



**Table 8-5  
 Daily Per Capita Water Usage (gallons) for IWA’s Service Area Under the CMP**

GPCD	2010	2011	2012	2013	2014	2015
All Customer Classes	262	259	257	255	254	244
Single Family Residential Only	152	149	146	144	141	139

### 8.5 Funding Opportunities

Many opportunities for grant funding are available. Some of these opportunities require the applicant to provide matching funds (“local match”). The source of local match and funds for operations and maintenance may include: water and wastewater general funds; capital improvement funds; and general funds from local cities and county departments. Local taxpayers may also fund these projects through rate increases, bond measures, and tax increases. Table 8-6 identifies a few funding sources and their associated requirements to assist with implementation of the recommended conservation programs.



**Table 8-6  
 Funding Sources, Objectives and Available Funds**

Program Name	Funding Agency	Program Objectives	Available Funds
Water 2025 Challenge Grant Program	US Bureau of Reclamation	Fund collaborative local projects that improve water conservation and management through implementation of conservation measures, efficiency and water marketing.	Up to 50 percent of the cost
Water Conservation Field Services Program	US Bureau of Reclamation	Assist water agencies to develop and to implement effective water management and conservation plans, coordinate with state and other local conservation program efforts, and foster improved water management on a regional, statewide and watershed basis.	Cost-sharing basis, generally 50/50, through cooperative agreements or grants of up to \$100,000 per eligible proposal
Proposition 50 – Water Use Efficiency Grants	State of California	Funds water use efficiency implementation projects providing benefits to the State; research and development projects; feasibility studies, pilot or demonstration projects; training, education or public outreach programs; and technical assistance programs related to water use efficiency.	Grants to urban water suppliers are conditioned on implementation of the DMMs
Proposition 84 – The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Act of 2006	State of California	Primarily funds projects that are not “locally cost effective,” and that provide water savings, or in-stream flows that are beneficial to the Bay-Delta or the rest of the State. Projects include programs for water supply reliability, water conservation, and water use efficiency.	Eligible projects must be part of integrated regional water management plans
Proposition 13 – Agricultural Water Conservation Program	State of California	Funds cost effective projects or programs intended to improve agricultural water use efficiency, and feasibility studies for such projects. The types of projects funded under this program include canal or ditch piping or lining projects; tail water recovery projects; and replacement of leaking distribution system components.	Up to \$5,000,000 per eligible project may be awarded.



## 8.6 Tracking Costs and Effectiveness of Conservation Plan Implementation

IWA must track the implementation of all programs in order to determine their cost-effectiveness and their efficiency. Parameters to be tracked are:

- ▶ Annual Costs of program
- ▶ Clients/accounts served by program
- ▶ Estimated water savings of program

The first two tracking parameters are straightforward; however, the third parameter may require case studies wherein the water use of clients participating in the respective programs are tracked over a period of several months to ensure that the program is producing the expected results. Alternatively, IWA may want to consider setting up a report, which can be cross-referenced with their monthly consumption reports that tracks all participants in each of their conservation programs. In this way, staff can easily access historic use records for program participants to estimate the water savings of the various programs.



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## APPENDIX A PROJECTED ACCOUNTS

### PROJECTED NO. OF ACCOUNTS BY CLASS THROUGH FY 2030

code	Description	FY 09-10	FY 14-15	FY 19-20	FY24-25	FY29-30
A	Apartments	390.15	430.76	475.59	525	580
C	Commercial	787.19	912.57	1057.91	1,226	1,422
CA	City Accounts	85.69	90.06	94.65	99	105
CP	City Parks	14.28	15.01	15.78	17	17
CT	Construction Meters	75.49	79.34	83.39	88	92
CU	Commercial with Units	78.55	82.55	86.77	91	96
DH	Double Rate Hotel/Motel	1	1	1	1	1
DR	Double Rate	1	1	1	1	1
GV	Government	90.05	101.02	113.32	127	143
HM	Hotel/Motel	23.23	23.82	24.42	25	26
IR	Irrigation	412.00	454.88	502.22	554	612
CI	City Irrigation	24.97	27.57	30.44	34	37
LL	Landscape and Light	96.76	106.83	117.95	130	144
MH	Mobile Home	7	7	7	7	7
R	Residential	18110.00	20569.23	23362.40	26,535	30,138
R+	Residential +55	1220.08	1282.32	1347.73	1,416	1,489
RV	RV Parks	23.23	23.82	24.42	25	26

Summarized by Report Category						
code	Description	FY 09-10	FY 14-15	FY 19-20	FY24-25	FY29-30
A.	Single Family Residential	19330.08	21851.54	24710.13	27,951	31,627
B.	Multi-family Residential	420.38	461.57	507.01	557	612
C.	Commercial/Institutional	1063.64	1208.80	1375.69	1,568	1,789
D.	Industrial	78.55	82.55	86.77	91	96
E.	Landscape Irrigation	548.01	604.29	666.38	735	811
F.	Other					



## APPENDIX B CONSERVATION RELATED LEGISLATION

### B.1 AB 325

The passage of California AB 325 (the Water Conservation in Landscaping Act of 1990) required that the California Department of Water Resources (DWR) develop a model water efficient landscape ordinance for entities to model their water conservation ordinances. The model ordinance requires landscapes greater than 2,500 square feet to maintain a water balance of 80 percent of reference ETo. Additional components include: irrigation must be 62 percent efficient, separate metering for landscapes, automatic controllers, designed to prevent runoff, appropriate plant selections, irrigation schedules, grading plans and irrigation audits, promote use of recycled water, provide conservation information to new home owners, and promote mulch on non-turf areas. Primarily cities and counties have been involved in establishing these ordinances at the local level and enforcement of the ordinances falls on the associated city or county, and not usually on the local water supplier.

### B.2 AB 2717

AB 2717, passed in 2004, set up a Landscape Task Force and requested the California Urban Water Conservation Council (CUWCC) to examine landscape water issues. In 2006, the Task Force made statewide recommendations as to the best landscape practices and improvements. Amendments and changes to the Model Water Efficient Landscape Ordinance were made through this committee, and were enacted via AB 1881, the Davis-Sterling Common Interest Development Act.

### B.3 AB 1881

AB 1881, passed in 2006, amends several codes, supplementing them with water conservation requirements or standards. The Davis-Sterling Common Interest Development Act regulates community apartment projects, condominium projects, planned developments, and stock cooperatives and prevents the prohibition of using low water using plants within these communities. The Energy Commission is to determine performance standards for landscape irrigation equipment (controllers, valves, moisture sensors, and emission devices) which will reduce wasteful water and energy consumption. After 2012, any device that does not meet these standards will be prohibited from installation. For urban water suppliers, separate (dedicated) metering for landscape will be required for all new retail water service of a certain size threshold (5,000 square foot) after January 2008.

### B.4 AB 566

With current amendments to the Water Conservation in Landscaping Act, the updated local ordinances must be submitted by 2010. AB 566, passed in 2007, amends the Water Conservation



in Landscaping Act by requiring that climate information based on the California Irrigation Management Information System (CIMIS) be used for irrigation scheduling statewide.

### **B.5 AB 715**

AB 715 passed in 2007, set performance standards for all toilets and urinals installed in the State of California. By 2014, all toilets and urinals sold in the state must be high efficiency and use no more than 1.6 gpf for toilets, and no more than 1 gpf for urinals. A schedule for manufacturers to offer these models has also been set by January 2010; HETs must be 50 percent of the models manufacturers provide in the State of California. By 2014, only HETs will be offered by manufacturers in the State of California.

### **B.6 AB 1420**

AB 1420, passed in 2007, changes the funding eligibility requirements of Section 10631 of the Water Code (Urban Water Management Planning Act). For any urban water supplier to be eligible for grant or loan funding administered by DWR, the State Water Resources Control Board (SWRCB), or the Bay-Delta Authority (such as Propositions 50 and 84), the supplier must show implementation of all BMPs or water demand management measures (DMMs), or show the schedule on which the supplier will begin implementing the DMMs if not already implemented. Any supplier not implementing the measures based on cost-effectiveness must submit proof showing why the measures are not cost-effective.

### **B.7 AB 1560**

AB 1560 passed in 2007 amends the Warren-Alquist State Energy Resources Conservation and Development Act and directs the Energy Commission to adopt water efficiency or conservation standards that save energy for residential buildings. The Department of Housing and Community Development would incorporate these standards into the housing code either under a voluntary best practice or mandatory requirements. All standards will be assessed so that they do not cause the cost of housing to be unreasonable for Californians.

### **B.8 AB 1060**

AB 1560 passed Makes provisions of common interest development (CID) governing documents that interfere with water-efficient landscaping void and unenforceable. Specifically, this bill makes void and unenforceable any provision of governing documents of a CID that either prohibits, or includes conditions that have the effect of prohibiting, use of low water-using plants as a group or h the effect of prohibiting or restricting compliance with: Water-efficient landscape ordinance in effect pursuant to Government Code 65596; and regulation or restriction on use of water adopted pursuant to Water Code 353, 375.



## **B.9 AB 2175 (proposed)**

AB 2175, a water conservation bill, co-authored by Assembly Members John Laird and Michael Feuer, and sponsored by the Natural Resources Defense Council (NRDC). The legislation directs the state to reduce per capita urban water use 20 percent by 2020. The bill would require the state to reduce per capita use by at least 5% on or before December 31, 2012, and by 10% on or before December 31, 2015.

The bill would have accelerated water conservation efforts and decreased associated energy use and greenhouse gas emissions. The target would have been reduced for urban water agencies that have already implemented specific water conservation best management practices or that already have a low per capita water use. The bill also required agricultural water suppliers to adopt efficiency measures.

The draft 20x2020 Water Conservation Plan was released. The comment period was extended to June 5, 2009. A Public Workshop was held on May 29, 2009.

## **B.10 Riverside County**

(Ord. 348.3928 § 2 (part), 2000; Ord. 348 § 19.300) Title 17.276. These ordinances through the County of Riverside require the promotion of water efficient landscaping, water use management and water conservation. The County also intends to increase public awareness of water conservation need and programs. Specific guidelines for the plant types, soil amendment needed, and turf areas are stated in the ordinance. Irrigation requirements include the use of automatically controlled irrigation timers, plant groupings, having capabilities to use non-potable water, similar crop coefficients for plants groups, and drip irrigation techniques. Model homes should demonstrate water efficient landscaping and educational materials should be provided to home buyers. These water efficient landscaping ordinances are incorporated into the Riverside County Zoning Ordinance, as amended through March 2008.

Ord. 859, as amended through Ord. 859.1, is the water efficient landscape ordinance for the County. The Riverside County Guide to California Friendly Landscaping establishes the plant types and their irrigation requirements from which a water budget is developed. Mulching is required in all non-turf areas. Irrigation designs must prevent runoff. These designs should include considerations for the type of irrigation equipment, plant type, water quantities delivered to the plants, and grading. Smart irrigation controllers will be incorporated into the design and recycled water will be used when appropriate. Irrigation schedules will be established. The ordinance went into effect January 2007, with amendments made effective in April 2008.

## **B.11 Coachella Valley**

SB 1557 was passed in 2006 and in summary:

1. Provides that no person or public agency shall use potable domestic water within CVWD's service area for non-potable uses, including, but not limited to, cemeteries,



parcs, highway landscaped areas, industrial uses, golf courses, and irrigation uses if the board determines that suitable water non-potable water is available.

2. Provides that if the CVWD board determines that non-potable water, including recycled water, is available, after notice to any person or local public agency and the opportunity for a hearing, that person or local agency may be ordered to use non-potable water or to cease using potable water if the board finds all of the following conditions:
  - a. The source of non-potable water is of adequate quality for the proposed use and is available for that use.
  - b. The non-potable water may be furnished for the proposed use at a reasonable cost to the user.



## **APPENDIX C IWA’S PUBLIC OUTREACH PROGRAM DOCUMENTATION**



## **APPENDIX D WATER SYSTEM AUDIT FORMS**



## APPENDIX E EMERGING TECHNOLOGIES

### E.1 Residential Customer Class Conservation Measures

#### E.1.1 Residential High-Efficiency Toilets (HETs)

High-efficiency toilets (HETs) are defined as a fixture that flushes at 20 percent below the 1.6 gallons per flush (gpf) U.S. maximum or less, equating to a maximum of 1.28 gpf. This 20 percent reduction threshold serves as a metric for water authorities and municipalities designing more aggressive toilet replacement programs and, in some cases, establishing an additional performance tier for their financial incentives (e.g., rebate and voucher programs). The newer HET models improve upon the water savings potential previously seen with ULFTs, which form the basis of BMP 14.

The use of residential HETs requires the replacement of existing toilet fixtures with models that use even less water than the previous 1.6 gpf ULFTs. There are over 200 different HET models available, from 23 different manufacturers, of which 142 are United States Environmental Protection Agency (USEPA) WaterSense certified. HETs may consist of: (a) dual-flush; (b) 1 gallon single-flush, pressure assisted; (c) 1.28 gallon single-flush, gravity-fed; or (d) 1.28 gallon flushometer valve toilets for commercial uses.

Current California legislation (AB 715, chaptered in 2007) mandates that after January 1, 2014, only HETs be sold or installed after in the state.

There are four (4) types of water efficient toilet systems currently available.

#### **Gravity Fed Single-Flush Toilets**

Gravity fed single-flush toilets operate the same way as any standard toilet, however, they use less total capacity per flush. Typical flush capacities that are available for these models are 1.1 and 1.28 gallons.

#### **Dual-Flush Toilets**

Designed for light and heavy flushes, dual-flush toilets tend to average less than 1.2 gallons per flush. They meet HET criteria of 1.28 gallons per flush or less (HET criteria for dual-flush toilets identifies the effective flush volume as the average of one high flush and two low flushes). Dual-flush models are available from many well-known manufacturers with light flush capacities from 0.8 to 1.1 gallons and heavy flush capacities from 1.3 to 1.6 gallons per flush. These toilets typically operate with a handle that can move up or down, or a two-button system. One direction or button will activate the lower flow flush, while the other will activate the higher flow flush.



### **Pressure Assist Toilets**

Pressure assist, or pressurized tank, toilets are another high-performance, low-consumption alternative. These toilets use either water line pressure or a device in the tank to create additional force from air pressure to flush the toilet. The device in the tank could either be a storage device with compressed air that would require replacement or a tank that creates pressure when the tank is being filled. These toilets typically average 1.1 to 1.2 gallons per flush. Some pressure assist systems move a greater volume of water at a significantly lesser volume of sound.

### **Power Assist Toilets**

Power assist toilets operate using a pump to force water down at a higher velocity than gravity toilets. Power assist toilets require a 120-V power source to operate the small fractional horsepower pump. Typical flush volumes are between 1.0 and 1.3 gallons per flush and dual-flush models are also available.

Companies that produce these types of products include Niagara Conservation, and The Chicago Faucet Company. All of these systems are strong alternatives that offer attractive cost savings and contribute to conservation efforts. ([www.waterefficiency.net](http://www.waterefficiency.net))

### **E.1.2 High-Performance Showerheads**

A current trend of ever-increasing shower flow rates and water use within new homes includes multiple showerheads, “rain” type shower systems, and shower spas and “gyms.” Installation of high-performing showerheads with flow rates that range from 1.5 to 2.0 gpm could achieve notable water savings in both new and remodeled homes. In order to increase the savings potential, however, limitations on the multiple-head shower system installations may be necessary through regulatory or other controls. The high-performance showerhead has a potential for water savings greater than the low flow showerheads included in BMP 2.

### **E.1.3 Low-Flow Lavatory Faucet Aerators**

The Energy Policy Act (EPA) of 1992 and subsequent EPA legislation have limited faucet flows to 2.2 gpm (at 60 psi). Installation of low-flow, 1.5 gpm faucet aerators in residential bathrooms may achieve measurable savings, although any reduction of residential bathroom faucet flows below the 2.2 gpm maximum will likely cause wait times for hot water to increase. Therefore, any reductions proposed in the bathroom faucet flow rate must be accompanied by an evaluation of the effect upon the end-user and their attitudes towards the delivery of hot water when they want or expect it. The newer low-flow lavatory faucet aerators improve upon the water savings potential of those faucet aerators currently included in BMP 2.

### **E.1.4 High-Efficiency Clothes Washers (HECW)**

High-efficiency clothes washers (HECWs) utilize technological advances to deliver high quality wash performance while saving both water and energy. Resource efficient models use 35 to 50 percent less water. Over 100 models of residential and commercial high-efficiency washers are



offered. Incentives are currently available for the replacement of older clothes washers with these new water-efficient models as part of BMP 6.

### ***E.1.5 Hot Water Demand Systems***

A hot water demand system is an electronically, demand-controlled pumping system that sends cold water back to the water heater until hot water arrives at the sink, shower, or other fixture where it is needed. In the current average residence, there are twice as many water fixtures and appliances (e.g., showers, toilets, dishwashers, clothes washers, etc.) as there were in homes built before 1970, and with increased home size, the distance to the farthest fixture has also more than doubled. Consequently, the time it takes hot water to reach the farthest fixture has significantly increased, resulting in inefficient and wasteful use of water during this “wait” period. Where determined to represent a potential water savings, installation of hot-water demand systems in the largest dwellings would be a feasible means for addressing efficiency in this Customer Class.

### ***E.1.6 New Home Construction Measures***

For new home construction, the requirement for “structured plumbing” and the installation of water-efficient clothes washers and dishwashers (5.8 Water Factor (WF) or less) would be feasible. This would be similar to Metropolitan’s “California Friendly Homes” program for new developments, in which efficient technologies are built-in to the new residences during construction.

## **E.2 Commercial, Industrial, Institutional (CII) Customer Class Conservation Measures**

Implementation of the following emerging indoor technologies could help achieve water savings required as part of BMP 9.

### ***E.2.1 Commercial HETs and High Efficiency Urinals (HEUs)***

To achieve maximum water savings, commercial facilities may consider toilet replacement with HETs, urinal replacement with high-efficiency urinals (HEUs) (which use 0.5 gallons or less), and low-flow faucet aerator (0.5 gpm) retrofit installations in restrooms, as needed. Where feasible in new construction, non-water urinals could also be installed, provided that the owner understands the long-term physical and financial impacts of the product. While non-water urinals offer the complete elimination of flush valves and water use, other more customer acceptable high-efficiency technologies are now making their appearance. The current national standard for urinals mandates a maximum flush volume of 1.0 gallon. California’s recent HET fixture legislation (AB 715) also mandates that all urinals sold or installed in the state shall be HEUs as of January 1, 2014. Today’s new 1 pint (1/8th gallon) flushing urinals are gaining broad market acceptance, provide excellent performance, and avoid some of the negative issues associated with non-water urinals.



### ***E.2.2 Package Graywater Treatment Systems***

Graywater is generally defined as washwater originating from showers, bathtubs, clothes washers, lavatory sinks, and similar uses. Graywater is distinctly different from “black water” which originates from toilets, and water derived from dishwashers and garbage disposals.

Package graywater treatment systems are one of the most significant, emerging water-saving building equipment technologies in the market. These systems use graywater from showers, bathroom lavatory sinks, and clothes washers for water reuse applications. Following treatment, the water could then be used for toilet flushing and potentially for drip irrigation. The capture, treatment, and reuse of graywater not only yields usable water that would otherwise be directed to the sewer, its use on landscape and for car washing is generally not subject to the typical watering restrictions that are sometimes imposed by local jurisdictions.

While the costs of graywater treatment systems vary significantly depending upon the application and the underlying technology of the system, it is usually not cost-effective to install such a system as a retrofit. Instead, these systems are more ideally suited to new construction applications.

### ***E.2.3 Pre-Rinse Spray Valves and Boilerless Food Steamers***

Commercial food service represents one of the larger water using Customer Classes in the CII Customer Class. For food service operations (restaurants, cafeterias, commercial kitchens, etc.), the replacement of existing non-efficient pre-rinse spray valves and incentives for the installation and use of boilerless food steamers are the dominant and easily achieved water use reduction actions. Boilerless food steamers only use 14 gallons of water per day (per compartment), versus the standard boiler-based models that use up to 400 gallons per day (gpd). In addition, the replacement of water-cooled ice makers with water-efficient air-cooled models can be considered.

The Food Service Technology Center conducted a field study to determine the water and energy use profiles of both boiler-based and boilerless (connectionless) food steamers with funding provided by the Metropolitan Water District of Southern California and East Bay Municipal Utility District, Oakland, California. The steamers in multiple food service operations were measured for water and energy use. The study confirmed that the relatively new connectionless technology yields significant water use reductions in food service, due largely to the elimination of condensate-cooling water. The findings in this report are serving as a basis for large incentives directed at the food service industry with the goal to eliminate boiler-based steamers and replace them with the connectionless technology.

### ***E.2.4 Water Recycling Technologies for Medical Equipment***

For medical facilities, consideration must be given to eliminating once-through water use in vacuum systems, X-ray film processing, and steam sterilizers. The use of existing water recycling technologies for these items of equipment can reduce water use significantly (upwards of 98 percent annually).

### **E.2.5 Water Brooms**



When using a hose and nozzle to clean sidewalks, approximately 8 to 18 gpm of water can be wasted. With a pressurized water broom, cleaning is more water efficient, using as little as 2.8 gpm. The Water broom nozzle jets use a combination of air and water pressure to clean and remove dirt and food spills from concrete, asphalt or any other composite surface. Studies have shown that the water broom requires 75 percent less labor to operate than a garden hose or broom. Accordingly, for those facilities with wash-down requirements, incentives for the use of pressurized water brooms could be provided. According to research conducted by the Food Service Technology Center, swapping water brooms for hoses resulted in savings of

more than \$800 annually in water and energy costs based on an average saving of about 200 to 250 gallons per day, assuming the broom was used for an hour each day.

## **E.3 Emerging Outdoor Technologies**

Water conservation programs should integrate the available technologies with planning and infrastructure. New technology, equipment, leak reduction, dedicated meters, recycled water, appropriate landscape design, and rainwater collection reduces the use of potable sources. Comprehensive site audits should incorporate indoor water use data and outdoor data, type and irrigation efficiency of irrigation equipment and plant types.

### **E.3.1 Dual Metering**

Dual metering refers to the installation of separate meters to record indoor and outdoor water use. This provides an efficient way of tracking landscape water use.

All new construction should be encouraged (incentives) or required (ordinances) to install dedicated landscape meters. Agencies could offer a dual-metering program to all properties with large landscapes (about 5,000+ square feet.) in the service area. Properties with a dedicated irrigation meter could be provided with an on-line landscape performance report every month. If recycled water becomes available in the future, the dedicated landscape meter could be hooked up to the recycled water system.

Also, water agencies are required to condition the installation of dedicated landscape meters for new retail service connections as of January 1, 2008. With landscape water use in the residential Customer Class being such a significant source of water consumption, conditioning dual meters on new residential accounts in addition to CII accounts could have a substantial impact on overall water consumption. Dual metering is required for water budgeting (BMP5) of outdoor use.



### **E.3.2 Precision Irrigation**

The State Legislature (based on recommendations of the AB 2717 Landscape Task Force) approved AB 1881 in 2006 regarding performance standards for irrigation equipment. In accordance with AB 1881, local planning agencies are required to adopt a model landscape ordinance that includes installation of water efficient devices and technology including moisture sensor, weather based irrigation controllers (smart-timers), and irrigation delivery devices such as rotator spray heads and drip systems on all Municipal and Industrial sites within its service area by January 1, 2025. In addition, water agencies are required to condition the installation of dedicated landscape meters for new retail service connections on all lots with more than 5,000 square feet of irrigated landscape, as of January 1, 2008.

### **E.3.3 Drip or Low Precipitation Irrigation**

Drip irrigation uses 75 percent less water than standard irrigation practices. This technology reduces runoff (unaccounted water loss) and soil erosion. Application of the water is precisely directed and the flow rate can be adjusted to the local conditions.

Metropolitan offers a rebate of up to \$4 per nozzle when installing high efficiency rotating spray nozzles. The water savings are realized through reduced precipitation rates, uniformity in watering, and greater radius. This technology allows landscape to use 20 percent less water. Another technology, pressure regulating devices, for sprinkler heads reduces water use through regulating the pressure. The device is designed not to exceed the manufacturer's water pressure standard.

### **E.3.4 Weather Based Irrigation Controllers**

Irrigation controllers that set and adjust water application in response to changes in the weather or soil moisture content are now available at competitive prices for residential and large-scale landscape use. These devices are commonly termed "smart", "ET", "weather-sensing", or "weather-based" irrigation controllers, and the technology is collectively referred to by the irrigation industry as Smart Water Application Technology, or *SWAT*. They offer some potential benefits to a site's owner and its landscape

The devices currently available on the market use remote sensing or controlling options to determine whether irrigation is necessary. Water savings is realized by watering only when necessary based on the local evapotranspiration (ET<sub>o</sub>) rate, solar index detected, or temperature based on the type of controller. Water savings of 0.05 AF per station annually can be obtained. Savings is estimated at more than 14,600 gallons per household per year if properly maintained.

### **E.3.5 Nozzles**

Auto shut off hose nozzles increase water savings through greater efficiency when watering. The best application of water efficient hose nozzles is through residential and commercial sites where gardeners or residents water their gardens or lawns manually. Nurseries or home improvement stores that regularly water their plants could save water through use of these nozzles. Auto shut



off hose nozzles can save up to 7,500 gallons per year. Some districts offer free hose nozzles as part of their water conservation program.

### ***E.3.6 Appropriate Landscaping***

“Water-wise” landscaping is a conceptual design emphasizing water conservation. The design includes a plan, soil analysis, plant selection, turf areas, efficient irrigation technology, mulch, and maintenance. The design incorporates low water use plants. Agencies could develop examples of ideal designs of water-wise landscaping for various land areas or site types such as Commercial or Residential. Landscapers or the public would utilize this information and optimize it for their own sites. A subset of water-wise landscaping is “natural” landscaping which utilizes only regional plants for a site plan.

Low to no maintenance is necessary since the plants are adapted to the local climate and only rainfall will be necessary to maintain the area once plants are established. Water districts provide information on native plants on their websites and in many cases local nurseries that sell these plants. Water agencies can encourage builders, Home Owners Associations (HOAs), and developers to use these plants in their model homes either through incentives or ordinances. New developments can incorporate these plant palettes into the design for water efficient landscaping.

A landscape contractor certification program could be considered. Sites that are performing close to the weather-based water budget could then be placed on a “certified” list. This program could also be applied to developers of new residential and commercial properties.

### ***E.3.7 Turf***

**Turf Removal.** “Cash-for-grass” program: An example of this type of program that could be instituted in an agency’s service area offers a financial incentive per square foot of removed grass from a property. Customers must remove all irrigation systems dedicated for that grass and replace them with drip or low-water use irrigation devices.

Customers then submit a landscape plan that incorporates low-water use and native plants. This program could be expanded to incorporate the installation of smart controllers, soil evaluation and amendment incentives and new water-efficient irrigation equipment retrofits.

### ***E.3.8 Synthetic Turf***

Synthetic turf is an alternative landscaping approach to reduce the water needs of an area. Synthetic turf can have an annual water savings of 6 AF per acre.

Over the life of the product (which is approximately 10 years), the total water savings is 60 AF for every acre replaced. Athletic fields or schools may be an area where synthetic turf can replace turf yet not lose the recreational benefits of the site.



### **E.3.9 Swimming Pool Covers**

From 2003 to 2006, Metropolitan established a rebate program for swimming pool covers that would cover 1 percent of the pools in its service area. The pool covers would require a minimum 12 millimeter (mm) in thickness but could be either bubbles, vinyl, or insulated vinyl covers. This program could be established with a goal to cover 10 percent of the pools in the service area. Swimming pool covers could result in 30 percent reduction in water losses, which would be equivalent to approximately 7,000 gallons per year per swimming pool.

## **E.4 Other Approaches**

### **E.4.1 Fixed-Network Metering**

With Water Fixed Network (WFN) technology in place, standard residential and commercial water meters are transformed into far more sophisticated devices, capable of more frequent data collection and timely tamper and leak detection. Estimated meter reads are eliminated, field visits are reduced, and water conservation programs are enhanced with the WFN.

The applications transform the data collected through the WFN system into valuable knowledge that water utilities need to make critical business decisions. The Knowledge Applications are built on the WFN meter data management platform and use powerful data management and analysis tools.

The two core applications, Leak Management and Tamper Analysis, enable utilities to realize additional revenue or reduce the impact of unbilled water usage and loss. The Leak Management application is designed to help utilities identify areas where leakage is occurring and highlights the most effective areas to target leak investigations. The Tamper Analysis application enables utilities to streamline their review of tamper flags coming from the WFN and focus investigations on areas with high probability for tampering and theft of service (from Itron). Utilities have been able to reduce unaccounted for water to less than 5 percent.

### **E.4.2 Recycled Water**

Ordinances requiring recycled water for urban landscapes are increasing. Recycled water has become a feasible alternative water supply for various areas where water is not in abundance. One application of recycled water is for landscape irrigation for example Irvine Ranch where front yards are irrigated with recycled water. With proper salt management, this alternative water source can reduce the demand of potable water. With dual plumbing and metering, recycled water can be delivered independently to residential and commercial sites. Funding sources and beneficial uses for recycled water will need to be determined for the service area through additional separate studies.

## APPENDIX F

### BMP REPORTS TO CUWCC

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

Reporting Unit: **City of Indio/Indio Water Authority**      BMP Form Status: **100% Complete**      Year: **2008**

### A. Implementation

- |  |            |
|--|------------|
| 1. Based on your signed MOU date, 06/11/2009, your Agency STRATEGY DUE DATE is:  | 06/11/2011 |
| 2. Has your agency developed and implemented a targeting/marketing strategy for SINGLE-FAMILY residential water use surveys? | yes        |
| a. If YES, when was it implemented?  | 11/01/2010 |
| 3. Has your agency developed and implemented a targeting/marketing strategy for MULTI-FAMILY residential water use surveys?  | yes        |
| a. If YES, when was it implemented?  | 11/01/2010 |

### B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	433	9
2. Number of surveys completed:	433	9

#### Indoor Survey:

- |   |    |    |
|---|----|----|
| 3. Check for leaks, including toilets, faucets and meter checks   | no | no |
| 4. Check showerhead flow rates, aerator flow rates, and offer to replace or recommend replacement, if necessary   | no | no |
| 5. Check toilet flow rates and offer to install or recommend installation of displacement device or direct customer to ULFT replacement program, as necessary; replace leaking toilet flapper, as necessary | no | no |

#### Outdoor Survey:

- |  |     |          |
|--|-----|----------|
| 6. Check irrigation system and timers  | yes | yes      |
| 7. Review or develop customer irrigation schedule  | yes | yes      |
| 8. Measure landscaped area (Recommended but not required for surveys)  | yes | yes      |
| 9. Measure total irrigable area (Recommended but not required for surveys)   | yes | yes      |
| 10. Which measurement method is typically used (Recommended but not required for surveys)                                |     | Other    |
| 11. Were customers provided with information packets that included evaluation results and water savings recommendations? | no  | no       |
| 12. Have the number of surveys offered and completed, survey results, and survey costs been tracked?                     | yes | yes      |
| a. If yes, in what form are surveys tracked?   |     | database |
| b. Describe how your agency tracks this information.   |     |          |

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### C. "At Least As Effective As"

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

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

#### **D. Comments**

The Indio Water Authority target is to provide surveys to greater than 15 percent of residential accounts by 2020. The targeting/marketing strategies for BMP01 A will be developed based on data gathered on the new tiered rate structure to be implemented in November 2010.

**BMP 02: Residential Plumbing Retrofit**

Reporting Unit:  
**City of Indio/Indio Water Authority**

BMP Form Status:  
**100% Complete**

Year:  
**2008**

**A. Implementation**

1. Is there an enforceable ordinance in effect in your service area requiring replacement of high-flow showerheads and other water use fixtures with their low-flow counterparts? no
- a. If YES, list local jurisdictions in your service area and code or ordinance in each:
2. Has your agency satisfied the 75% saturation requirement for single-family housing units? no
3. Estimated percent of single-family households with low-flow showerheads: 22%
4. Has your agency satisfied the 75% saturation requirement for multi-family housing units? no
5. Estimated percent of multi-family households with low-flow showerheads: 0%
6. If YES to 2 OR 4 above, please describe how saturation was determined, including the dates and results of any survey research.

**B. Low-Flow Device Distribution Information**

1. Has your agency developed a targeting/ marketing strategy for distributing low-flow devices? yes
- a. If YES, when did your agency begin implementing this strategy? 11/01/2010
- b. Describe your targeting/ marketing strategy.

The targeting/marketing strategy will be based on the tiered rate structure that will be implemented in November 2010. This should isolate houses with higher conservation needs and budget analysis will include the age of the home.

Low-Flow Devices Distributed/ Installed	SF Accounts	MF Units
2. Number of low-flow showerheads distributed:	0	0
3. Number of toilet-displacement devices distributed:	0	0
4. Number of toilet flappers distributed:	0	0
5. Number of faucet aerators distributed:	0	0
6. Does your agency track the distribution and cost of low-flow devices?		yes
a. If YES, in what format are low-flow devices tracked?		Database
b. If yes, describe your tracking and distribution system :		

The CitiTech database will be manipulated to collect the data necessary to track distribution and cost of the future low-flow devices.

**C. "At Least As Effective As"**

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

**D. Comments**

The Indio Water Authority plans to implement this program after tiered rates go into effect in November 2010. This plan should be implemented early 2011.

**BMP 03: System Water Audits, Leak Detection and Repair**

Reporting Unit:

**City of Indio/Indio Water Authority**BMP Form Status:  
**100% Complete**Year:  
**2008****A. Implementation**

- |  |       |
|--|-------|
| 1. Does your agency own or operate a water distribution system?  | yes   |
| 2. Has your agency completed a pre-screening system audit for this reporting year?   | yes   |
| 3. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:   |       |
| a. Determine metered sales (AF)  | 22730 |
| b. Determine other system verifiable uses (AF)   | 0     |
| c. Determine total supply into the system (AF)   | 24732 |
| d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required.                       | 0.92  |
| 4. Does your agency keep necessary data on file to verify the values entered in question 3?  | yes   |
| 5. Did your agency complete a full-scale audit during this report year?  | no    |
| 6. Does your agency maintain in-house records of audit results or completed AWWA M36 audit worksheets for the completed audit which could be forwarded to CUWCC? | no    |
| 7. Does your agency operate a system leak detection program?   | no    |
| a. If yes, describe the leak detection program:  |       |

IWA performs monthly verification of water production vs. water consumption. In addition leaks are reported and repaired.

**B. Survey Data**

- |  |     |
|--|-----|
| 1. Total number of miles of distribution system line.    | 361 |
| 2. Number of miles of distribution system line surveyed. | 0   |

**C. "At Least As Effective As"**

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

**D. Comments**

IWA has an active service line replacement program where HDPE service lines are replaced with soft copper. In addition, IWA is considering purchasing a device that utilizes audio technology to detect abnormal flows in the distribution system.

**Voluntary Questions (Not used to calculate compliance)**

---

**E. Volumes**

	<b>Estimated</b>	<b>Verified</b>
1. Volume of raw water supplied to the system:		
2. Volume treated water supplied into the system:		
3. Volume of water exported from the system:		
4. Volume of billed authorized metered consumption:		
5. Volume of billed authorized unmetered consumption:		
6. Volume of unbilled authorized metered consumption:		
7. Volume of unbilled authorized unmetered consumption:		

**F. Infrastructure and Hydraulics**

1. System input (source or master meter) volumes metered at the entry to the:		
2. How frequently are they tested and calibrated?		
3. Length of mains:		
4. What % of distribution mains are rigid pipes (metal, ac, concrete)?		
5. Number of service connections:		
6. What % of service connections are rigid pipes (metal)?		
7. Are residential properties fully metered?		
8. Are non-residential properties fully metered?		
9. Provide an estimate of customer meter under-registration:		
10. Average length of customer service line from the main to the point of the meter:		
11. Average system pressure:		
12. Range of system pressures:		From to
13. What percentage of the system is fed from gravity feed?		
14. What percentage of the system is fed by pumping and re-pumping?		

**G. Maintenance Questions**

1. Who is responsible for providing, testing, repairing and replacing customer meters?	
2. Does your agency test, repair and replace your meters on a regular timed schedule?	
a. If yes, does your agency test by meter size or customer category?:	
b. If yes to meter size, please provide the frequency of testing by meter size:	
Less than or equal to 1"	
1.5" to 2"	
3" and Larger	
c. If yes to customer category, provide the frequency of testing by	

customer category:

- SF residential
- MF residential
- Commercial
- Industrial & Institutional

3. Who is responsible for repairs to the customer lateral or customer service line?
4. Who is responsible for service line repairs downstream of the customer meter?
5. Does your agency proactively search for leaks using leak survey techniques or does your utility reactively repair leaks which are called in, or both?

6. What is the utility budget breakdown for:

- Leak Detection \$
- Leak Repair \$
- Auditing and Water Loss Evaluation \$
- Meter Testing \$

**H. Comments**

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

Reporting Unit: **City of Indio/Indio Water Authority**      BMP Form Status: **100% Complete**      Year: **2008**

### A. Implementation

1. Does your agency have any unmetered service connections? No
  - a. If YES, has your agency completed a meter retrofit plan?
  - b. If YES, number of previously unmetered accounts fitted with meters during report year:
2. Are all new service connections being metered and billed by volume of use? Yes
3. Are all new service connections being billed volumetrically with meters? Yes
4. Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? No
5. Please fill out the following matrix:

Account Type	Number of Metered Accounts	Number of Metered Accounts Read	Number of Metered Accounts Billed by Volume	Billing Frequency Per Year	Number of Volume Estimates
a. Single Family	17239	17239	17239	12	0
b. Multi-Family	387	387	387	12	0
c. Commercial	786	786	786	12	0
d. Industrial	45	45	45	12	0
e. Institutional	237	237	237	12	0
f. Landscape Irrigation	363	363	363	12	0

### B. Feasibility Study

1. Has your agency conducted a feasibility study to assess the merits of a program to provide incentives to switch mixed-use accounts to dedicated landscape meters? no
  - a. If YES, when was the feasibility study conducted? (mm/dd/yy)
  - b. Describe the feasibility study:
2. Number of CII accounts with mixed-use meters: 1068
3. Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. 0

### C. "At Least As Effective As"

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

### D. Comments

IWA has already established a requirement that separate meters for irrigation be installed on all CII properties by January 1, 2013.

## BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit: **City of Indio/Indio Water Authority**      BMP Form Status: **100% Complete**      Year: **2008**

### A. Water Use Budgets

- |  |     |
|--|-----|
| 1. Number of Dedicated Irrigation Meter Accounts:  | 363 |
| 2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:                         | 0   |
| 3. Budgeted Use for Irrigation Meter Accounts with Water Budgets (AF) during reporting year: | 0   |
| 4. Actual Use for Irrigation Meter Accounts with Water Budgets (AF) during reporting year:   | 0   |
| 5. Does your agency provide water use notices to accounts with budgets each billing cycle?   | no  |

### B. Landscape Surveys

- |  |            |
|--|------------|
| 1. Has your agency developed a marketing / targeting strategy for landscape surveys?   | yes        |
| a. If YES, when did your agency begin implementing this strategy?  | 11/01/2010 |
| b. Description of marketing / targeting strategy:  |            |
| IWA marketing/targeting strategy will be based on the tiered rate structure to be implemented November 2010. The data collected will identify accounts exceeding their water budget. |            |
| 2. Number of Surveys Offered during reporting year.  | 2          |
| 3. Number of Surveys Completed during reporting year.  | 2          |
| 4. Indicate which of the following Landscape Elements are part of your survey:   |            |
| a. Irrigation System Check   | yes        |
| b. Distribution Uniformity Analysis  | no         |
| c. Review / Develop Irrigation Schedules   | yes        |
| d. Measure Landscape Area  | no         |
| e. Measure Total Irrigable Area  | no         |
| f. Provide Customer Report / Information   | no         |
| 5. Do you track survey offers and results?   | no         |
| 6. Does your agency provide follow-up surveys for previously completed surveys?  | no         |
| a. If YES, describe below:   |            |

### C. Other BMP 5 Actions

- |  |     |
|--|-----|
| 1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program.<br>Does your agency provide mixed-use accounts with landscape budgets? | yes |
| 2. Number of CII mixed-use accounts with landscape budgets.  | 363 |
| Number of CII accounts with mixed-use meters retrofitted with dedicated irrigation meters during reporting period. (From BMP 4 report)   | 0   |
| Total number of change-outs from mixed-use to dedicated irrigation meters since Base Year.   |     |

- 3. Do you offer landscape irrigation training? no
- 4. Does your agency offer financial incentives to improve landscape water use efficiency? yes

Type of Financial Incentive:	Budget (Dollars/Year)	Number Awarded to Customers	Total Amount Awarded
a. Rebates	45000	32	30000
b. Loans	0	0	0
c. Grants	0	0	0

- 5. Do you provide landscape water use efficiency information to new customers and customers changing services? No

a. If YES, describe below:

- 6. Do you have irrigated landscaping at your facilities? yes
  - a. If yes, is it water-efficient? yes
  - b. If yes, does it have dedicated irrigation metering? no
- 7. Do you provide customer notices at the start of the irrigation season? no
- 8. Do you provide customer notices at the end of the irrigation season? no

**D. "At Least As Effective As"**

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

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

**E. Comments**

All large landscapes and CII accounts will have water budgets based on crop factor, irrigation area and season. This will be implemented November 2010.

**BMP 06: High-Efficiency Washing Machine Rebate Programs**

Reporting Unit: **City of Indio/Indio Water Authority**      BMP Form Status: **100% Complete**      Year: **2008**

**A. Coverage Goal**

	Single Family	Multi-Family
1. Number of <b>residential</b> dwelling units in the agency service area.	0	0
2. Coverage Goal =	<b>= 0 Points</b>	

**B. Implementation**

1. Does your agency offer rebates for **residential** high-efficiency washers? no

HEW Water Factor	Number of Financial Incentives Issued	Total Value of Financial Incentives			TOTAL	POINTS AWARDED
		Retail Water Agency	Wholesaler/ Grants (if applicable)	Energy Utility (if applicable)		
2. <b>Greater than 8.5 but not exceeding 9.5</b> (1 point)		\$ 0	\$ 0	\$ 0	\$ 0	
3. <b>Greater than 6.0 but not exceeding 8.5</b> (2 points)		\$ 0	\$ 0	\$ 0	\$ 0	
4. <b>Less than or equal to 6.0</b> (3 points)		\$ 0	\$ 0	\$ 0	\$ 0	
<b>TOTALS:</b>		<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>\$ 0</b>	<b>0</b>

**C. Past Credit Points**

For HEW incentives issued before July 1, 2004, select ONE of the following TWO options:

- Method One: Points based on HEW Water Factor
- Method Two: Agency earns 1 point for each HEW.

**PAST CREDIT TOTALS:**      \$ 0      0

**D. Rebate Program Expenditures**

1. Average or Estimated Administration and Overhead \$ 0

2. Is the financial incentive offered per HEW at least equal to the marginal benefits of the water savings per HEW? no

**E. "At Least As Effective As"**

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

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

**F. Comments**

The majority of IWA service territory is considered a disadvantaged community. Due to the socio economic conditions implementation with out substantial grant funding is not likely. IWA will pursue grant funding as well as partnership opportunities with local home improvement stores.

**BMP 07: Public Information Programs**

Reporting Unit:  
**City of Indio/Indio Water Authority**

BMP Form Status:  
**100% Complete**

Year:  
**2008**

**A. Implementation**

1. How is your public information program implemented?  
 Retailer runs program without wholesaler sponsorship
2. Describe the program and how it's organized:  
 IWA's public information program, Water Smart Education and Outreach Program, was started in 2006 and has since expanded to include outreach to schools. Public education has been expanded over the last couple of years to cover all of IWA's and the City's environmental programs. IWA is also an active member of Water Agencies of the Desert Region (WADR), a group of Valley water agencies working together to send a unified message about water conservation.
3. Indicate which and how many of the following activities are included in your public information program:

Public Information Program Activity in Retail Service Area	Yes/No	Number of Events
a. Paid Advertising	no	
b. Public Service Announcement	yes	2
c. Bill Inserts / Newsletters / Brochures	yes	1
d. Bill showing water usage in comparison to previous year's usage	no	
e. Demonstration Gardens	no	
f. Special Events, Media Events	yes	4
g. Speaker's Bureau	yes	2
h. Program to coordinate with other government agencies, industry and public interest groups and media	yes	

**B. Conservation Information Program Expenditures**

1. Annual Expenditures (Excluding Staffing) 10000

**C. "At Least As Effective As"**

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

**D. Comments**

**BMP 08: School Education Programs**

Reporting Unit:  
**City of Indio/Indio Water  
 Authority**

BMP Form Status:  
**100% Complete**

Year:  
**2008**

**A. Implementation**

1. How is your public information program implemented?  
 Retailer runs program without wholesaler sponsorship
2. Please provide information on your region-wide school programs (by grade level):

Grade	Are grade-appropriate materials distributed?	No. of class presentations	No. of students reached	No. of teachers' workshops
Grades K-3rd	yes	2	60	0
Grades 4th-6th	yes	1	30	0
Grades 7th-8th	no	0	0	0
High School	no	0	0	0

4. Did your Agency's materials meet state education framework requirements? no
5. When did your Agency begin implementing this program? 06/01/2008

**B. School Education Program Expenditures**

1. Annual Expenditures (Excluding Staffing) 16340

**C. "At Least As Effective As"**

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

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

**D. Comments**

The IWA delivered a calendar to 3 elementary schools which in effect reached 16340 students.

**BMP 09: Conservation Programs for CII Accounts**

Reporting Unit: **City of Indio/Indio Water Authority**      BMP Form Status: **100% Complete**      Year: **2008**

**A. Implementation**

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

**Option A: CII Water Use Survey and Customer Incentives Program**

4. Is your agency operating a CII water use survey and customer incentives program for the purpose of complying with BMP 9 under this option? If so, please describe activity during reporting period: yes

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

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

Agency CII Customer Incentives	Budget (\$/Year)	# Awarded to Customers	Total \$ Amount Awarded
h. Rebates	0	0	0
i. Loans	0	0	0
j. Grants	0	0	0
k. Others	0	0	0

**Option B: CII Conservation Program Targets**

- 5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option? no
- 6. Does your agency document and maintain records on how no

savings were realized and the method of calculation for estimated savings?

**7. System Calculated annual savings (AF/yr):**

CII Programs	Avg Savings (AF/yr)	# Device Installations	Annual Savings/Program (AF/yr)
a. Ultra Low Flush Toilets	.035004	0	0
b. Dual Flush Toilets	.041748	0	0
c. High Efficiency Toilets	.041748	0	0
d. High-Efficiency Urinals	.069086	0	0
e. Non-Water Urinals	.0921146	0	0
f. Commercial Clothes Washers (only coin-op; not industrial)	.116618	0	0
g. Cooling Tower Conductivity Controllers	1.03225	0	0
h. Food Steamers	.25	0	0
i. Ice Machines	.834507	0	0
j. Pre-Rinse Spray Valves	.084701	0	0
k. Steam Sterilizer Retrofits	1.538	0	0
l. X-ray Film Processors	2.57	0	0
Total System Calculated Savings:			0

**8. Estimated annual savings (AF/yr) from agency programs not including the devices listed in Option B. 7., above:**

CII Programs	Annual Savings (AF/yr)
a. Site-verified actions taken by agency:	
b. Non-site-verified actions taken by agency*:	(x 25%)

\*Note: Agencies may credit 100% of estimated annual savings of interventions that have been site verified and 25% of estimated annual savings of interventions that have not been site verified. (BMP 9 E.4.c.)

**TOTAL CII Program Performance Target Savings: 0**

**B. Conservation Program Expenditures for CII Accounts**

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

**C. "At Least As Effective As"**

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

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

**D. Comments**

The IWA will evaluate this BMP 09 using the tiered rate structure implemented in November 2010. The tiered rates will identify the number of CII accounts exceeding water budgets and will enable the IWA to quantify the feasibility and cost benefit of BMP 09.

**BMP 11: Conservation Pricing**

Reporting Unit:  
**City of Indio/Indio Water  
 Authority**

BMP Form Status:  
**100% Complete**

Year:  
**2008**

**A. Implementation****Water Service Rate Structure Data by Customer Class****1. Single Family Residential**

a. Rate Structure	Uniform
b. Total Revenue from Commodity Charges (Volumetric Rates)	\$ 7,987,347
c. Total Revenue from Customer Meter/Service (Fixed) Charges	\$ ,155,523

**2. Multi-Family Residential**

a. Rate Structure	Uniform
b. Total Revenue from Commodity Charges (Volumetric Rates)	\$ 2,061,803
c. Total Revenue from Customer Meter/Service (Fixed) Charges	\$ 17,079

**3. Commercial**

a. Rate Structure	Uniform
b. Total Revenue from Commodity Charges (Volumetric Rates)	\$ 1,544,336
c. Total Revenue from Customer Meter/Service (Fixed) Charges	\$ 67,607

**4. Industrial**

a. Rate Structure	Uniform
b. Total Revenue from Commodity Charges (Volumetric Rates)	\$ 142,914
c. Total Revenue from Customer Meter/Service (Fixed) Charges	\$ 6,171

**5. Institutional / Government**

a. Rate Structure	Uniform
b. Total Revenue from Commodity Charges (Volumetric Rates)	\$ 514,351
c. Total Revenue from Customer Meter/Service (Fixed) Charges	\$ 10,807

**6. Dedicated Irrigation (potable)**

a. Rate Structure	Uniform
b. Total Revenue from Commodity Charges (Volumetric Rates)	\$ 1,501,847
c. Total Revenue from Customer Meter/Service (Fixed) Charges	\$ 23,818

**7. Recycled-Reclaimed**

a. Rate Structure	Service Not Provided
b. Total Revenue from Commodity Charges (Volumetric Rates)	\$ 0
c. Total Revenue from Customer	\$ 0

Meter/Service (Fixed) Charges

**8. Raw**

- a. Rate Structure Service Not Provided
- b. Total Revenue from Commodity Charges (Volumetric Rates) \$ 0
- c. Total Revenue from Customer Meter/Service (Fixed) Charges \$ 0

**9. Other**

- a. Rate Structure Service Not Provided
- b. Total Revenue from Commodity Charges (Volumetric Rates) \$ 0
- c. Total Revenue from Customer Meter/Service (Fixed) Charges \$ 0

**B. Implementation Options**

**Select Either Option 1 or Option 2:**

**1. Option 1: Use Annual Revenue As Reported**

$V/(V+M) \geq 70\%$

V = Total annual revenue from volumetric rates Selected  
 M = Total annual revenue from customer meter/service (fixed) charges

**2. Option 2: Use Canadian Water & Wastewater Association Rate Design Model**

$V/(V+M) \geq V'/(V'+M')$

V = Total annual revenue from volumetric rates  
 M = Total annual revenue from customer meter/service (fixed) charges  
 V' = The uniform volume rate based on the signatory's long-run incremental cost of service  
 M' = The associated meter charge

- a. If you selected Option 2, has your agency submitted to the Council a completed Canadian Water & Wastewater Association rate design model?
- b. Value for V' (uniform volume rate based on agency's long-run incremental cost of service) as determined by the Canadian Water & Wastewater Association rate design model:
- c. Value for M' (meter charge associated with V' uniform volume rate) as determined by the Canadian Water & Wastewater Association rate design model:

**C. Retail Wastewater (Sewer) Rate Structure Data by Customer Class**

1. Does your agency provide sewer service? (If YES, answer questions 2 - 7 below, else continue to section D.) No

**2. Single Family Residential**

- a. Sewer Rate Structure
- b. Total Annual Revenue \$ 0
- c. Total Revenue from Commodity Charges (Volumetric Rates) \$ 0

**3. Multi-Family Residential**

- a. Sewer Rate Structure
- b. Total Annual Revenue \$ 0
- c. Total Revenue from Commodity Charges (Volumetric Rates) \$ 0

**4. Commercial**

- a. Sewer Rate Structure
- b. Total Annual Revenue \$ 0
- c. Total Revenue from Commodity Charges (Volumetric Rates) \$ 0

**5. Industrial**

- a. Sewer Rate Structure
- b. Total Annual Revenue \$ 0
- c. Total Revenue from Commodity Charges (Volumetric Rates) \$ 0

**6. Institutional / Government**

- a. Sewer Rate Structure
- b. Total Annual Revenue \$ 0
- c. Total Revenue from Commodity Charges (Volumetric Rates) \$ 0

**7. Recycled-reclaimed water**

- a. Sewer Rate Structure
- b. Total Annual Revenue \$ 0
- c. Total Revenue from Commodity Charges (Volumetric Rates) \$ 0

**D. "At Least As Effective As"**

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

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

**E. Comments**

The IWA plans to implement these rates beginning November 2010.

**BMP 12: Conservation Coordinator**

Reporting Unit:

**City of Indio/Indio Water  
Authority**BMP Form Status:  
**100% Complete**Year:  
**2008****A. Implementation**

- |   |                                    |
|---|------------------------------------|
| 1. Does your Agency have a conservation coordinator?  | yes                                |
| 2. Is a coordinator position supplied by another agency with which you cooperate in a regional conservation program ? | no                                 |
| a. Partner agency's name:   |                                    |
| 3. If your agency supplies the conservation coordinator:  |                                    |
| a. What percent is this conservation coordinator's position?  | 50%                                |
| b. Coordinator's Name   | Robert Edwards                     |
| c. Coordinator's Title  | Environmental Programs Coordinator |
| d. Coordinator's Experience in Number of Years  | 15                                 |
| e. Date Coordinator's position was created (mm/dd/yyyy)   | 12/11/2006                         |
| 4. Number of conservation staff (FTEs), including Conservation Coordinator.   | 3                                  |

**B. Conservation Staff Program Expenditures**

- |  |      |
|--|------|
| 1. Staffing Expenditures (In-house Only)   | 5000 |
| 2. BMP Program Implementation Expenditures | 5000 |

**C. "At Least As Effective As"**

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

**D. Comments**

**BMP 13: Water Waste Prohibition**

Reporting Unit:

**City of Indio/Indio Water Authority**

BMP Form Status:

**100% Complete**

Year:

**2008****A. Requirements for Documenting BMP Implementation**

1. Is a water waste prohibition ordinance in effect in your service area? yes

a. If YES, describe the ordinance:

IWA's Landscape and Water Conservation Ordinance, adopted in March 2008, addresses several issues relative to outdoor water use. Some of these are: Prohibits outdoor water waste that leads to water flows onto roadways; prohibits community covenants, conditions, and restrictions in new developments that would prohibit low water use landscaping or require water-intensive landscaping; requires certain landscaping equipment for irrigation systems; identifies potential administrative remedies to enforce ordinance.

2. Is a copy of the most current ordinance(s) on file with CUWCC? no

a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second text box:

Indio Water Authority City of  
Indio Code Enforcement

IWA Ordinance 1528

**B. Implementation**

1. Indicate which of the water uses listed below are prohibited by your agency or service area.

- |  |     |
|--|-----|
| a. Gutter flooding   | yes |
| b. Single-pass cooling systems for new connections                   | no  |
| c. Non-recirculating systems in all new conveyor or car wash systems | no  |
| d. Non-recirculating systems in all new commercial laundry systems   | no  |
| e. Non-recirculating systems in all new decorative fountains         | yes |
| f. Other, please name  | no  |

2. Describe measures that prohibit water uses listed above:

Ordinance in place and enforced.

**Water Softeners:**

3. Indicate which of the following measures your agency has supported in developing state law:

- |   |     |
|---|-----|
| a. Allow the sale of more efficient, demand-initiated regenerating DIR models.  | yes |
| b. Develop minimum appliance efficiency standards that:   |     |
| i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used.   | yes |
| ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced.  | yes |
| c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an | yes |

adverse effect on the reclaimed water or groundwater supply.

4. Does your agency include water softener checks in home water audit programs? no

5. Does your agency include information about DIR and exchange-type water softeners in educational efforts to encourage replacement of less efficient timer models? no

**C. "At Least As Effective As"**

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

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

**D. Comments**

**BMP 14: Residential ULFT Replacement Programs**

Reporting Unit: **City of Indio/Indio Water Authority**      BMP Form Status: **100% Complete**      Year: **2008**

**A. Implementation****Number of Non-Efficient Toilets Replaced With 1.6 gpf Toilets During Report Year**

	Single-Family Accounts	Multi-Family Units
1. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	no	no
<b>Replacement Method</b>	<b>SF Accounts</b>	<b>MF Units</b>
2. Rebate	0	0
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	0	0
<b>Total</b>	<b>0</b>	<b>0</b>

**Number of Non-Efficient Toilets Replaced With 1.28 gpf High-Efficiency Toilets (HETs) During Report Year**

	Single-Family Accounts	Multi-Family Units
6. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	no	no
<b>Replacement Method</b>	<b>SF Accounts</b>	<b>MF Units</b>
7. Rebate	0	0
8. Direct Install	0	0
9. CBO Distribution	0	0
10. Other	0	0
<b>Total</b>	<b>0</b>	<b>0</b>

**Number of Non-Efficient Toilets Replaced With 1.2 gpf HETs (Dual-Flush) During Report Year**

	Single-Family Accounts	Multi-Family Units
11. Does your Agency have program(s) for replacing high-water-using toilets with ultra-low flush toilets?	no	no
<b>Replacement Method</b>	<b>SF Accounts</b>	<b>MF Units</b>
12. Rebate	0	0
13. Direct Install	0	0
14. CBO Distribution	0	0
15. Other	0	0
<b>Total</b>	<b>0</b>	<b>0</b>

16. Describe your agency's ULFT, HET, and/or Dual-Flush Toilet programs for single-family residences.

Not yet developed

17. Describe your agency's ULFT, HET, and/or Dual-Flush Toilet programs for multi-family residences.

Not yet developed

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

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

N/A

N/A

### **B. Residential ULFT Program Expenditures**

1. Estimated cost per replacement: \$ 0

### **C. "At Least As Effective As"**

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

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

### **D. Comments**

The IWA is considering a City ordinance that would require ULFT retrofits on resale for all homes older than 1992.

## APPENDIX G

### WATER WASTER NOTICE AND 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

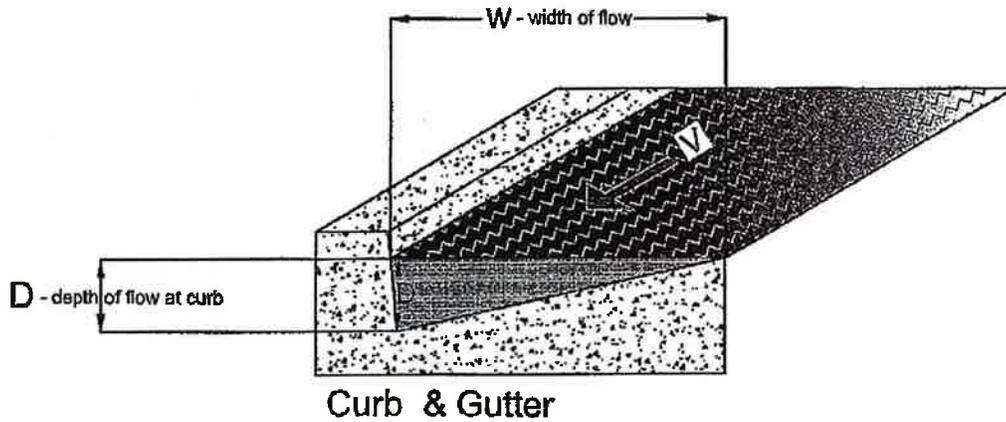
- Excess Water Runoff
  - Please adjust direction of sprinklers
  - Please check water cycle/timer
- Washing down driveway, sidewalk or other hard surface
- Watering too long or too often
- Wasting water through leaks not repaired in a timely manner
- Filling a non-recyclable decorative fountain
- Commercial 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 H

### 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 20<sup>th</sup> 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 I

### WATER QUALITY EMERGENCY NOTIFICATION PLAN

**Indio Water Authority  
(City of Indio)**

**WATER QUALITY EMERGENCY NOTIFICATION PLAN**

Date: June 25, 2004

During regular working hours, our staff will contact the news media at television stations KESQ, KMIR, KPESP and KVER to broadcast the necessary warning. The local radio stations will also be contacted. The television and radio personnel are available at all hours. As a follow-up measure, we will also contact the local newspapers that serve the entire Coachella Valley area. A list of the medium community (both English and Spanish speaking) is included with this report as **Attachment "A"**.

The warnings will be issued in both English and Spanish to cover all members of the community.

A special telephone answering service can also be quickly set up as the utility headquarters (City of Indio, City Hall located at 100 Civic Center Mall, Indio, California 92201) using the normal telephone numbers to answer questions that will come in from consumers. Because of nearby overlap of utility responsibilities (Coachella Valley Water District and City of Coachella Water System) will adjoin the Indio Water Authority, special maps will be supplied to the telephone operators. These maps will clearly delineate the service boundaries so that the operators can refer customers to the proper authority.

It is anticipated that the time for notification to the television and radio audiences will be very short. For notification to be issued, in other than normal hours, the same media will be contacted and an announcement will be scheduled, for as long as is necessary.

# **ATTACHMENT "A"**

## **Water Quality Emergency Notification Plan**

### **TELEVISION**

KESQ-TV, Assignment Desk (English)  
KMIR-TV, Assignment Desk (English)  
KPESP CBS Channel 2 (English)  
KVER-TV, Assignment Desk (Spanish)

### **RADIO**

K-News, Corbett Brattin (English)  
KLOB, Tony Billett (Spanish)

### **NEWSPAPER**

El Informador, Editor (Spanish)  
La Prensa Hispana, Editor (Spanish)  
Press Enterprise (English)  
The Desert Sun, Steve Silverman (English)  
The Desert Sun, Xotchil Pena (English)  
The Indio Post (English)

### **PLAN I (Medium Community)**

During regular working hours our people will contact the news media at television station KXYZ to broadcast the necessary warning. The local radio stations will also be contacted. The television and radio personnel are available at all hours. As a follow-up measure, we will also contact the Daily Bee, a local newspaper that serves both Ourtown and Hometown.

The warnings will be issued in both English and Spanish to cover all members of the community. Outlying areas of the water service area (such as Isolated Canyon and Lonesome Mountain subdivisions) will also be notified by sound truck and/or handbill distributed to their respective areas. Both of these areas are very small and this can be done quite quickly.

A special telephone answering service can also be quickly set up at the utility headquarters (using the regular company numbers) to answer questions that will come in from consumers. Questions are anticipated, especially from the Hometown area, because that area is served by three different water companies. A map will be available to the telephone answering personnel to determine the water company serving the caller.

It is anticipated that the time for notification to the television and radio audiences will be very short. The areas served by handbill and sound truck will also be notified within an hour. For notification to be issued in other than normal hours, the same media will be contacted and an announcement will be scheduled for as long as is necessary. A sound truck(s) will be used in the early morning hours to quickly alert the people not listening to their radio or television.

### **PLAN II (Small Community)**

Our community is very small and the most efficient means of notification will be both sound truck and handbill. It is estimated that the entire service area can be covered in less than three hours.

### **PLAN III (Large Community)**

The same plan as implemented in Plan I should be used here with the exceptions noted. All the news media will be contacted in the entire metropolitan area. This includes all television and radio stations and all local and general area newspapers. Maps have been prepared to be distributed to the media to locate the boundaries of the water company. This system is large enough that it may only be necessary to notify some of the water users. This information will be transmitted to the media and an answering service at the water company will respond to consumers' calls. Unless the problems are limited to isolated areas it is unreasonable to assume that contact can be made through sound truck or handbill.