a formal waste water prohibition ordinance in 1961. The Waste Water Ordinance states: Chapter 54.050 – It shall be unlawful for any person to willfully or neglectfully waste in any manner, nay person having knowledge of any conditions whereby water is being wasted, shall immediately notify the Water Department of that fact. ('61 code 24.9)(Ordinance 257).

The IWA enforces local ordinances regarding sprinklers which could include a temporary shut off of water service upon receipt of a complaint of a broken sprinkler head. The IWA is addressing nuisance water using this ordinance. However, the IWA has addressed nuisance water more specifically in its landscaping ordinance (54.054). In addition, the IWA is exploring with other water agencies the implementation of a valley wide water waste prohibition program. IWA staff is currently monitoring outdoor water use and over irrigation which contributes to water wasting.

The IWA has developed a “Water Waster Notice” to notify the property owner of the violation and corrective actions to be taken. However, enforcement actions by Code Enforcement cannot be pursued due to conflicts with the National Pollutant Discharge Elimination System (NPDES) ordinance, which will be amended. The IWA has developed a form for calculating the amount of water being wasted and can inform the property owner. With documentation of wasted water by photos of the violation and “Water Waster Notice” the IWA can enforce its regulations and educate the public at the

same time, water wasters are tracked and recorded in a database. A copy of both the “Water Waster Notice” and the sheet for calculating nuisance water flows can be found in Appendix E.

IWA has a database that keeps track of water wasting and water in the street. The effectiveness of this DMM is currently determined by how many revisits are made to a site and by tracking the number of total calls received in the database.

3.1.15 Residential Ultra-Low-Flush Toilet Replacement Programs

A Residential Ultra-Low-Flush (ULF) Toilet Replacement Program will be a component of the Urban Conservation Program for promoting residential indoor water use conservation. At present there is no ordinance pertaining to the replacement of existing facilities with ultra-low-flush alternatives. Specifics of the program will be developed in the Conservation Master Plan to be developed in 2009. Methods used to evaluate the effectiveness of this DMM will also be addressed in the Conservation Master Plan.

The steps necessary to implement this DMM will be identified in the Water Conservation Master Plan and will follow those suggested in DWR's UMWP Guidance document as well as those outlined by the CUWCC. Such steps may include:

- ▼ Creating program for replacing high-water using toilets with ultra-low flush toilets
- ▼ Determining the number of toilets replaced by the program during report year
- ▼ Determining the replacement method: rebate, direct install, community based organization distribution, other
- ▼ Describing the IWA's ULF program for single and multi-family residences including related expenditures
- ▼ Adopt an Ordinance of Resolution for toilet retrofit resale

At this time, estimates for the number of ULF rebates, number of ULF direct installs, number of ULF CBO installs, projected expenditures and projected water savings resulting from the Residential Toilet Replacement Program are not available. The entire Conservation Program could reduce demand by at least 15,000 AFY by ultimate build-out in 2030.

3.2 EVALUATION OF DMMS NOT IMPLEMENTED

DMM-10, which addresses Wholesale Incentives, has not been implemented and is not scheduled for implementation. IWA is not a wholesale provider. Refer to Page 57, Section 8.10 in the 2005 UWMP prepared by Metcalf & Eddy.

All other DMMS listed are in effect or are planned as part of the Urban Conservation Program.

Table 19: Evaluation of Unit Cost of Water Resulting from Planned Water Supply Projects and Programs (DWR Table 16)

Planned Water Supply Projects	Per-AF Cost (\$)
Urban Conservation Program	\$38
Agricultural Conservation Program	\$587
Water Reuse Program (Recycled Water)	\$330
Construction of Surface WTP for Coachella Canal Water	\$348
Groundwater Recharge Program	\$242
Totals	\$1,545

3.3 WATER SHORTAGE CONTINGENCY

The Indio Water Authority, of the City of Indio, declared a water emergency and set regulation and restrictions on water usage per Resolution No. 2005-28 at a regular meeting held June 20, 2005, a copy of this ordinance can be found in Appendix F. This ordinance can be reactivated as needed during emergency situations. The regulations set forth in this resolution were based on priority of use with domestic, sanitation and fire flows sharing top priority.

No long-term plan is currently in effect, although the conservation measures adopted by the 2005 emergency water shortage resolution will be incorporated into the Conservation Master Plan as part of a water shortage contingency plan.

Table 20: Water Use Monitoring Mechanisms (DWR Table 31)

Mechanisms for Determining Actual Reductions	Type of Data Expected
Meter readings as compared to historical flows	acre-feet/account
Total consumption	AFY

4 WASTEWATER SYSTEM

4.1 SYSTEM DESCRIPTION

VSD provides sewer service to 98 percent of the City of Indio (VSD, 2003). The District’s current sphere of influence is approximately 29 square miles. The district provides wastewater collection, treatment and disposal services within its service area. Approximately 77 percent of the District’s customers are residential. In 2003, the population served was approximately 52,400 people.

The District operates and maintains over 839,000 linear feet of wastewater conveyance pipelines ranging in size from 4 to 54 inches in diameter. The District owns and maintains approximately 2,960 manholes throughout its service area.

As of 2003, VSD had five wastewater lift stations installed within its service boundary. These include Vandenburg Lift Station, Barrymore Lift Station, Shields Lift Station, Carver Lift Station, and Shadow Hills Lift Station.

The VSD WWTP provides full secondary treatment, sludge handling, and disposal to the Coachella Valley Storm Channel (CVSC). VSD operates three parallel treatment processes: an activated sludge treatment process with a capacity of 5.0 mgd, an oxidation pond treatment process with a capacity of 2.5 mgd, and a constructed wetlands treatment process (Wetland Treatment Project) with a capacity of 1.0 mgd. Thus the total existing capacity of the WWTP is approximately 8.5 mgd (9,500 AFY); however the plant is currently under going an expansion of its activated sludge treatment process to achieve an additional 2.5 mgd, bringing the total plant capacity to 11.0 mgd (12,300 AFY). This expansion will be completed in October of 2008.

For ultimate build-out (2020), the WWTP will be expanded to accommodate a capacity of 17.0 mgd or approximately 19,000 AFY (VSD, 2003). Assuming that development proceeds as projected, this equates to an annual rate of increase of 7.2 percent in wastewater flows to the WWTP.

According to VSD, average wastewater flows to VSD’s treatment plant on Van Buren Street for 2007 were 6.9 mgd or approximately 7,700 AFY (IWA, 2008). VSD has estimated per capita wastewater production to be approximately 80 gallons per day.

Table 21: Wastewater Collection & Treatment – AFY (DWR Table 33)

Type of Wastewater	2000	2005	2010	2015	2020	2025	2030 - opt
Wastewater collected & treated in service area	6,196	7,169	9,522	13,480	19,083	19,083	19,083
Volume that meets recycled water standard	0	0	0	11,100	16,700	16,700	16,700

4.2 WASTEWATER DISPOSAL AND RECYCLED WATER USES

At the present time, approximately 80 percent of the plant effluent is sent to the CVSC, and the remaining effluent is provided to adjacent tribal lands for irrigation (spray) (IWA, 2008). NPDES permit limits for discharge to the CVSC include: CBOD < 25 mg/L, TSS < 30 mg/L, 6.0 < pH < 9.0, fecal coliform < 200 MPN/100ml, and Cl < 0.01 mg/L.

Of the effluent sent to the CVSC, 1.0 mgd comes from the 29 acre Wetland Treatment Project just south of the WWTP. The Wetland Treatment Project has also become the site for an educational program for the Coachella Valley Wild Bird Center.

Sludge build up in the ponds is dewatered and sludge disposed as fertilizer, soil conditioner or compost and hauled to farming operations in the Coachella Valley.

Indio Water Authority plans to have a recycled water program in effect by 2015. Recycled water will primarily be used for landscape irrigation with any excess volumes being utilized for groundwater recharge.

Table 22: Disposal of wastewater (non-recycled) - AFY (DWR Table 34)

Method of Disposal	Treatment Level	2005	2010	2015	2020	2025	2030 - opt
Tribal Lands	Secondary	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0	1,260.0
Wetlands	Primary	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0	1,120.0
Coachella Valley Stormwater Channel	Secondary	4,789	7,142	0	0	0	0
Total		7,169	9,522	2,380	2,380	2,380	2,380

Table 23: Recycled Water Uses - Actual and Potential – AFY (DWR Table 35)

User type	Treatment Level	2005	2010	2015	2020	2025	2030 - opt
Agriculture	Secondary	1,260	1,260	1,260	1,260	1,260	1,260
Landscape	Tertiary	0	0	6,902	7,348	7,810	8,268
Wildlife Habitat	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wetlands	Secondary	1,120	1,120	1,120	1,120	1,120	1,120
Industrial	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Groundwater Recharge	Tertiary	0	0	4,198	9,355	8,893	8,435
Total		2,380	2,380	13,480	19,083	19,083	19,083

5 SUPPLY AND DEMAND COMPARISON

5.1 NORMAL WATER SCENARIO

Reliability during a normal year scenario is based on average flow conditions affected by precipitation for the area. Precipitation for 2004 was 2.87 inches which falls within the range of a normal year being 91% of the local average of 3.15 inches. For this reason 2004 volumes of groundwater produced have been used to represent normal supply and demand.

Table 24: Projected Normal Water Supply – AFY (DWR Table 40)

	2010	2015	2020	2025	2030
Supply	26,448	32,052	37,349	42,815	48,224
% of year 2004	126.4%	153.2%	178.5%	204.6%	230.5%

Table 25: Projected Normal Water Demand – AFY (DWR Table 41)

	2010	2015	2020	2025	2030 - opt
Demand	26,448	32,052	37,349	42,815	48,224
% of year 2004	126.4%	153.2%	178.5%	204.6%	230.5%

Table 26: Projected Supply and Demand Comparison – AFY (DWR Table 42)

	2010	2015	2020	2025	2030 - opt
Supply totals	26,448	32,052	37,349	42,815	48,224
Demand totals	26,448	32,052	37,349	42,815	48,224
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

5.2 SINGLE-DRY YEAR SCENARIO

Reliability during a single-dry year scenario was assumed to be similar to that experienced during the 1977 drought conditions in the area, where supply was not affected since the source was entirely from the un-adjudicated groundwater basin. Projected single-dry year water supplies are considered to be 100 percent reliable. Future water supplies include groundwater, recycled water and Colorado River water all of which are considered to be 100 percent reliable.

Table 27: Projected Single-Dry Year Water Supply – AFY (DWR Table 43)

	2010	2015	2020	2025	2030 - opt
Supply	26,448	32,052	37,349	42,815	48,224
% of projected normal	100.0%	100.0%	100.0%	100.0%	100.0%

Table 28: Projected Single-Dry Year Water Demand – AFY (DWR Table 44)

	2010	2015	2020	2025	2030 - opt
Demand	26,448	32,052	37,349	42,815	48,224
% of projected normal	100.0%	100.0%	100.0%	100.0%	100.0%

Table 29: Projected Single-Dry Year Supply and Demand Comparison - AFY (DWR Table 45)

	2010	2015	2020	2025	2030 - opt
Supply totals	26,448	32,052	37,349	42,815	48,224
Demand totals	26,448	32,052	37,349	42,815	48,224
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

5.3 MULTIPLE-DRY YEAR SCENARIO

Reliability during a multiple-dry year scenario was assumed to be similar to that experienced during the 1990-1992 drought conditions in the area, where supplies were not affected since the source was entirely from the un-adjudicated groundwater basin. Projected multiple-dry year water supplies are considered to be 100 percent reliable. Future water supplies include groundwater, recycled water and Colorado River water all of which are considered to be 100 percent reliable.

Supply and demand for each year based on linear interpolation of projected demands for each 5 year period.

Table 30: Projected Supply - Multiple Dry Year Period Ending in 2010 - AFY (DWR Table 46)

	2006	2007	2008	2009	2010
Supply	21,944	23,070	24,196	25,322	26,448
% of projected normal	100.0%	100.0%	100.0%	100.0%	100.0%

Table 31: Projected Demand - Multiple Dry Year Period Ending in 2010 - AFY (DWR Table 47)

	2006	2007	2008	2009	2010
Demand	21,944	23,070	24,196	25,322	26,448
% of projected normal	100.0%	100.0%	100.0%	100.0%	100.0%

Table 32: Projected Supply and Demand Comparison - Multiple Dry Year Period Ending in 2010 - AFY (DWR Table 48)

	2006	2007	2008	2009	2010
Supply totals	21,944	23,070	24,196	25,322	26,448
Demand totals	21,944	23,070	24,196	25,322	26,448
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

Table 33: Projected Supply - Multiple Dry Year Period Ending in 2015 - AFY (DWR Table 49)

	2011	2012	2013	2014	2015
Supply	27,569	28,690	29,810	30,931	32,052
% of projected normal	100.0%	100.0%	100.0%	100.0%	100.0%

Table 34: Projected Demand - Multiple Dry Year Period Ending in 2015 - AFY (DWR Table 50)

	2011	2012	2013	2014	2015
Demand	27,569	28,690	29,810	30,931	32,052
% of projected normal	100.0%	100.0%	100.0%	100.0%	100.0%

Table 35: Projected Supply and Demand Comparison - Multiple Dry Year Period Ending in 2015- AFY (DWR Table 51)

	2011	2012	2013	2014	2015
Supply totals	27,569	28,690	29,810	30,931	32,052
Demand totals	27,569	28,690	29,810	30,931	32,052
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

Table 36: Projected Supply - Multiple Dry Year Period Ending in 2020 - AFY (DWR Table 52)

	2016	2017	2018	2019	2020
Supply	33,111	34,170	35,229	36,288	37,349
% of projected normal	100.0%	100.0%	100.0%	100.0%	100.0%

Table 37: Projected Demand - Multiple Dry Year Period Ending in 2020 - AFY (DWR Table 53)

	2016	2017	2018	2019	2020
Demand	33,111	34,170	35,229	36,288	37,349
% of projected normal	100.0%	100.0%	100.0%	100.0%	100.0%

Table 38: Projected Supply and Demand Comparison - Multiple Dry Year Period Ending in 2020 - AFY (DWR Table 54)

	2016	2017	2018	2019	2020
Supply totals	33,111	34,170	35,229	36,288	37,349
Demand totals	33,111	34,170	35,229	36,288	37,349
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

Table 39: Projected Supply - Multiple Dry Year Period Ending in 2025 - AFY (DWR Table 55)

	2021	2022	2023	2024	2025
Supply	38,442	39,536	40,629	41,722	42,815
% of projected normal	100.0%	100.0%	100.0%	100.0%	100.0%

Table 40: Projected Demand - Multiple Dry Year Period Ending in 2025 - AFY (DWR Table 56)

	2021	2022	2023	2024	2025
Demand	38,442	39,536	40,629	41,722	42,815
% of projected normal	100.0%	100.0%	100.0%	100.0%	100.0%

Table 41: Projected Supply and Demand Comparison - Multiple Dry Year Period Ending in 2025 - AFY (DWR Table 57)

	2021	2022	2023	2024	2025
Supply totals	38,442	39,536	40,629	41,722	42,815
Demand totals	38,442	39,536	40,629	41,722	42,815
Difference	0	0	0	0	0
Difference as % of Supply	0.0%	0.0%	0.0%	0.0%	0.0%
Difference as % of Demand	0.0%	0.0%	0.0%	0.0%	0.0%

5.4 AGENCY COORDINATION

The 2005 UWMP water service reliability section was not sent to the City or County for comment. It is the intent of the Authority to provide the Urban Water Management Plan (UWMP) including this Addendum to area agencies and stakeholders for their comment.

6 ADOPTION AND IMPLEMENTATION

6.1 PUBLIC PARTICIPATION & PLAN ADOPTION

Per Section 1.3 of this addendum, the Indio Water Authority, of the City of Indio, approved the 2005 Indio Water Authority Urban Water Management Plan.

Standard notification of intent to adopt was done via the IWA website, at the public library and the City Hall counter. The UWMP was available for viewing at the city clerk's office. In addition to this a notice of addendum to the UWMP, soliciting comments and indicating how to obtain a copy of the plan will be announced in the major publication of the area. Publication name, dates, duration and text of the ad are included in Appendix G.

A 2000 UWMP was not completed and thus no implementation plan/schedule review was done.

Agencies listed in Table 1 as well as any city and county not listed within the service area will be contacted for comments. A letter will be sent indicating where they can obtain a copy of the UWMP for review and who to send comments to. A representative letter is shown in Appendix H.

7 REFERENCES

- Coachella Valley Water District (CVWD). 2002b. Final Program Environmental Impact Report of Coachella Valley Water Management Plan and State Water Project Entitlement Transfer – September 2002. MWH.
- Indio Water Authority (IWA). 2008a. Phase 1 White Paper - Integrated Water Resources Development Plan. Black & Veatch.
- Indio Water Authority (IWA). 2008b. Phase 2 – IWA Water Resources Development Plan. Black & Veatch.
- Indio Water Authority (IWA). 2006. Urban Water Management Plan Update 2006. 2006. Metcalf & Eddy.
- Valley Sanitary District (VSD). 2003. Wastewater Collection System Master Plan. Dudek & Associates.

APPENDIX A – AGENCY COMMENTS

APPENDIX B – UWMP ADOPTION RESOLUTION

RESOLUTION NO. 2006-34

RESOLUTION OF THE INDIO WATER AUTHORITY, OF THE CITY OF INDIO, CALIFORNIA, APPROVING 2005 INDIO WATER AUTHORITY URBAN WATER MANAGEMENT PLAN AND AUTHORIZE THE DESIGNATED STAFF TO FILE THE PLAN WITH THE CALIFORNIA STATE DEPARTMENT OF WATER RESOURCES

WHEREAS, the California Urban Water Management Planning Act, Water Code Division 6, Part 2.6, Section 10610 through 10656 requires every urban water supplier providing water for municipal purposes to 3,000 or more customers or more than 3,000 acres-feet of water annually, to prepare, adopt and file an Urban Water management Plan (UWMP) with the State Department of Water Resources; and

WHEREAS, the Indio Water Authority, with the aid of its staff, has reviewed the proposed Indio Water Authority Urban Water Management Plan; and

WHEREAS, the Indio Water Authority has determined that the plan contains the intended Indio Water Authority Water Management goals and objectives.

NOW THEREFORE, THE INDIO WATER AUTHORITY, OF THE CITY OF INDIO, CALIFORNIA, DOES HEREBY DETERMINE, ORDER AND RESOLVE AS FOLLOWS:

Section 1. The Indio Water Authority hereby approves the 2005 Indio Water Authority Urban Water Management Plan.

Section 2. The Indio Water Authority also authorizes the appropriate staff to file the 2005 Indio Water Authority Urban Water Management Plan with the State Department of Water Resources.

PASSED, APPROVED AND ADOPTED by the Indio Water Authority at a regular meeting held on the 17th day of July 2006, by the following vote:

AYES: Barba, Bastidas, Fesmire, Friestad, Godfrey, Sanchez, Gilbert

NOES: None

ABSENT: Ramos Watson, Wilson



GENÉ GILBERT, PRESIDENT

ATTEST:



CYNTHIA HERNANDEZ
SECRETARY

APPENDIX C – LANDSCAPING AND CONSERVATION ORDINANCE (54.054)

ORDINANCE NO. _____

**AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF INDIO,
CALIFORNIA, ADDING SECTION 54.054 OF THE CODE OF ORDINANCES
RELATING TO LANDSCAPING AND WATER CONSERVATION**

The City Council of the City of Indio, California, DOES HEREBY ORDAIN as follows:

WHEREAS, the City of Indio is committed to protecting public health, safety, welfare, and the environment, and as such, promotes reducing outdoor water use; and

WHEREAS, the City is actively seeking ways to conserve water; and

WHEREAS, excess water run off may contribute to safety hazards to pedestrians and vehicles; and

WHEREAS, excess run off in the streets contributes to pavement deterioration and increases repair cost for public sidewalks, roads, and bridges; and

WHEREAS, conserving water reduces the amount of drawdown in groundwater supplies; and

WHEREAS, Section 4 of the Indio Water Authority Development Services Procedural Guidelines, as attached to this Ordinance, will serve to guide Landscape and Water Conservation in the City of Indio.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF INDIO DOES HEREBY RESOLVE AS FOLLOWS:

SECTION 1. That the Recitals set forth above are true and correct and are incorporated herein by this reference.

SECTION 2. Section 54.054 of the Indio Code of Ordinances is added to read as follows:

54.054

LANDSCAPE AND WATER CONSERVATION

A. WATER WASTE PREVENTION

Water waste from inefficient landscape irrigation allowing runoff, low head drainage, overspray or other conditions where water flows onto roadways, adjacent property or nonirrigated property is prohibited.

B. PROHIBITION ON CERTAIN COVENANTS CONDITIONS and RESTRICTIONS

It shall be unlawful for covenants, conditions and restrictions of a new development to require the use of water-intensive landscaping or prohibit low water use landscaping.

C. LANDSCAPING EQUIPMENT

(1) **Water Meters.** Separate landscape water meters shall be installed for all projects except for single family homes. All commercial, industrial and apartment buildings must have separate meters for landscaping installed by January 1, 2013.

- a) All meters are the property of the Indio Water Authority.
- b) Consumers, contractors, or any other person shall not tamper with or make inoperable any permanent meter that is installed to record water usage.
- c) All new construction shall have separate landscaping meters.
- d) Portable meters shall be installed on hydrants to record water use for construction use, air quality dust control or any other water use deemed acceptable by the Indio Water Authority. Meters shall be obtained from the Indio Water Authority.
- e) Only Indio Water Authority meters shall be used to record water usage in the Authority's service area.

(2) **Controllers.** Automatic Evapotranspiration, ET, controller systems or moisture sensing devices shall be required for all irrigation systems and must be able to accommodate all aspects of the design.

(3) **Valves.** Plants which require different amounts of water shall be irrigated by separate valves. If one valve is used for a given area, only plants with similar water use shall be used in that area. Anti-drain (check) valves shall be installed in strategic points to minimize or prevent low-head drainage.

(4) **Sprinkler Heads.** Heads and emitters shall have consistent application rates within each control valve circuit. Sprinkler heads shall be selected for proper area

coverage, application rate, operating pressure, adjustment capability, and ease of maintenance.

(5) **Rain Sensing Override Devices.** Rain sensing override devices shall be required on all irrigation systems.

(6) **Soil Moisture Sensing Devices.** It is recommended that soil moisture sensing devices be considered where appropriate.

(7) **Vertical Stops.** Sprinklers must be equipped with vertical stops installed just below the sprinkler head which automatically shut off water to a broken sprinkler head.

(8) **Backflow Devices and Valves.** No consumer, contractor or any other person shall tamper with backflow devices or distribution valves without consent of the Indio Water Authority. Repairs of backflow devices shall be done by companies approved and authorized by the Indio Water Authority.

(9) **Master Values.** Master Values must be installed on all systems with a flow sensor for automatic shut off of the station based on 10% over flow rate.

D. REMEDIES NONEXCLUSIVE

Enforcement remedies provided in this Chapter are not exclusive. The City may take all, or any combination of these actions against a person, as well as any other enforcement remedies which the City may have available.

E. ADMINISTRATIVE REMEDIES

(1) **Notice of Violation.** Whenever an authorized enforcement official determines there has been a violation of this chapter, the official may serve a notice that enumerates the violations found and order compliance by a certain date.

(2) **Administrative Compliance Order.** Whenever an authorized enforcement official determines that a violation of this chapter has occurred the official may require the submission of a detailed compliance schedule including the actions that will be taken to correct said violation(s) or prevent future recurrences of said violation(s), to the authorized enforcement official for approval. A compliance order shall not relieve the violator of liability for any violation, including any continuing violation.

(3) **Cease and Desist Order.** Whenever an authorized enforcement official determines that a violation of this chapter is occurring, or that past violations are likely to recur, the authorized enforcement official may issue an order to cease and desist and take such appropriate remedial or preventive action as may be

needed to properly address a continuing or potential violation, including halting operations and/or terminating the discharge.

(4) **Termination of Service.** If the violation continues after the issuance of a Cease and Desist Order, irrigation service to the facility may be turned off and remain off until corrective actions are taken to the satisfaction of the authorized enforcement official.

(5) **Administrative Civil Penalties.** The City may serve an administrative complaint on any person who has violated, or continues to violate, any provision of this Chapter. Each day on which each instance of noncompliance shall occur or continue shall be deemed a separate and distinct violation. Procedures for application of administrative civil penalties shall be in accordance with standard procedures adopted by the City.

F. VIOLATIONS DEEMED A PUBLIC NUISANCE

(1) In addition to the penalties hereinbefore provided, any condition caused or permitted to exist in violation of any of the provisions of this Chapter is a threat to the public health, safety and welfare, and is declared and deemed a nuisance, and may be summarily abated and/or restored by any authorized enforcement official, and/or civil action to abate, enjoin or otherwise compel the cessation of such nuisance may be taken by the City.

(2) If any violation of this Chapter constitutes a seasonal and recurrent nuisance, the City shall conduct a hearing to consider revocation of a permit by serving notice to the permittee a notice of intention to revoke. The City will set forth the grounds for the hearing and designate a time and a place for the hearing.

G. GUIDELINES ADOPTED, PROCEDURE FOR AMENDMENT AND MODIFICATION

The Indio Water Authority Board and City Council shall from time to time consider and adopt "Landscape and Water Conservation Guidelines" as Section 4 of the City's "Development Services Procedural Guidelines." City and Indio Water Authority staff shall apply these guidelines to all new development and may amend or modify same administratively as deemed necessary and appropriate by the City Manager/Executive Director or his/her designee. Within ninety (90) days of approval of any administrative amendment or modification of these guidelines, the City Manager/Executive Director shall present a summary of same to the City Council and the Indio Water Authority Board for review and ratification at a public meeting.

SECTION 3. SEVERABILITY

If any section, subsection, sentence, clause, phrase, or portion of this Ordinance for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portion of this Ordinance. The City Council hereby declares it would have adopted this Ordinance, and each section, subsection, sentence, clause, phrase, or portion thereof, irrespective of the fact that any one or more sections, subsections, subdivisions, sentences, clauses, phrases or portions might subsequently be declared invalid or unconstitutional.

SECTION 4. EFFECTIVE DATE

This Ordinance shall take effect thirty (30) days after its adoption. The City Clerk shall certify to the adoption of this Ordinance and shall cause this Ordinance or a summary thereof to be published in the manner required by law.

PASSED, APPROVED, AND ADOPTED this 20th day of February, 2008 by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

Lupe Ramos Watson, Mayor

ATTEST:

Cynthia Hernandez, CMC
City Clerk

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF INDIO)

I, CYNTHIA HERNANDEZ, City Clerk of the City of Indio, do hereby certify the foregoing to be a full, true and correct copy of Ordinance No. of the City Council of the City of Indio, duly introduced on the 20th day of February, 2008, at a regular meeting and was passed and adopted by City Council at a regular

meeting thereof, held on the 20th day of February, 2008, not being less than five (5) days after the date of introduction.

CYNTHIA HERNANDEZ

City Clerk

City of Indio, California

APPENDIX D – LANDSCAPE REBATE FORMS



Water Smart Landscape Rebate Program

How to Apply

1. Call 760-262-4099 to receive program information and an initial eligibility interview. Please have your Indio Water Authority account number ready.
2. If you meet basic eligibility requirements, a pre-conversion site inspection will be scheduled.
3. Once your landscape and irrigation system are inspected and eligibility is confirmed, you will be provided an applicant information packet and agreement. The packet will include landscape design templates and information to help you select an attractive and water-efficient landscape option. Complete the application and send it to the program administrator along with your landscape plans.
4. The application and plans will be reviewed by staff, and qualified applicants will be given authorization to proceed with the landscape conversion.
5. Complete the landscape conversion within 6 months of the authorization date, and call the program administrator to schedule a post-conversion inspection. The Indio Water Authority will issue your rebate check within 6 weeks of the final inspection.

Document Checklist

Applicants must provide the following documents to qualify for the \$1.00 per square foot rebate. If proof of proper disposal of green waste is not provided, the rebate will be reduced to \$.50 per square foot.

- _____ Copy of recent Indio Water Authority bill including applicant's name.
- _____ Completed application form identifying property owner
- _____ Verification of owner's agent (if applicable)
- _____ Landscape and irrigation concept plans (or select preapproved template)
- _____ Landscape documentation package (commercial and multi-family properties)
- _____ Receipt for proper disposal of green waste



Application

Water Smart Landscape Rebate Program

Please read all program rules on the back side of this form carefully before submitting this application.

Requirements:

1. Starting without Indio Water Authority approval will make your landscape conversion project ineligible for participation in this program.
2. Program funding is limited. Applications will be accepted on a first come first serve basis while funding is available.

Customer Information

Property Owner _____

Site Address _____

City _____ Zip Code _____

IWA Account Number _____ Day Phone _____

Type of property (circle one): Residential Commercial Multi-family

Please read the paragraph below before signing. If you do not fully understand each of the statements, please call (760) 262-4099 for clarification.

I am the rightful owner or owner's agent for the property described above. I agree to abide by the requirements of this program. This application has been accurately completed, and the information herein is intended to meet the incentive program requirements. I understand that I may be disqualified from this program if my landscape or irrigation system is found to have any serious inefficiency during the irrigation audit that will be paid by the Authority as part of the post-conversion inspection. I will not begin my landscape conversion project until I have been notified following the pre-conversion inspection that my application has been approved and a rebate approval number is assigned by the Indio Water Authority prior to any landscape changes being made.

Signed _____ Date _____

For office use only. Certification by _____ Date _____ Authorization# _____ Converted area _____ SqFt



Water Smart Landscape Rebate Program

1. Pre-conversion Eligibility

Areas to be converted must use water from the Indio Water Authority. The applicant's water account(s) must be in good standing. Indio business owners and residents with other water service providers are not eligible.

Areas to be converted must be maintained lawn or other water intensive plantings, and may include inefficiently irrigated landscapes. Conversions necessary to comply with any governmental code, law or policy relating to landscape design standards are ineligible.

Only front yard and street-side landscapes may be converted on a commercial, institutional, multifamily, or residential property.

Before removing any lawn or water features, the application must be submitted to the IWA program administrator and the applicant must participate in an IWA pre-conversion site review. Starting without IWA approval will make the conversion ineligible.

2. Landscaping Requirements for Converted Area

50% Living Plant Cover: At completion, converted areas must contain enough plants to create at least 50 percent living plant cover when the plants are fully grown. The IWA will review concept plans to determine if the requirement is met by considering the entire plantable area of the front or street-side yard where the conversion occurred. A maximum of 20% of the converted area may be retained as turf in areas that are not adjacent to hardscape.

Efficient Irrigation: Planting beds must utilize a drip irrigation system equipped with a pressure regulator, filter and emitters. Trees may be irrigated with low volume bubblers. The system must be free of leaks and malfunctions. Each drip emitter must be rated at less than 20 gallons per hour (gph). If part of a lawn is converted, the sprinkler system must be properly modified to provide adequate coverage to the remaining lawn without spraying the converted area (narrow lawn areas often waste water and should be avoided). Separate valves must be installed for plantings with different water requirements such as lawn, trees, and shrubs.

Surface Treatments: The converted area must be completely covered by a layer of mulch permeable to air and water. Common mulching materials include rock, bark, ungrouted flagstone or pavers and artificial turf manufactured to be permeable. Concrete or other impermeable treatments do not qualify. Living groundcovers qualify as mulch provided the individual plants are installed at sufficient density to assure 100 percent plant cover. If a weed barrier is used beneath the mulch, it must be manufactured to be permeable to air and water.

3. Terms of the Rebate

IWAs Assurance: This agreement expires in six calendar months. The six-month term begins the day after IWA approves the agreement and ends at 5 p.m. on the first business day after six calendar months have elapsed. Once you notify IWA of completion, any wait for a final inspection is not counted against your six-month term. Only one payment may be received under this agreement: future conversions require a new application.

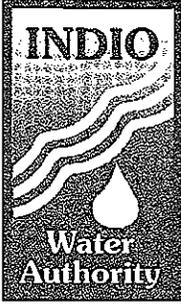
Incentive Amounts and Limits: The incentive is \$1.00 for every square foot of qualifying landscape converted, with no cap on maximum square footage. The IWA may reject or limit applications based upon the availability of funds. Checks are issued only to the property owner or owner's legally-appointed agency (typically 30-60 days after inspection).

Final Inspection: After notification of the project's completion, IWA will conduct an inspection to verify program compliance. If the conversion fails inspection, you will be allowed 60 days or the remainder of the six-month period, whichever is greater, to fully comply with the program conditions.

Requirement to Sustain the Conversion: The converted area must remain in compliance with all program conditions for a period of 5 years. This requirement is void upon transfer of ownership. You may be required to refund some or the entire rebate if this requirement is violated.

Other responsibilities of the applicant: IWA enforces only the conditions of this agreement. The applicant is responsible for complying with all laws, policies, codes and covenants that may apply. Quality and appearance of the conversion is the responsibility of the applicant. Rebates may be considered taxable income.

APPENDIX E – WATER WASTER NOTICE & CALCULATION SHEET



INDIO WATER AUTHORITY

83101 AVENUE 45 • INDIO, CALIFORNIA 92201
760.391.4144 • FAX 760.278.0274 • WWW.INDIO.ORG

Water Waster Notice

Date: ____/____/____

Name: _____

Address: _____

The following water use was reported on ____/____/____
(Date) (Time)

By the Indio Water Authority City staff a customer other

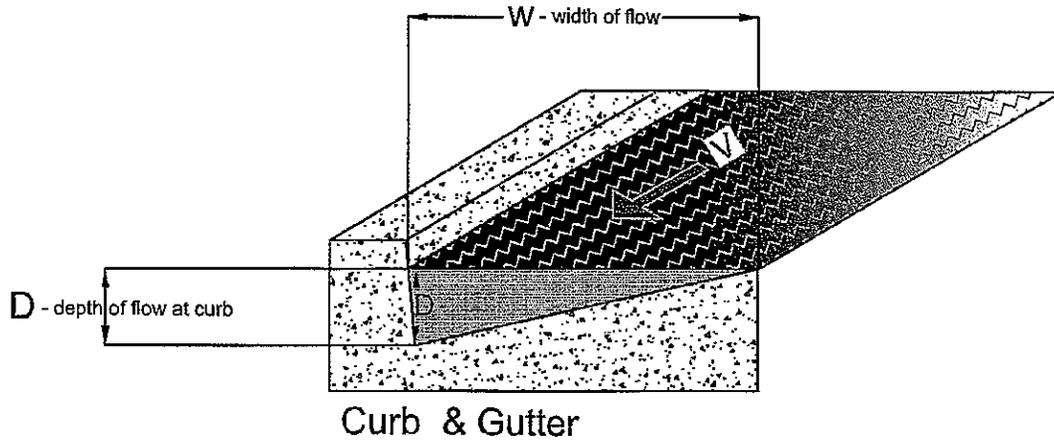
- Excess Water Runoff
 - Please adjust direction of sprinklers
 - Please check water cycle/timer
- Washing down driveway, sidewalk or other hard surface
- Watering too long or too often
- Wasting water through leaks not repaired in a timely manner
- Filling a non-recyclable decorative fountain
- Commercial car washing or pressure washing without collecting water to prevent run off to the street.
- Other: _____

City Municipal Code 54.050 Wasting Water, Generally

It shall be unlawful for any person to willfully or neglectfully waste in any manner, and any person having knowledge of any conditions whereby water is being wasted, shall immediately notify the Water Department of that fact

If you have any questions, please call the Indio Water Authority (760) 391-4144. The Water-Saver's Guide on the reverse side may assist you in conserving water.

Calculating Flow of Nuisance Water



Measurements needed to calculate flow:

D - depth of flow at curb (inches) _____ inches
 W - width of flow (inches) _____ inches
 V - velocity of flow (feet per second) _____ feet / _____ seconds
 = _____ ft/s

K = 1.558 (constant used for conversion to gallons per minute)

Flow = D x W x V x K = _____ GPM

Note: D , W and V must be measured at the same location.

In order to calculate V, the velocity of flowing water, measure out a known distance such as from one expansion joint to another. Next, drop a floating object such as a leaf or stick into the water and record the time it takes to travel across your measured distance (i.e. one expansion joint to the other). Finally, divide your distance in feet by the number of seconds it took for the object to cross the distance. Don't forget to pick up and properly dispose of your object after taking the measurement.

NAME		COMMENTS
LOCATION		
DATE		
TIME		
SIGNATURE		

APPENDIX F – EMERGENCY WATER SHORTAGE ORDINANCE

RESOLUTION NO. 2005-28

RESOLUTION OF THE INDIO WATER AUTHORITY, OF THE CITY OF INDIO, CALIFORNIA, DECLARING A WATER EMERGENCY AND SETTING REGULATIONS AND RESTRICTIONS FOR THE SUMMER CONSERVATION PERIOD (JULY 1, 2005 THROUGH OCTOBER 31, 2005)

WHEREAS, the Indio Water Authority (“IWA”) currently provides potable water service to approximately twenty-five square miles of the Coachella Valley with a service population of 65,000; and

WHEREAS, summertime demand from July 1, 2005 through October 31, 2005, represents the highest demands for the City’s water system during the year; and

WHEREAS, priority for potable water must be given to human consumption/domestic use, sanitation and fire protection; and

WHEREAS, because of current delivery conditions, the requirements for water for human consumption, sanitation and fire protection may not be met absent certain regulations and restrictions on the use of water during this period of the year; and

WHEREAS, the City is experience experiencing tremendous growth in residential and commercial development, which developments presently use potable water delivered through temporary water meters for grading, dust control, street washing, and construction; and

WHEREAS, the IWA has determined that the problems within the water delivery system create a potential water shortage emergency condition within its service area; and

WHEREAS, the IWA has determined that public benefit requires that enforceable conservation measures be in place which allow regulations and restrictions on water use as set out in Water Code Section 350 et seq; and

WHEREAS, such regulations and restrictions are set out in Exhibit A, attached and incorporated here; and

WHEREAS, the IWA has conducted a duly notice hearing on such regulations and restrictions at which all parties were given an opportunity to be heard to protest such declaration of emergency and present their respective needs.

NOW, THEREFORE, the Board of Directors of the Indio Water Authority resolves as follows:

1. All recitals set out above are true and correct and represent the findings of the IWA for the public benefit.

2. A water shortage emergency hereby is declared for the period from July 1, 2005, through October 31, 2005 (the “Summer Conservation Period.”).
3. The Regulations and Restrictions set out in Exhibit A shall be in effect during that period of time to provide for conservation of water through priorities in its allocations and shall supersede any and all conflicts rules, regulations or ordinances as provided in Water Code Section 357.

PASSED, APPROVED AND ADOPTED this 20th day of June, 2005 by the following vote:

AYES: Barba, Bastidas, Friestad, Gilbert, Godfrey, Hunt, Ramos Watson, Wilson, Fesmire
NOES: None

MELANIE FESMIRE, PRESIDENT

ATTEST:

CYNTHIA HERNANDEZ, SECRETARY

EXHIBIT "A"
Resolution No. 2005-28

INDIO WATER AUTHORITY
Summer 2005
Water Conservation Regulations and Restrictions

Effective July 1, 2005, through October 31, 2005, the following regulations and restrictions shall be in effect. These regulations and restrictions are based upon priority of use, with domestic, sanitation and fire protection uses sharing top priority.

1. Domestic Use: There shall be no restriction at present on domestic use of water. Notwithstanding, the IWA Board reserves the authority to make the following restrictions mandatory in the event that consumption/reduction goals are not met. Residents are encouraged to reduce overall consumption by 10%.
2. Residential landscaping and non-potable uses. Residents voluntarily will be encouraged to minimize irrigation and avoid overspray and runoff. Car washing and driveway washing should be curtailed. Installation of low flow showerheads, and change over to low flush toilets (if not already) will be emphasized.
3. Industrial and Commercial Users.

Industrial and commercial users will be encouraged to minimize irrigation, avoid overspray, and runoff from their facilities. The IWA Board reserves the right to adopt further mandatory restrictions in the event that voluntary measures do not result in a reduction of 10 % of consumption.

- a. All irrigation must be restricted to 9:00 PM through 6:00 AM daily to maximize irrigation benefits and minimize excessive evaporation.
- b. Any other high water demand processes that can be switched to these hours should do so.
- c. Maintenance washing should be curtailed.
- d. Water conservation devices such as low flow toilets should be installed during any restroom remodeling.
- e. Cooling towers must be inspected for leaks and all leaks fixed. All water based processes should be evaluated for leaking and potential water savings.
- f. Where other sources of water, other than the potable water system, can be used they should be activated during this period.
- g. Large commercial irrigators such as golf courses and cemeteries should evaluate existing irrigation rates and attempt to optimize their demand.

4. Construction Water Users.

- a. Construction water meters for grading, dust control, filling water trucks, street cleaning, etc. will not be available for the Summer Conservation Program period. Current meters must be returned to the City on or before July 1, 2005. In the event that a construction meter is not removed, the City is authorized to enter private property to remove such meter and such Construction Water User will not be eligible to receive a construction meter after the Summer Conservation Program period. Construction Water Users will be expected to switch to other means of providing PM-10 control, including but not limited to use of All American Canal Water subject to the necessary permits, existing private water wells and new temporary irrigation wells.
- b. No construction water meters will be provided during the Summer Conservation Program.
- c. Commencing November 1, 2005, Construction Water Users may apply for new construction meters which shall be granted based upon policies to be adopted by IWA.
- d. Existing Construction Water Users that believe they cannot switch to other sources shall prepare a statement giving the reasons why they cannot switch and submit it to the Director of Public Works. Cost alone will not be an acceptable reason for granting an exception. Such Construction Water Users shall apply for an exception prior to the July 1, 2005 implementation date of the Summer Conservation Program. Any meter provided as an exception will be restricted to no more than 350 gallons per minute by placement of a gate valve and/or orifice plate on each meter at the cost of the user. The meter will also be equipped with an appropriate backflow device. The City reserves the right to rescind the approval of the temporary construction meters at any time if that approval will compromise the available supply of domestic water for the City.

5. New development water meters. In the event that the potable water distribution system is not capable of providing expanded potable water service to new construction in the City of Indio, the Indio Water Authority will consider suspension of the installation of additional water meters until the end of the Summer Water Conservation Program.

APPENDIX G – PUBLIC NOTICE ADVERTISEMENT DETAILS

**NOTICE OF ADDENDUM TO CITY OF INDIO/INDIO
WATER AUTHORITY'S 2005 URBAN WATER
MANAGEMENT PLAN**

NOTICE IS HEREBY GIVEN that the City of Indio/Indio Water Authority has completed Addendum #1 to the 2005 Urban Water Management Plan. The Addendum is scheduled for adoption by Resolution on Tuesday, November 4, 2008 at the 4:00 p.m. Indio Water Authority meeting. The meeting location is:

City of Indio Council Chambers
150 Civic Center Mall
Indio, CA, 92201

If you are unable to attend the meeting, you may direct written comments to the City of Indio, City Clerk, 100 Civic Center Mall, Indio, CA 92201 or you may telephone 760-391-4006. In addition, a copy of Addendum #1 is available for review at the above address between the hours of 7:30 a.m. to 5:30 p.m. Monday through Thursday; and Fridays from 7:30 a.m. till noon (12:00 p.m.).

Date Published/Posted on or before: October 6, 2008 and should run daily until October 19, 2008.

Gary F. Lewis
General Services Manager, Public Works/IWA

APPENDIX H – EXAMPLE LETTER TO APPROPRIATE AGENCIES



October 3, 2008

Coachella Valley Water District
Steven B. Robbins, P.E.
General Manager
PO Box 1058
Coachella, CA 92236

Dear Mr. Robbins,

The Indio Water Authority prepared Addendum #1 to the 2005 Urban Water Management Plan (UWMP). This Addendum is scheduled for adoption by Resolution at the November 4, 2008 IWA meeting.

The UWMP with Addendum #1 should be viewed as a long-term, general planning document, rather than an exact blueprint for supply and demand management.

The California Urban Water Management Planning Act (Act) (*Water Code Sections 10610 - 10656*) requires preparation of a water management plan that:

- Accomplishes water supply planning over a 20-year period in five year increments
- Identifies and quantifies adequate water supplies, including recycled water, for existing and future demands, in normal, single-dry, and multiple-dry years
- Implements conservation and efficient use of urban water supplies

The enclosed Addendum to the Indio Water Authority's (IWA's) Final 2005 Urban Water Management Plan, dated August 2006 serves to clarify comments received from the Department of Water Resources (DWR).

Addendum #1 is enclosed for your review and comment. Please address any comments to Toyasha S. Black, Management Analyst via mail at 83-101 Avenue 45, Indio, CA 92201 or via e-mail at tblack@indio.org.

Thank you,

Gary F. Lewis
General Services Manager

cc: Glenn Southard, City of Indio, City Manager
Jim Smith, City of Indio, Director of Public Works/Engineering

For IWA Agenda _____

ITEM NO. _____

APPENDIX I – COMMENTS FROM OTHER AGENCIES



From: Marilyn McKay [mmckay@mswd.org]
Sent: Monday, October 20, 2008 10:20 AM
To: Toyasha Black
Cc: Arden Wallum; Gary Lewis; Jim Smith
Subject: UWMP Addendum #1 Comments

Hi Toyasha:

Thanks for the opportunity to review Addendum #1 to the IWA Urban Water Management Plan. I would make a brief observation on Section 5.2 and 5.3 in which water supplies from the Colorado River are referenced as being 100% reliable. Many feel that conditions on the Colorado are threatening reliability and while IWA may conclude supplies are 100% reliable, some discussion behind that thinking would be helpful.

Thanks,
Marilyn

Marilyn E. McKay
Administrative Officer
Mission Springs Water District

Ph: 760/329-5169, ext. 144
Cell: 760/275-2080

66575 Second Street
Desert Hot Springs, CA 92240