DESERT WATER AGENCY
(760) 323-4971

POST OFFICE BOX 1710
PALM SPRINGS, CALIFORNIA 92263

1200 GENE AUTRY TRAIL SOUTH
PALM SPRINGS, CALIFORNIA 92264

DESERT WATER AGENCY
2010 URBAN WATER MANAGEMENT PLAN

MARCH 2011

Prepared by

KRIEGER & STEWART, INCORPORATED
ENGINEERING CONSULTANTS
3602 UNIVERSITY AVENUE
RIVERSIDE, CALIFORNIA 92501
(951) 684-6900

Signature _____

Date 6/30/11

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KJL/jcb
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DESERT WATER AGENCY
Palm Springs, California

2010 URBAN WATER MANAGEMENT PLAN
CONTACT SHEET

Date plan submitted to the Department of Water Resources:	**June 30, 2011**
Names of plan preparers:	**Charles A. Krieger** **David F. Scriven** **Krieger & Stewart, Incorporated** **DWA Consulting Engineer**
Phone:	**(951) 684-6900**
Fax:	**(951) 684-6986**
E-mail addresses:	**ckrieger@kriegerandstewart.com** **dscriven@kriegerandstewart.com**
The Water supplier is a:	**Public Agency**
The Water supplier is a:	**Retailer**
Utility services provided by the water supplier include:	**Domestic and municipal water (for residential and commercial development), recycled water (for municipal park and landscape irrigation), sanitary sewage (for Cathedral City area), hydroelectric power (for energy delivery to Southern California Edison Company), solar energy power (for energy delivery to Desert Water Agency Operations Center with excess to Southern California Edison Company), and groundwater basin management (for groundwater replenishment and assessment therefor)**
Is This Agency a Bureau of Reclamation Contractor?	**No**
Is This Agency a State Water Project Contractor?	**Yes**

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SECTION I

DESERT WATER AGENCY

SECTION I
DESERT WATER AGENCY

A. PUBLIC PARTICIPATION

Law 10621(b). Every urban water supplier...shall, at least 60 days prior to the public hearing on the plan required by Section 10642, notify any city or county within which the supplier provides water supplies that the urban water supplier will be reviewing the plan and considering amendments or changes to the plan.

10635(b). The urban water supplier shall provide that portion of its urban water management plan prepared pursuant to this article to any city or county which within it provides water supplies no later than 60 days after the submission of its urban water management plan.

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published ... After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

10645. No later than 30 days after filing a copy of its plan with the department, the urban water supplier and the department shall make the plan available for public review during normal business hours.

1. General

Desert Water Agency (DWA or Agency) has actively encouraged community participation in its urban water management planning efforts since its first urban water management plan (UWMP or Plan) was developed in 1985. Public meetings were held on the 1985, 1990, 1995, 2000, 2005, and 2010 plans. For this 2010 Urban Water Management Plan (UWMP or Plan), the appropriate legal notice was provided to the appropriate cities and county on December 30, 2010. A copy of said notice is included in **Appendix A** of this Final Plan.

On March 15, 2011, DWA held a Public Hearing to receive comments on its 2010 Draft Urban Water Management Plan. Draft copies were made available at the front desk of DWA's Operations Center during business hours and the City of Palm Springs, City of

Cathedral City, and Riverside County were provided a 60-day prior notification of the Public Hearing. All comments received prior to and during the Public Hearing were taken into consideration in preparation of the Final Plan.

2. Plan Adoption

DWA prepared this Urban Water Management Plan in 2010. This Plan was adopted by DWA's Board of Directors by Minute Order on March 15, 2011, and submitted to the California Department of Water Resources (CDWR) on June 30, 2011. A signed copy of DWA's Minute Order of Plan Adoption is included in **Appendix A** herein.

Final copies of this UWMP, as well as any adopted amendments, will be made available at the front desk of DWA's Operations Center during normal business hours for public review, and will be provided to any city or county within DWA's Service Area no later than 60 days after submission to CDWR. This Plan includes all information necessary to meet the requirements of California Water Code Division 6, Parts 2.55 (added by the Water Conservation Act of 2009, also known as SB X7 7) and 2.6 (Urban Water Management Planning).

B. AGENCY COORDINATION

Law 10620(d)(2). Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

1. Coordination within the Agency and Interagency Coordination

DWA staff met and coordinated the development of this plan with Coachella Valley Water District (CVWD). Historically, DWA has worked closely with local cities and other local agencies in order to serve the public's best interests; therefore, DWA has developed this Plan through coordination with the public and other entities as summarized in **Table 1** below. DWA's Draft UWMP was submitted to these entities for review and comment prior to final Plan adoption.

Table 1 Coordination with Appropriate Agencies							
	Coordination and Public Involvement Actions						
Entities	**Participated in UWMP Development**	**Commented on Draft**	**Attended Public Meetings**	**Contacted for Assistance**	**Copy of Draft Made Available**	**Sent Notice of Intention to Adopt**	**Not Involved/No Information**
City of Palm Springs					✓	✓	
City of Cathedral City					✓	✓	
Coachella Valley Water District	✓			✓	✓	✓	
Mission Springs Water District					✓	✓	
County of Riverside Planning Department					✓	✓	
Coachella Valley Resource Conservation District					✓	✓	
Local Library					✓	✓	
General Public					✓	✓	

In addition to current law, DWA utilized guidance available from CDWR, including CDWR's Guidebook to Assist Water Suppliers in the Preparation of a 2005 Urban Water Management Plan, dated January 18, 2005 (hereinafter, 2005 UWMP Guidebook), and CDWR's draft Guidebook to Assist Water Suppliers in the Preparation of a 2010 Urban Water Management Plan, dated December 21, 2010 (hereinafter referred to as 2010 UWMP Draft Guidebook) in preparing this UWMP.

Some of the tables in CDWR's 2005 UWMP Guidebook and 2010 Draft Guidebook required for inclusion in 2005 and 2010 urban water management plans do not apply to DWA. Therefore, please note that those tables that do not apply to DWA have been omitted from this UWMP. Omitted tables are listed as "Not Used" in the Table of Contents herein. Table numbers and titles in this UWMP generally correspond to those set forth in the 2005 UWMP Guidebook.

C. SUPPLIER SERVICE AREA

Law 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631(a). Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

1. Formation, Purpose, and Service Area

DWA was formed in 1961 to assure an adequate water supply for the northwesterly portion of the Upper Coachella Valley. In 1962, DWA entered into a water supply contract with the State of California through the CDWR. CVWD entered into a similar contract the following year. In 1968, DWA purchased the Palm Springs and Cathedral City Water Company water systems to provide domestic and municipal water service (hereafter municipal water service) to Palm Springs and vicinity.

DWA is responsible for water supply management within its Institutional Boundary, which encompasses 335 square miles and includes the City of Palm Springs (CPS), the southwest portion of the City of Cathedral City (CCC), the City of Desert Hot Springs (CDHS), essentially all of Mission Springs Water District (MSWD), and some unincorporated areas within Riverside County.

DWA is responsible for management of the water supply within its Institutional Boundary, as is CVWD within its Institutional Boundary, including artificial groundwater recharge or replenishment to augment natural recharge. Specifically, DWA augments local groundwater supplies via groundwater recharge, using imported water. Additionally, DWA makes imported water available to MSWD for groundwater recharge within its MSWD's service area. All of DWA's water sources are discussed in **Section II - *Water Sources (Supply)***.

DWA's Service Area, to which it provides municipal water service, includes CPS, the southwest portion of CCC, and some unincorporated areas within Riverside County. It

does not include the MSWD service area, which is generally northerly of Interstate 10 and includes DHS and its surroundings. MSWD provides municipal water service throughout its service area, and is preparing its own 2010 Urban Water Management Plan.

DWA's Service Area is generally bounded on the north (from west to east) by Interstate 10 to Highway 111, to Chino Canyon and the Whitewater River, on the east by the Whitewater River and the CVWD, on the south by the rugged Santa Rosa Mountains, and on the west by the rugged San Jacinto Mountains.

DWA provides municipal and recycled water service through two separate systems within its Service Area, which is generally southerly of Interstate 10. DWA's current Institutional Boundary and Service Area are shown on **Figure 1** in **Appendix G**.

2. Population

Population within DWA's Service Area (CPS, the southwest portion of CCC, and several small unincorporated areas along the western boundary) has increased from approximately 18,000 persons in 1961, when DWA was formed, to around 60,600 persons in 2010, based on data from the Southern California Association of Governments (SCAG).

CPS contains the largest population within DWA's Service Area, with a current population around 47,000. The Palm Springs area has experienced tremendous growth since its beginnings during the late 1800s, in particular, the period from 1970 to the present, during which time the population more than doubled. The golf and tourist industries remain paramount to the area's economy, with future growth in these areas expected; however, due to the current economic climate, growth has slowed substantially over the past three years.

Existing development within the Upper Coachella Valley primarily occupies the valley floor and is situated in Palm Springs, Cathedral City, Palm Springs Oasis (commonly known as Palm Oasis), and Snow Creek Village. Future development is expected to

consist of infill within the local communities and expansion into canyons, coves, and mountainous areas.

Table 2 shows population projections within DWA's Service Area as well as population projections within DWA's Institutional Boundary (refer to **Figure 1** in **Appendix G**). Population within DWA's Institutional Boundary includes the entire DWA Service Area, essentially all of MSWD's service area (including CDHS), and certain adjacent unincorporated areas within Riverside County.

The population estimates within DWA's Institutional Boundary were developed based on historic population data within DWA's Service Area, as well as population projections provided by the Southern California Association of Governments (SCAG). **Figure 2** in **Appendix G** depicts historic and projected population within DWA's Service Area, 1970 through 2035. **Figure 3** in **Appendix G** shows a comparison of DWA's projected population with Riverside County's projected population, 2010 through 2035.

Table 2
Population - Current and Projected

	2010	2015	2020	2025	2030	2035
Population within DWA's Service Area	60,600	64,700	70,100	74,900	80,600	86,500
Population within DWA's Institutional Boundary	111,400	128,900	141,300	152,800	165,200	177,500

3. Climate

DWA's Service Area lies within the Upper Coachella Valley, with climate characterized by low humidity, high summer temperatures, and mild dry winters. The area normally receives an average annual precipitation of about five and one-half inches (most of which occurs in January, February, or March, except for summer thundershowers), and prevailing winds which are usually gentle but occasionally increase to velocities as high as 50 to 60 miles per hour or more. Midsummer temperatures commonly exceed 100°F, frequently reach 110°F, and periodically reach 120°F. During the winter, the average temperature is about 60°F.

The average rainfall and maximum and minimum monthly temperatures, as well as monthly average evapotranspiration rates (ETo), are shown in **Table 3** below. Due to the low annual rainfall and excessively high summer temperatures, large quantities of water are required for supplemental landscape irrigation, even during the cooler winter months.

Table 3
Climate

Month	Average Rainfall (inches) [1]	Average Maximum Temperature (°F) [1]	Average Minimum Temperature (°F) [1]	Standard Monthly Average ETo (inches) [2]
Jan	1.13	69.6	42.3	2.94
Feb	1.00	73.7	45.5	2.81
Mar	0.59	79.3	48.8	5.39
Apr	0.18	86.6	54.1	6.28
May	0.05	94.5	60.4	7.83
Jun	0.05	103.0	67.0	6.94
Jul	0.20	108.2	75.2	8.15
Aug	0.28	106.8	74.1	7.60
Sep	0.30	101.7	68.0	6.32
Oct	0.29	91.4	59.3	4.47
Nov	0.43	78.7	49.2	2.97
Dec	0.95	69.8	42.3	1.96
Annual	5.44	88.6	57.2	63.66

[1] Average rainfall data and average temperature data were obtained from the National Oceanic and Atmospheric Administration (NOAA) website at http://www.wrcc.dri.edu/CLIMATEDATA.html.

[2] ETo data was obtained from the California Irrigation Management Information System (CIMIS) website at http://wwwcimis.water.ca.gov/.

4. Past Drought, Water Demand, and Conservation Information

Historically, droughts have had little effect on DWA's water supply. Since DWA relies primarily on groundwater and has imported water for groundwater replenishment, the droughts of 1965-1967, 1976-1977, and 1989-1992 had negligible effects on DWA's ability to supply water to its customers.

DWA has pioneered water conservation in the Coachella Valley. Water deliveries to consumers with in DWA's existing Service Area have been metered since the 1920s. Since the early 1970s, DWA has focused its conservation efforts on long-term solutions in areas of water-efficient landscaping, consumer education, and utilization of new technologies. In the mid-1970s, DWA established numerous affirmative water reduction programs that resulted in relatively uniform consumption, and therefore, generally level per capita production.

Per capita water production increased from 0.31 acre-feet per year (AF/Yr) in 1940 to 0.77 AF/Yr in 1970. Per capita water production subsequently decreased to 0.73 AF/Yr in 1980 before peaking at 0.83 AF/Yr in 1990. Since 1990, per capita water production has ranged from 0.62 AF/Yr to 0.77 AF/Yr. The general consistency in per capita water production in the 1980s and 1990s is attributable to DWA's water conservation activities and measures.

The residents served by DWA have a high commitment to quality of life and are active participants in resource and planning discussions held by DWA. Water conservation is one of several high priority policies actively implemented within DWA, and programs such as water audits for large-volume water users, residential water audits, landscape water audits, and water-efficient landscape gardens are encouraged and well received.

In 1978, DWA constructed a new Operations Center using low water use fixtures in the building and low water use plants in the landscaping. It also developed and operated a low water use demonstration garden for public benefit. During the 1980s and 1990s, DWA constructed and expanded a water recycling plant, together with additional demonstration garden plantings. During the 1970s, 1980s, and 1990s, DWA joined with

the local Resource Conservation District (Soil Conservation Service) in conducting water-efficient ornamental plant research with both potable and recycled water, and in selling low-water use plants to the public. Since most water use within DWA's Service Area (up to 80 percent) is used outdoors, DWA has focused conservation efforts on developing outdoor water conservation measures.

SECTION II

WATER SOURCES (SUPPLY)

SECTION II
WATER SOURCES (SUPPLY)

Law 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

> 10631(b). Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments...[to 20 years or as far as data is available.] If groundwater is identified as an existing or planned source of water available to the supplier, all of the following information shall be included in the plan:
>
> (1) A copy of any groundwater management plan adopted by the urban water supplier, including plans adopted pursuant to Part 2.75 (commencing with Section 10750), or any other specific authorization for groundwater management.
>
> (2) A description of any groundwater basin or basins from which the urban water supplier pumps groundwater. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the urban water supplier has the legal right to pump under the order or decree. For those basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted is present management conditions continue...
>
> (3) A detailed description and analysis of the location, amount, sufficiency of groundwater pumped by the urban water supplier for the past five years.
>
> (4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the urban water supplier.

A. WATER SUPPLY SOURCES

In the 1920s and 1930s, DWA's municipal water supply was derived entirely from creek diversions (surface water). Currently, DWA's sources of supply include groundwater produced by local potable water supply wells, surface water diverted from creeks in the San Jacinto Mountains, imported State Water Project (SWP) water, and recycled water (for irrigation use). As described in the Desert Water Agency Domestic Water System General Plan 2008 (2008 General Plan), all imported water is used to replenish or recharge the Upper Coachella Valley Groundwater Basin, particularly the Whitewater River and Mission Creek Subbasins.

Table 4 identifies the existing and planned water supply sources and quantities available to DWA. (See **Figure 5** for a diagram of water supply sources and uses.)

Table 4
Current and Planned Water Supplies
(AF/Yr)

Water Supply Sources	2010	2015	2020	2025	2030	2035
External Sources						
Surface Water [1]	5,900	5,900	5,900	5,900	5,900	5,900
Natural Groundwater Recharge [2]	7,000	7,000	7,000	7,000	7,000	7,000
Imported Water [3]	27,500	27,400	27,400	27,300	27,200	27,100
Groundwater from Storage [2]	0	0	0	0	0	2,200
Internal Sources						
Non-Consumptive Return [4]	16,100	17,200	18,600	20,000	21,400	22,800
Recycled Water [5]	4,500	6,100	6,100	8,400	8,400	8,400
Water Supply Sources Total	**61,000**	**63,600**	**65,000**	**68,600**	**69,900**	**73,400**

[1] DWA diverts surface water from Snow Creek and Falls Creek (per State Water Resources Control Board Water Rights Division and Licenses 2592, 3097, and 8226), Chino Creek and the Whitewater River (per the Whitewater River Adjudication Decree, Case No. 18035, dated September 28, 1938, Section XXVI, Paragraphs 32 and 48).

[2] DWA extracts groundwater comprising natural recharge, non-consumptive return, and groundwater from storage. Net natural recharge for the Upper Whitewater River Subbasin is described in USGS Water Resources Investigation 91-4142 as 29,000 AF/Yr (36,000 AF/Yr natural inflow less 7,000 AF/Yr natural outflow), with DWA's share being about 7,000 AF/Yr reflecting long term average supply. "Groundwater from storage" is continued groundwater extraction required to meet demands in addition to natural and imported supplies.

[3] Colorado River water has been and continues to be exchanged for State Water Project water per the 2003 and prior Exchange Agreements among DWA, CVWD, and MWDSC. Currently, approximately 93 percent of exchange water is directed to the Whitewater River Subbasin, of which 25 percent is allocable to DWA and 75 percent is allocable to CVWD. State Water Project water consists of DWA's apportionment of its Table A allocation, Article 21 surplus water allocation (when available) and other surplus water acquired and conveyed through the State Water Project. Herein, projected Table A and Article 21 State Water Project water deliveries are based on the 2009 State Water Project Reliability Report. Other surplus water included State Water Project Pools A and B Turnback water, Yuba River Accord water, and Central Valley flood waters (Kern River and other rivers).

[4] Non-consumptive return to the aquifer is estimated to be 35 percent of groundwater and surface water produced and used but not consumed, per USGS Water Resources Investigation 91-4142, with annual quantities varying with varying production.

[5] DWA's Recycled Water Treatment Facility reclaims secondary effluent from the City of Palm Springs Wastewater Treatment Plant. Currently, DWA reclaims over half of the secondary effluent available from the City, which is approximately 6.0 million gallons per day (6,700 AF/Yr). Potential future recycled water demands are described in DWA's 2008 General Plan. Due to the fact that the use of recycled water does not change the nature of consumptive water use, use of recycled water is considered herein to have a negligible effect on the assumed 35% rate of non-consumptive return to the aquifer based on the total groundwater and surface water production. However, increased recycled water use can help offset the use of other sources (such as pumped groundwater) to meet total demand.

B. GROUNDWATER

DWA extracts groundwater for municipal use from the upper portion of the Whitewater River Subbasin of the Coachella Valley Groundwater Basin. The Whitewater River Subbasin is one of five (Whitewater River, Mission Creek, San Gorgonio Pass, Desert Hot Springs, and Garnet Hill) subbasins within the Coachella Valley Groundwater Basin (USGS 1974). The San Andreas Fault drives a complex pattern of branching faults which define the boundaries of the subbasins (CDWR 2003). CDWR Bulletin No. 108 (1964) describes the hydrologic components of the Upper Coachella Valley Groundwater Basin differently than the USGS. For purposes of this UWMP, the more recent USGS subbasin identifications are used.

DWA does not currently have a groundwater management plan per Assembly Bill 3030, but DWA and CVWD entered into a joint Water Management Agreement in 1976 (amended in 1992), wherein the two parties cooperate in the management of the Whitewater River Subbasin. The Water Management Agreement was implemented in 1978 and is in effect today. The Water Management Agreement and the amendment thereto are provided in **Appendix B**.

The Water Management Agreement was developed following numerous investigations that all concluded that groundwater deficit existed within the Whitewater River Subbasin; although CDWR has not identified the Coachella Valley Groundwater Basin or any of its subbasins as being in overdraft, or projected that they will become overdrafted, if current management practices continue (CDWR Bulletin 118, Update 2003).

DWA also participates in planning and preparing the Coachella Valley Integrated Regional Water Management Plan (IRWMP), which is in collaboration with CVWD, MSWD, Indio Water Authority, and the Coachella Water Authority.

The IRWMP was created by these water purveyors to address water management issues and is intended to be an ongoing process of regional collaboration for the sustainability of water supplies throughout the Coachella Valley (IRWMP 2010).

In addition, neither the Coachella Valley Groundwater Basin, nor any of its subbasins have been adjudicated; therefore, groundwater production is not legally limited. For this reason,

Table 5 - ***Groundwater Pumping Rights***, from CDWR's 2005 UWMP Guidebook - does not apply to DWA and is therefore not included herein.

1. Groundwater Production

Except for DWA's surface water diversions, all water produced within the Whitewater River Subbasin is groundwater.

Combined DWA and CVWD groundwater extractions and surface water diversions within the Whitewater River Subbasin increased from approximately 93,000 AF in 1966 (1965 through 1967, averaged) to 187,500 AF in 1990, then decreased to approximately 174,000 AF in 1991 before increasing to approximately 187,000 AF in 1997. In 1999, production increased to about 208,000 AF and then averaged about 211,000 AF during the three-year period 2000 through 2002.

Annual water production within the Whitewater River Subbasin (groundwater extractions plus surface water diversions) has averaged 208,000 AF/Yr for the past five years (2005-2009). Based on production records, approximately 24 percent of annual water production within the Whitewater River Subbasin is allocable to DWA and the remaining 76 percent is allocable CVWD. For projection purposes through 2035, this relationship has been assumed to remain constant, although it may vary slightly depending upon relative groundwater production between DWA and CVWD.

Table 6A below represents the quantities of groundwater extracted from the Whitewater River Subbasin by DWA during years 2005 - 2009.

Table 6A
Quantities of Groundwater Pumped
(AF/Yr)

Basin Name	2005	2006	2007	2008	2009
Whitewater River Subbasin	40,600	42,490	43,562	40,430	37,244
% of Total Water Supply	**89%**	**93%**	**95%**	**88%**	**81%**

*Note: In comparison with groundwater extraction quantities listed in DWA's Engineer's Reports on Groundwater Replenishment, 2006/2007 through 2010/2011 (Engineer's Reports), please note that the quantities in **Table 6A** represent only groundwater extractions by DWA and do not include surface water diversions or extractions by other pumpers in the subbasin.*

Groundwater extraction was significantly lower in 2009 than in previous years due to several contributing factors, the most recognizable being low demand. In addition to reductions resulting from DWA's ongoing conservation efforts, Palm Springs experienced fewer seasonal visitors to the community than in previous years. Another contributing factor was a lack of demand for construction water in the area. Construction activity was high during 2006 and 2007, but the deteriorating economic climate in subsequent years has diminished the number of construction projects.

Table 7A below represents the quantities of groundwater projected to be extracted from the Whitewater River Subbasin (2010 - 2035) by DWA based on DWA's average groundwater production from 1977 - 2009.

Table 7A
Quantities of Groundwater Projected to be Pumped
(AF/Yr)

Basin Name(s)	2010	2015	2020	2025	2030	2035
Whitewater River Subbasin	40,100	43,100	47,100	51,100	55,100	59,100
% of Total Water Supply	**80%**	**78%**	**80%**	**78%**	**79%**	**81%**

*Note: In comparison with projected groundwater extraction quantities listed in the aforementioned Engineer's Reports, please note that the quantities in **Table 7A** represent only DWA's projected groundwater extractions and do not include surface water diversions or extractions by other pumpers in the subbasin. In addition, the Projections in **Table 7A** are based on population projections, whereas the projections in the Engineer's Reports are based on groundwater pumpage trends over the past 10 years.*

Projected water production was estimated using the population projections shown in **Table 2** of **Section I** and the average per capita potable water production, for years 2000 - 2009, of 0.75 AF/Yr. The per capita potable water production is based on the historic (2000 - 2009) population and potable water sales plus unaccounted for water within DWA's Service Area.

2. Groundwater Recharge

The Whitewater River Subbasin is recharged naturally with runoff from the San Jacinto, Santa Rosa, and San Bernardino Mountains. Per USGS Water Resources Investigation 91-4142, long-term natural recharge (natural inflow less natural outflow) to the Whitewater River Subbasin is approximately 29,000 AF/Yr. Since the 1950s (if not earlier), groundwater extractions in the Whitewater River Subbasin have exceeded the long-term natural recharge, a condition termed *overdraft*, resulting in declining groundwater levels.

In recognition of the declining water levels in the Whitewater River Subbasin, and to arrest or offset these conditions, DWA and CVWD secured SWP allocations in 1962 and 1963, respectively, to artificially recharge the groundwater subbasin. Artificial recharge significantly augments natural replenishment, so imported water is the most important component of the Whitewater River Subbasin's source of water (2008 General Plan).

Costly aqueduct facilities needed to convey SWP water from the California Aqueduct to the Coachella Valley are unlikely to be constructed for some time; therefore DWA and CVWD entered into water exchange contracts with the Metropolitan Water District of Southern California (MWDSC) in 1967, which were amended in 1972, to deliver Colorado River water to the Upper Coachella Valley through 1990 in exchange for SWP water delivered to MWDSC through the California Aqueduct, East Branch, in San Bernardino.

In 1973, DWA, CVWD, and MWDSC jointly commenced a program of artificial recharge of the Subbasin using imported water. The imported water is infiltrated at the Whitewater River Spreading Grounds (recharge basins) near Windy Point, from which it percolates to the groundwater basin underlying the spreading area.

In 1983, DWA and CVWD extended their water exchange agreements with MWDSC through 2035 and, in 1984, they entered into advance delivery agreements with MWDSC to permit MWDSC to store excess Colorado River water within the Whitewater River Subbasin for later exchange of DWA and CVWD SWP allocations.

In 2002, DWA and CVWD also began using Colorado River water to replenish the Mission Creek Subbasin, which is within DWA's Institutional Boundary (refer to **Figure 1**). Even though DWA does not operate groundwater production wells in the subbasin, DWA does operate the recharge facilities in the subbasin and, partnered with CVWD and the Mission Springs Water District (MSWD), manages the production and recharge activities in the Mission Creek Subbasin. Of the total water allocated to DWA and CVWD, approximately 93 percent of exchange water is directed to the Whitewater River Subbasin, and approximately 7 percent is directed to the Mission Creek Subbasin.

In addition to natural and artificial recharge, non-consumptive return in the Whitewater River Subbasin is estimated to be about 35 percent of water produced (USGS Water Resources Investigation 91-4142, 1992). Non-consumptive return water is water returned to the aquifer by percolation after use, which offsets groundwater production. Examples of non-consumptive return include percolation of irrigation water into the ground and discharges of treated wastewater to percolation ponds for infiltration and percolation to groundwater.

In 2003, DWA, CVWD, and MWDSC entered into the 2003 Exchange Agreement and (hereinafter, 2003 Exchange Agreement) which clarifies and augments earlier exchange and advance delivery agreements. The conditions of the 2003 Exchange Agreement are discussed in **Section III** of this UWMP.

Pursuant to the agreements described above, groundwater recharge of the Upper Coachella Valley Groundwater Basin, from 1973 through 2009, has approximated 2,157,000 AF, about 2,097,700 AF in the Whitewater River Subbasin and about 59,300 AF in the Mission Creek Subbasin as set forth in DWA's *Engineer's Report on Groundwater Replenishment, 2010/2011*(Engineer's Reports).

The Whitewater River and Mission Creek Subbasins are capable of meeting the demands that will be placed on them, provided they continue to be replenished with sufficient quantities of imported water to meet future needs. Refer to **Section III - *Reliability Planning***, for information regarding SWP delivery reliability.

C. SURFACE WATER

One-hundred percent of DWA's surface water diversions, which constitute 10 percent or less of DWA's total water supply, are used for municipal water service. Surface water sources are secured from Snow and Falls Creeks, Chino Creeks North and West, and the Whitewater River. The creeks are all tributary to the Whitewater River.

The diversion at Chino Creek North was taken out of service in 2000 due to turbidity spikes in the source water, and it cannot be restored to potable service without filtration. Water that had been historically diverted from Chino Creek North now infiltrates the creek bed below the diversion, recharging the groundwater basin (2008 General Plan).

Per State Water Resources Control Board Water Rights Division Licenses 2592, 3097, and 8226, DWA is permitted to divert 2,475 gallons per minute (gpm) from Snow Creek, 675 gpm from Falls Creek, and 3,150 gpm from both creeks combined. Under the Whitewater River Adjudication Decree, Case No. 18035, dated September 28, 1938, DWA has the right to divert 900 gpm from Chino Creek.

Table 6B below represents the surface water diverted by DWA for years 2005 - 2009.

Table 6B
Quantities of Surface Water Diverted [1]
(AF/Yr)

Sources [2]	2005	2006	2007	2008	2009
Surface Water [1]	2,467	2,294	1,017	1,003	1,128
% of Total Water Supply	**5%**	**5%**	**2%**	**2%**	**2%**

[1] Quantities of surface water diverted were obtained from DWA's Engineer's Reports on Groundwater Replenishment, 2006/2007 through 2010/2011.

[2] Sources of DWA's surface water diversions include Snow Creek, Falls Creek, Chino Creek North, and Chino Creek West, which are tributary to the Whitewater River.

In 2009, DWA acquired water rights for the diversion of Whitewater River water from the Whitewater Mutual Water Company (WMWC) through stock purchase agreements with stock holders. Therefore, the water previously diverted by WMWC is now incorporated into DWA's supply. WMWC has diverted Whitewater River water pursuant to its adjudicated stream rights

(Whitewater River Adjudication Decree, dated September 28, 1938). DWA now continues to use that right, 10 cfs priority September 19, 1913.

DWA's projected quantities of surface water for 2010 through 2035 (**Table 7B**) are based on the average quantities of surface water diversions by DWA from 1977 through 2009, which are generally limited to long term averages of about 2,800 AF/Yr (Snow, Falls, and Chino Creeks) and 3,100 AF/Yr from the Whitewater River. Surface water supplies are at their hydrologic and economic capacity. Increasing the capacities of existing water facilities could result in an increase in surface water supplies, but it would be insignificant since groundwater is DWA's primary and most reliable source of water supply within its service area. Therefore, available creek water supplies will be limited to about 5,900 AF/Yr.

As previously noted, surface water diverted from Snow Creek, Falls Creek, Chino Creek North, and Chino Creek West have constituted 100 percent of DWA's surface water supply, but it constitutes only 2 to 5 percent of DWA's entire municipal water supply. The addition of the Whitewater River diversions to the water supply for 2010 through 2035 will increase that percentage to 8 to 11 percent of DWA's entire municipal water supply.

Table 7B
Quantities of Projected Surface Water Diversions
(AF/Yr)

Source [1]	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Surface Water [1]	5,900	5,900	5,900	5,900	5,900	5,900
% of Total Water Supply	11.0%	11.0%	10.0%	9.0%	9.0%	8.0%

[1] DWA possesses rights to divert surface water from Snow Creek, Falls Creek, Chino Creek North, Chino Creek West, and the Whitewater River.

SECTION III

RELIABILITY PLANNING

SECTION III
RELIABILITY PLANNING

Law 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631(c)(1). Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable, and provide data for each of the following:

(1) An average water year, (2) A single dry water year, (3) Multiple dry water years.

10631(c)(2). For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to replace that source with alternative sources or water demand management measures, to the extent practicable.

10631(d). Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

10631(h). Include a description of all water supply projects and water supply programs that may be undertaken by the urban water supplier to meet the total projected water use as established pursuant to subdivision (a) of section 10635.

10631(i). Describe the opportunities for development of desalinated water, including, but not limited to, ocean water, brackish water, and groundwater, as a long-term supply.

A. SACRAMENTO - SAN JOAQUIN DELTA

The environmental resources of the San Francisco Bay and Sacramento - San Joaquin River Delta (Delta) have long contributed to California's (hereinafter, State) diverse economy. The Delta is the focal point for water distribution throughout the State, providing about one-quarter of California's drinking water to two-thirds of the population (CDWR 2009).

The quantities of SWP water delivered to state water contractors in a given year depends on the demand for supply; amounts of rainfall, snowpack, runoff, and water in storage; pumping capacity from the Delta; and legal constraints on SWP operations (CDWR 2009).

The possibility of climate change is the one of the key considerations in planning for the State's water management, as climate change is expected to modify rainfall and runoff. The climate is

expected to continue changing in the future, but the extent or magnitude of the charges cannot be determined. The potential threat to the State's snowpack in the Sierra Nevada Mountains, due to increasing temperatures, higher winter runoff, and lower spring runoff, could potentially contribute to sea level rise (CDWR 2009).

Higher sea levels would threaten the existing levee system in the Delta. Most of the Delta is below sea level and is vulnerable to flooding. Salinity intrusion into the Delta may require increased releases of freshwater from upstream reservoirs to maintain compliance with water quality standards (CDWR 2009). For the SWP, climate change has the potential to affect the availability of its supply, and its ability to convey water.

The Delta's levee system is also susceptible to sudden failures as a result of earthquakes. California is subject to frequent earthquakes with potentially high magnitudes that can cause serious damage to structures and levees. As mentioned earlier, water quality would be at risk in the event of levee failure from salt water intrusion into the Delta. This chain of events would significantly affect water supply reliability by limiting pumping (CDWR 2009).

In addition to potential climatic impacts and levee failures in the Delta, operational restrictions have reduced the supply that is deliverable through the SWP. In 2004 and 2005, scientists observed declines in pelagic organisms in and around the Delta, including the delta smelt, which is federally-listed as threatened by the United States Fish and Wildlife Service (USFWS) and is State-listed as endangered by the California Department of Fish and Game. Continued decline of juvenile delta smelt led to modification in 2007 of SWP and Central Valley Project (CVP) operations (CDWR 2007).

In December 2007, Judge Oliver W. Wanger of Fresno ruled that pumping in the Delta should be significantly reduced to protect the delta smelt and other species from declining in numbers due to SWP operations. As a result, the USFWS and the National Marine Fishery Service (NMFS) were ordered to prepare biological opinions issued under the Endangered Species Act for the delta smelt in 2008, and subsequently for chinook Salmon, steelhead, green sturgeon, and killer whales in 2009. These biological opinions imposed additional operational requirements that further restricted quantities of water that could be exported from the Delta (CDWR 2009). These two biological opinions imposed restrictions in all but two months during the year.

In May of 2010, Judge Wanger lifted the pumping restrictions in the Delta, claiming that the biological opinions failed to adequately consider alternative actions that would have been less harmful to humans and the human environment, as required by federal law under the National Environmental Policy Act (ACWA). He also ruled that the biological opinions lacked "factual and scientific justification, while effectively ignoring the irreparable harm those actions have inflicted on humans and human environment" (ACWA).

Since the US Fish and Wildlife Service and National Marine Fishery Service had had not complied with the law, the pumping restrictions were lifted and pumping operations were gradually increased. The easing of restrictions is anticipated to remain until the effects of the biological opinions on humans is considered.

The potential aforementioned constraints, along with the potential for climate change and natural disasters, pose some uncertainty in the ability to convey SWP source water to the State Water Contractors.

B. RELIABILITY

Throughout history, water availability and quality have been the principle factors in dictating a population's survival; therefore, a reliable, high-quality source of water is essential for survival and well-being.

Water played and will continue to play a vital role in the development of the Palm Springs area, a world-renowned resort destination community. A reliable, abundant, high-quality water supply is the most important factor in the economic sustainability and growth of the Palm Springs area. DWA's goal is to provide its customers with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible manner.

Since 1973, DWA and CVWD have been using Colorado River water exchanged for SWP water to replenish groundwater in the Whitewater River Subbasin. As a state water contractor, DWA is susceptible to the uncertainty of supply and delivery from the SWP and the Delta.

Due to DWA's reliance on local ground water sources and its ability to secure imported water for storage within the Whitewater River Subbasin, short-term drought situations have historically had

a negligible effect on DWA's ability to supply water to its customers. DWA will continue to request the maximum allocation from the SWP and will obtain and store as much available water as possible to prevent supply deficiencies.

The majority of DWA's Service Area depends exclusively on groundwater, while a portion of the service area in the northwest is supplied by a mix of groundwater and surface water. Since the surface water sources are fed with water originating in the local mountains, they are inherently more susceptible to seasonal variation and drought conditions. A small group of relatively isolated single-family, minimally-landscaped residences (i.e., Snow Creek Village and Palm Oasis) are supplied solely with surface water. If delivery of surface water to these residences were interrupted or reduced, demand could be met in the interim through stored water in reservoirs dedicated to those areas. In the unlikely event that water became unavailable in those areas, a supply would have to be trucked in from the remainder of DWA's water system.

Similar to the Delta levees, DWA's water system reliability has the potential to be affected by earthquakes, power outages, floods, and other potentially devastating occurrences; therefore, emergency preparedness planning is a key part of DWA's operations. DWA has coordinated internally with all departments and with other local entities to formulate an Emergency Preparedness Plan. The Emergency Preparedness Plan outlines specific courses of action DWA personnel will follow in the event of a natural disaster or a breach in facility security. In the Emergency Preparedness Plan, all areas of emergency preparedness are addressed, with emphasis on employee response and delivering safe water to DWA's customers as quickly as possible.

Additionally, more than half of DWA's 24 aboveground steel reservoirs are equipped with earthquake valves to conserve stored water supply in the event of a pipeline break resulting from an earthquake. Additional earthquake valve installations will be constructed as funds become available. Aging pipelines are also replaced as part of an ongoing mainline replacement program to further enhance the reliability of the system. All new facilities are designed taking into consideration the potential for earthquakes, power shortages, and flooding potential. In the event of an interruption in DWA's ability to serve recycled water, potable water is made available to all recycled water users.

On October 18, 1988, DWA adopted Ordinance No. 45, An Ordinance of the Board of Directors of the Desert Water Agency Restricting Water Use During Water Supply Emergencies (refer to

Appendix C), which details restrictions in water supply use during emergencies. Ordinance No. 45 provides a water supply plan for four stages of water supply emergencies:

Stage No. 1	**Normal Conditions**: Voluntary conservation measures
Stage No. 2	**Water Shortage Alert**: Mandatory conservation measures
Stage No. 3	**Water Shortage Warning**: Stronger mandatory conservation measures
Stage No. 4	**Mandatory Compliance-Water Shortage Emergency**: Severe water use prohibitions

C. FREQUENCY AND MAGNITUDE OF SUPPLY DEFICIENCIES

Although Southern California has experienced serious droughts during the past twenty years, DWA has not experienced any actual supply deficiencies. As mentioned above, since DWA relies on local water sources and has imported and stored water within the Whitewater River Subbasin to meet expected demands, droughts have historically had a negligible effect on DWA's ability to supply water to customers,

D. PLANS TO ASSURE A RELIABLE WATER SUPPLY

DWA is taking the following actions to ensure overall water supply reliability for its customers:

1. Groundwater Replenishment and Assessment Program

Without groundwater replenishment, annual groundwater deficits within the Whitewater River Subbasin would continue, thus reducing the reliability of the water supply for the Palm Springs area. Because groundwater production continues to increase, and cumulative deficit persists within the Whitewater River Subbasin, continued artificial recharge is necessary to either eliminate or reduce the effects of deficit and reduce the resultant threat to the groundwater supply (Engineer's Reports).

DWA continues to implement Groundwater Replenishment and Assessment Programs for the Whitewater River and Mission Creek Subbasins (refer to **Section II**). These programs were established to augment groundwater supplies and arrest or retard declining water table conditions, such as overdraft, within the Upper Coachella Valley,

specifically the portion of the Whitewater River Subbasin within DWA's Service Area, the portion of the Mission Creek Subbasin within DWA's Institutional Boundary, and the portion of the Mission Creek Subbasin within MSWD's service area. These programs are intended to optimize and protect the use of groundwater in addition to providing sound management of the Whitewater River and Mission Creek Subbasins.

2. Water Recycling

DWA's efforts to expand recycled water use within its Service Area are intended to further offset potable water use, thereby increasing the quantities of potable water available for domestic use.

Use of recycled water within DWA's Service Area, together with the ongoing Groundwater Replenishment and Assessment Programs, augments DWA's provision of an abundant, high-quality water supply for its customers over the next 25 years.

DWA's recycled water operations are discussed in detail in **Section VII** of this UWMP.

E. RELIABILITY COMPARISON

Table 8 details estimated water supply projections associated with the Whitewater River Subbasin, including surface water diversions, groundwater recharge, non-consumptive return, and recycled water. For further information on the data, refer to Three-Year Estimated Minimum Water Supply (**Table 24**) in **Section VI - *Water Shortage Contingency Plan***.

As previously stated, the majority of DWA's water supply is obtained from local groundwater stored in a large aquifer, the Whitewater River Subbasin. In addition, the aquifer is artificially recharged with imported water from MWDSC pursuant to the 2003 Exchange Agreement among DWA, CVWD, and MWDSC (refer to **Transfer or Exchange Opportunities, Part G** herein). Historical well level data supports DWA's ability to supply water to its customers in the event of a short-term drought or short-term discontinuance of the imported water supply.

As required by the Urban Water Management Planning Act, the tables below describe DWA's supply reliability and vulnerability during an average (normal) water year, a single dry water

year, and multiple dry water years. For purposes of this section, a normal water year, a single dry water year, and a multiple dry year period are defined below:

- **Normal Water Year** is defined as a year in the historical sequence that most closely represents median runoff levels and patterns.
- **Single Dry Water Year** is defined as the lowest annual runoff for a watershed.
- **Multiple Dry Water Year Period** is defined as the lowest average runoff for a consecutive multiple year period (three years or more).

Table 8 Supply Reliability (AF/Yr)						
Source	Normal Water Year	Single Dry Water Year	Multiple Dry Water Years			
			Year 1	Year 2	Year 3	Year 4
External Sources						
Surface Water [1]	5,900	5,900	5,900	5,900	5,900	5,900
Natural Groundwater Recharge [2]	7,000	7,000	7,000	7,000	7,000	7,000
Imported Water [3]	27,500	1,500	7,100	7,400	7,400	7,400
Internal Sources						
Groundwater from Storage [2]	0	15,500	18,800	18,200	17,900	17,700
Non-Consumptive Return [4]	16,100	16,100	16,100	16,400	16,700	16,900
Recycled Water [5]	4,500	4,500	6,100	6,100	6,100	6,100
Total	**61,000**	**61,000**	**61,000**	**61,000**	**61,000**	**61,000**
Percent of Normal	100%	100%	100%	100%	100%	100%

[1] DWA diverts surface water from Snow Creek and Falls Creek (per State Water Resources Control Board Water Rights Division and Licenses 2592, 3097, and 8226), Chino Creek and the Whitewater River (per the Whitewater River Adjudication Decree, Case No. 18035, dated September 28, 1938, Section XXVI, Paragraphs 32 and 48).

[2] DWA extracts groundwater comprising natural recharge, non-consumptive return, and groundwater from storage. Net natural recharge for the Upper Whitewater River Subbasin is described in USGS Water Resources Investigation 91-4142 as 29,000 AF/Yr (36,000 AF/Yr natural inflow less 7,000 AF/Yr natural outflow), with DWA's share being about 7,000 AF/Yr reflecting long term average supply. "Groundwater from storage" is continued groundwater extraction required to meet demands in addition to natural and imported supplies.

[3] Colorado River water has been and continues to be exchanged for State Water Project water per the 2003 and prior Exchange Agreements among DWA, CVWD, and MWDSC. Currently, approximately 93 percent of exchange water is directed to the Whitewater River Subbasin, of which 25 percent is allocable to DWA and 75 percent is allocable to CVWD. State Water Project water consists of DWA's apportionment of its Table A allocation, Article 21 surplus water allocation (when available) and other surplus water acquired and conveyed through the State Water Project. Herein, projected Table A and Article 21 State Water Project water deliveries are based on the 2009 State Water Project Reliability Report. Other surplus water included State Water Project Pools A and B Turnback water, Yuba River Accord water, and Central Valley flood waters (Kern River and other rivers).

[4] Non-consumptive return to the aquifer is estimated to be 35 percent of groundwater and surface water produced and used but not consumed, per USGS Water Resources Investigation 91-4142, with annual quantities varying with varying production.

[5] DWA's Recycled Water Treatment Facility reclaims secondary effluent from the City of Palm Springs Wastewater Treatment Plant. Currently, DWA reclaims over half of the secondary effluent available from the City, which is approximately 6.0 million gallons per day (6,700 AF/Yr). Potential future recycled water demands are described in DWA's 2008 General Plan. Due to the fact that the use of recycled water does not change the nature of consumptive water use, use of recycled water is considered herein to have a negligible effect on the assumed 35% rate of non-consumptive return to the aquifer based on the total groundwater and surface water production. However, increased recycled water use can help offset the use of other sources (such as pumped groundwater) to meet total demand.

Table 9 Basis of Water Year Data		
Water Year Type	**Base Years** [1]	**Historic Sequence**
Average Water Year	1996	1977-2009
Single-Dry Water Year	1977	
Multiple-Dry Water Years	1990-1992	

[1] Base years identified and defined using DWA's historic surface water diversion data.

The water supply within DWA is not directly affected by short-term fluctuations in hydrology (i.e. drought conditions), since approximately 90 percent of DWA's water supply is from groundwater and recycled water. The challenges that DWA faces are long-term in nature, as opposed to short-term shortage situations, due to the large supply of stored ("banked") groundwater. While there is sufficient groundwater in storage to weather short-term droughts, it will not sustain the current population indefinitely due to the limited quantity of natural recharge. Continued water importation, water recycling, water conservation, and long-range planning are necessary to meet current and future population requirements without depleting the groundwater in storage.

F. WATER QUALITY IMPACTS ON RELIABILITY

Law 10634. The plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

As mentioned previously, DWA and CVWD exchange their Table A allocations of State Water Project water for Colorado River water to augment the Whitewater River Subbasin. Colorado River water is generally of good quality; however, Colorado River water has a relatively higher total dissolved solids (TDS) concentration (greater than 500 milligrams per liter) than native groundwater (less than 500 milligrams per liter).

TDS consist of minerals and salts dissolved in water, typically resulting from the erosion of natural deposits, and TDS concentration is often viewed as an indicator of water quality. The California Department of Public Health has established a secondary maximum contaminant level (MCL) of 1,000 milligrams per liter for TDS, with a recommended maximum contaminant level of 500 milligrams per liter. The MCL for TDS concentration is a secondary drinking water

standard, and TDS is therefore regulated for aesthetic purposes and customer acceptance rather than as a public health hazard. TDS concentrations are not expected to affect the reliability of DWA's water supply.

As a result of contamination from ammonium perchlorate manufacturing facilities in Nevada, perchlorate has been detected in Colorado River water. Perchlorate is a natural occurring and man-made material. Currently, perchlorate is a state regulated contaminant with a Maximum Contaminant Level (MCL) of 6 micrograms per liter. Within DWA's Service Area, very low levels of perchlorate (<1 microgram per liter) have been detected in nearly every well; however, perchlorate concentrations are well below the MCL and are expected to continually decrease over time. The presence of perchlorate in Colorado River water is not expected to affect the reliability of DWA's water supply.

The surface water and groundwater that DWA delivers to its customers is of high quality and complies with state and federal safe drinking water standards without any treatment, except disinfection where needed. In general, existing surface water treatment regulations are codified in Chapter 17 of Title 22 of the California Code of Regulations, Section 64650 through 64666. DWA is presently exempt from said regulations and filtration due to DWA's control of the watershed, the surface water supply's low turbidity, and DWA's continued monitoring of the supply. In the event that filtration is required, DWA will determine whether to construct filtration facilities or use surface water supplies for additional groundwater recharge (2008 General Plan).

DWA's groundwater, with few exceptions, such as during well construction and rehabilitation, is not disinfected since the groundwater is naturally filtered and the wells are securely sealed from contaminants. The water that DWA delivers meets or exceeds all guidelines and standards established by the United States Environmental Protection Agency (USEPA) and the California Department of Public Health (2008 General Plan). DWA regards adequate, high-quality water a primary goal for ensuring public health, safety, and community well-being within its Service Area; for this reason, **Table 10 - *Factors Resulting in Inconsistency of Supply***, from CDWR's 2005 UWMP Guidebook, does not apply to DWA and is therefore not included herein.

G. TRANSFER OR EXCHANGE OPPORTUNITIES

Law 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

> 10631(d). Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

Since conveyance facilities needed to convey SWP water directly to DWA and CVWD have not been constructed, DWA and CVWD exchange their SWP water allocations for Colorado River water delivered by MWDSC through the Colorado River Aqueduct. MWDSC accepts DWA and CVWD SWP allocations from the California Aqueduct, East Branch, in San Bernardino.

In addition, DWA and CVWD entered into advance delivery agreements with MWDSC allowing MWDSC to deliver and store ("bank") excess Colorado River water in the Upper Coachella Valley Groundwater Basin during periods when surplus water in the Colorado River Basin is available for subsequent exchange for SWP water when needed by MWDSC.

Colorado River water discharged from the Colorado River Aqueduct flows along the Whitewater River Channel to recharge basins to augment the Whitewater River Subbasin, and by pipeline to recharge basins to augment the Mission Creek Subbasin. Since 1973, DWA and CVWD have imported Colorado River water to recharge the Whitewater River Subbasin, and since 2002, DWA and CVWD have imported Colorado River water to recharge the Mission Creek Subbasin, both for the purpose of augmenting natural recharge.

Since 1996, DWA and CVWD have secured surplus SWP water, whenever available, to supplement the exchange deliveries of Table A water and to further offset overdraft conditions. From 1996 through 2009, DWA and CVWD jointly obtained 293,000 AF of surplus water under the DWR/SWP Turn-Back Water Pool Program, which was exchanged for a like quantity of Colorado River water delivered to the groundwater basin. These additional SWP water supplies are not expected to be consistently available in the future and therefore cannot be relied upon to provide a reliable long-term source of water to the Upper Coachella Valley, at least in the quantities heretofore available.

Artificial recharge, using Colorado River water in quantities equivalent to SWP Table A and surplus water deliveries (exchange and advance deliveries), has approximated 2,157,000 AF,

(approximately 2,097,700 AF delivered to the Whitewater River Subbasin from 1973 through 2009 and approximately 59,300 AF delivered to the Mission Creek Subbasin from 2002 through 2009).

In 2004, DWA's and CVWD's available Table A allocations were 38,100 AF and 33,000 AF, respectively, or 71,100 AF combined. Pursuant to the 2003 Exchange Agreement among DWA, CVWD, and MWDSC, DWA and CVWD obtained an additional 100,000 AF/Yr of Table A allocations (11,900 AF/Yr for DWA and 88,100 AF/Yr for CVWD). MWDSC has the option to call-back (or recall) the annual Table A allocation of 100,000 AF (in 50,000 AF increments) during periods of limited or low water supply conditions. Regardless, the 2003 Exchange Agreement provides DWA and CVWD the opportunity to secure increased quantities of surplus water in addition to increased quantities of Table A water during periods of normal or high water supply conditions.

From 2004 to 2009, the combined maximum Table A allocation of SWP water was 171,100 AF/Yr (50,000 AF/Yr for DWA and 121,100 AF/Yr for CVWD). DWA and CVWD then acquired additional Table A allocations for years 2010 through 2035 from Tulare Lake Basin Water Storage District (4,000 AF/Yr for DWA and 12,000 AF/Yr for CVWD) and Kern County Water Agency (1,750 AF/Yr for DWA and 5,250 AF/Yr for CVWD), for a combined maximum Table A allocation of 194,100 AF/Yr. Of the 194,100 AF/Yr allocation, DWA's allocation is 55,750 AF/Yr (29%), and CVWD's allocation is 138,350 AF/Yr (71%).

DWA and CVWD continue to pursue the acquisition of more Table A allocations of SWP water and the purchase of surplus water (2008 General Plan).

1. State Water Project Reliability

As stated previously in this section, there are many challenges facing the SWP and the Sacramento-San Joaquin River Delta in its ability to deliver water to State Water Contractors.

Quantities of SWP water delivered to State Water Contractors in a given year depend on the demand for supply; quantities amount of rainfall, snowpack, runoff, and water in storage; pumping capacity from the Delta; and legal constraints on SWP operation.

CDWR's 2009 SWP Reliability Report estimates that future deliveries will be reduced due to operational restrictions imposed by biological opinions issued by the U.S. Fish and Wildlife Service (December 2008) and the National Marine Fisheries Service (June 2009). Refer to **Section VIII - *Supply & Demand Comparison Provisions***, for detailed discussion regarding the proposed deliveries.

The SWP Reliability Report (2009) estimates quantities of 2009 and 2029 deliveries using current and future factors of uncertainty (such as climate, natural disasters, and operational restrictions). Under current conditions, the estimated average SWP deliveries for 2009 are approximately 60 percent of the maximum Table A allocations. For 2029, the average estimated delivery is also 60 percent. For the purposes of this plan, it is assumed that this delivery estimation is constant.

Table 11 represents the maximum Table A allocations for both DWA and CVWD, the projected percentage projected to be delivered by CDWR via the SWP, and the portion of the projected average delivery quantities DWA is likely to receive through 2035.

Table 11
Transfer and Exchange Opportunities
SWP Table A Allocations and Projected Deliveries
(AF/Yr)

Year	DWA/CVWD Table A Allocation (AF/Yr)	CDWR's Projected SWP Table A Deliveries		DWA's Share of Projected Delivery to Whitewater River Subbasin (AF/Yr)
		Fraction [1]	AF/Yr	
2010	194,100	0.60	116,500	26,000
2015	194,100	0.60	116,500	26,000
2020	194,100	0.60	116,500	26,000
2025	194,100	0.60	116,500	26,000
2030	194,100	0.60	116,500	26,000
2035	194,100	0.60	116,500	26,000

[1] The fraction (0.60) of CDWR's projected SWP Table A deliveries is the percentage of the total Table A allocations that the SWP is estimated to deliver, as set forth in CDWR's 2009 Reliability Report. Refer to **Section VIII** for a more detailed description.

State Water Contractors have used monthly notices from CDWR for planning purposes regarding projected deliveries of their SWP allocations. In February of 2010, CDWR announced that it was increasing projected deliveries of the 2010 SWP allocations from approximately 5 percent to 15 percent. In March, the projected deliveries were increased to 20 percent, and in May the projected deliveries were increased to 45 percent. For 2010, the SWP water supplies met 50 percent of most State Water Contractors' requested Table A allocation quantities. Allocations for 2011 are currently at 60 percent per CDWR's notice to state contractors (No. 11-13) dated January 20, 2011.

The increases in projected deliveries by CDWR were possible due to the increase in precipitation experienced in late 2009 through early 2011, which resulted in improved water supply conditions.

SECTION IV

WATER USE PROVISIONS

SECTION IV
WATER USE PROVISIONS

Law 10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

> 10631(e)(1). Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:
>
> > (A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; and (I) Agricultural.
>
> (2) The water use projections shall be in the same 5-year increments to 20 years or as far as data is available.
>
> 10631.1(a). The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.
>
> 10631.1(b). [...] under Section 65589.7 of the Government Code [...] priority shall be granted for the provision of service to housing units affordable to lower income households.

A. PAST, CURRENT, AND PROJECTED WATER USE

Past, current, and projected annual water deliveries from 2005 through 2035 are set forth in **Table 12**. As shown therein, annual projected municipal water use within DWA's municipal Service Area is projected to increase from approximately 46,000 AF, presently, to approximately 65,000 AF in 2035. **Figure 4** in **Appendix G** shows historic and projected water deliveries (in AF/Yr) and total number of water meters from 1980 through 2035.

Table 12 Past, Current, and Projected Water Deliveries (AF/Yr)										
Year	**Metered/ Unmetered**	**Water User Sectors**	**Single Family**	**Multi-Family**	**Comm-ercial**	**Indus-trial**	**Inst/ Gov**	**Land-scape**	**Agricul-tural**	**Total**
2005	Metered	# of accounts	17,772	0	2,676	0	295	0	0	20,743
		Deliveries	26,410	0	11,996	0	1,781	0	0	40,187
2010	Metered	# of accounts	19,890	0	3,050	0	330	0	0	22,520
		Deliveries	29,600	0	12,800	0	2,000	0	0	44,400
2015	Metered	# of accounts	21,270	0	3,260	0	350	0	0	24,880
		Deliveries	31,500	0	13,600	0	2,100	0	0	47,300
2020	Metered	# of accounts	23,050	0	3,530	0	380	0	0	26,960
		Deliveries	34,100	0	14,700	0	2,300	0	0	51,200
2025	Metered	# of accounts	24,630	0	3,770	0	410	0	0	28,810
		Deliveries	36,600	0	15,800	0	2,500	0	0	55,000
2030	Metered	# of accounts	26,500	0	4,060	0	440	0	0	31,000
		Deliveries	39,200	0	17,000	0	2,700	0	0	58,900
2035	Metered	# of accounts	28,440	0	4,360	0	470	0	0	33,270
		Deliveries	41,800	0	18,100	0	2,800	0	0	62,800

Note: All of DWA's connections are metered.

Past, current, and projected additional water uses and losses, mainly consisting of recycled water, from 2010 through 2035 are set forth in **Table 14**. As shown therein, annual projected additional water uses and losses within DWA's Service Area are projected to increase from approximately 4,500 AF in 2010 to nearly 8,400 AF by 2035, based on projections set forth in the 2008 General Plan. Past, current, and projected annual total water use (total water production) is set forth in **Table 15**; as shown therein, total water use is expected to increase from about 50,500 AF in 2010 to about 73,400 AF in 2035.

Table 14 Past, Current, and Projected Additional Water Uses and Losses (AF/Yr)							
Water Use	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Recycled Water (Landscape)	2,730	4,500	6,100	6,100	8,400	8,400	8,400
Unaccounted-for Losses	430	1,600	1,700	1,800	2,000	2,100	2,200
Total	**2,730**	**6,100**	**7,800**	**7,900**	**10,400**	**10,500**	**10,600**

Table 15 Past, Current, and Projected Total Water Use (AF/Yr)							
Water Use	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Total of Tables 12 and 14	43,300	50,500	55,100	59,100	65,400	69,400	73,400

Outdoor water use accounts for an estimated 60 to 80 percent of the residential and commercial water use within the DWA Service Area. With the unique climate, extensive landscape irrigation requirements, and destination resort atmosphere, the average annual water consumption per capita is considerably higher than most Southern California areas outside the Coachella Valley, on the order of 1½ to 2 times higher.

From 1999 through 2008, DWA added new connections at a rate of about 0.4 percent per year. However, during the 2008-2009 fiscal year, DWA served 21,732 active services exclusive of fire service, an increase of 11 active services, or 3.10 percent from the 2007-2008 fiscal year. Average water consumption per active service for the 2008-2009 fiscal year was approximately 1,600 gallons per day (0.0048 AF per day).

DWA enjoys very low quantities of unaccounted-for water which have been determined to be less than 5 percent historically and have averaged 2.4 percent during the period of 1999 through 2008. Unaccounted for water generally results from water loss due to unauthorized connections and system leaks, as well as inaccuracies of production and consumption meters and is calculated as the difference between production meter records and customer meter records. DWA either estimates or measures water for firefighting, fire hydrant flow testing, water main flushing, reservoir cleaning, and identifiable system leaks and therefore excludes these quantities from unaccounted-for water.

DWA does not sell water to any other agencies or districts and there are no plans to wholesale municipal water in the future; for this reason, **Table 13** - ***Sales to Other Agencies***, from CDWR's 2005 UWMP Guidebook - does not apply to DWA and is therefore not included herein.

1. Residential Sector

Single-family residential customers constitute the majority of DWA's customers with each average service connection serving approximately 2.6 persons, based on historical population and active connection data compiled by DWA.

2. Commercial Sector

DWA has a complex mix of commercial customers, ranging from family restaurants, insurance offices, and gas stations to shopping centers, high-volume restaurants, golf courses, and other facilities serving the local and visitor populations (hotels). Up until 2007, the commercial sector had been growing steadily each year, and some growth is expected to continue to occur over the next 25 years; however, due to economic conditions, future rates of growth are uncertain at this time.

3. Industrial Sector

DWA serves a small industrial sector, primarily centered on light manufacturing. The industrial sector has not grown much in the last decade or so, and is not expected to increase significantly over the next 25 years. DWA considers the industrial sector part of the commercial sector with respect to water service.

4. Institutional/Governmental Sector

DWA has a stable institutional/governmental sector, primarily local government, parks, schools, and other types of public facilities. The institutional/governmental sector, with the exception of schools, is not expected to increase significantly over the next 25 years.

5. Landscape/Recreational Sector

Currently, DWA utilizes recycled water for irrigation of large turf areas, such as golf courses, schools, and public parks. Landscape and recreational customer demand is expected to increase gradually over the next 25 years. Increased efficiency and use of

recycled water at existing golf courses, schools, and public parks, and other facilities should help offset new demand resulting from projected increases in this sector.

Currently, recycled water use approximates 4,500 AF/Yr; however, there are six recycled water use sites proposed for future service (including one site that is proposed to go online mid 2011) which will increase recycled water use significantly. DWA plans to continue actively pursuing the expansion of its existing recycled water customer base.

B. FUTURE WATER SUPPLY PROJECTS

DWA and CVWD are always exploring possible future joint water supply projects to increase water supply for the Upper Coachella Valley; however, none have advanced beyond the conceptual stage. DWA and CVWD are currently evaluating the construction of an aqueduct from the California Aqueduct to the Upper Coachella Valley. DWA and CVWD will continue to secure additional water supplies whether it be from the State Water Project or other sources.

In order to meet increasing water system demands, DWA's existing municipal water system will have to be expanded and improved. Proposed water system improvements will consist of surface water facilities, well pumping plants, booster pumping plants, water storage reservoirs, domestic and recycled water system pipelines, and related facilities. These facilities and improvements are intended to allow DWA to meet expected water demands for the next 25 years, as presented in DWA's Domestic Water System General Plan 2008.

Since there are no specific projects to define at this time, **Table 17** - ***Future Water Supply Projects***, from CDWR's 2005 UWMP Guidebook - does not apply to DWA and therefore is not included herein.

C. OPPORTUNITIES FOR DESALINATED WATER

DWA does not have direct access to ocean water or a significant quantity of brackish groundwater. There is a limited and questionable supply of brackish water at the downstream (lower or southeasterly) end of the Mission Creek Subbasin; however, extraction of such brackish groundwater would deplete the same groundwater subbasin from which usable groundwater is extracted. At this time, DWA has no plans to extract and treat any brackish water. Therefore, at

this time, desalinated water is not a potential source of water supply for DWA. For these reasons, **Table 18 - *Opportunities for Desalinated Water***, from CDWR's 2005 UWMP Guidebook - does not apply to DWA and therefore is not included herein.

D. WHOLESALE SUPPLIED PROJECTS AND NON-IMPLEMENTED DMMs

Demand Management Measures (DMMs), also referred to as Best Management Practices (BMPs) implemented by DWA are described in detail in **Section V**. Of the fourteen (14) BMPs, DWA implements all but one (BMP 10: Wholesale Agency Assistance Programs). DWA is not a wholesaler and does not receive or provide any wholesale supplies to other agencies or for projects within its Service Area. Since there are no wholesale opportunities planned for the foreseeable future, DWA has no need to implement BMP 10 or evaluate the costs of water as a result of non-implementation. Since DWA is not involved with wholesale contracts or have non-implemented DMMs, **Table 16 - *Evaluation of Unit Costs of Water*** and **Tables 19** through **22** (wholesale data), from CDWR's 2005 UWMP Guidebook - do not apply to DWA and therefore are not included herein.

E. LOW-INCOME HOUSING WATER SERVICE PRIORITIZING

Law 10631.1(a) The water use projections required by Section 10631 shall include projected water use for single-family and multifamily residential housing needed for lower income households, as defined in Section 50079.5 of the Health and Safety Code, as identified in the housing element of any city, county, or city and county in the service area of the supplier.

DWA has a civic and legal responsibility to provide for the water-related health and safety of the community. DWA's main objective is to provide its customers with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible manner.

Residential demand within DWA's service area consists of single-family housing. Residential sector water use projections herein include all households, regardless of income level, and residential accounts are not subdivided into income-specific categories.

DWA does not give priority to one residential area over another; therefore, all residential customers are served equally during water shortage emergencies in terms of service and delivery. DWA does not deny service to non-delinquent accounts.

Water use priority does not differ based on income level, but is classified by the type of use, which is further described in Part B.2 of **Section VI - *Water Shortage Contingency Plan***, and health and safety requirements are described in Part B.3 of **Section VI**.

For purposes of this UWMP and for compliance with the Section 10631.1(a) of the California Water Code, an estimate for the water demands projected to meet low income household needs was attempted and is provided in the following paragraphs.

The water use projected set forth in **Table 12** includes all projected water use demands within DWA's Service Area, including lower income households, as defined in Section 50079.5 of the Health and Safety Code. DWA utilized the 2010 State Income Limits for Riverside County - Title 25 of California's Code of Regulations. The median household income for Riverside County is $65,000 per year. The low income level for households within DWA's Service Area is $44,200 per year (80% of the median household income with 2.6 persons per household).

DWA also utilized the Census Bureau's 2005 - 2009 American Community Survey 5-Year Estimates for Household Median Incomes, per each Census Track number within the Service Area, to estimate the population considered to be lower income. From this analysis, the projected water demands for low income households were determined using the same procedures described in **Section I - *Population*** and **Section II - *Water Sources***. The water demand projections for low income households are set fourth in the following table.

Low Income Projected Water Demands (AF/Yr)						
Low Income Water Demands	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Single-Family Residential	19,000	20,000	22,000	24,000	25,000	28,000

As previously stated herein, these projected low income demands are included in DWA's total water demands within the Service Area.

SECTION V

WATER DEMAND MANAGEMENT MEASURES
(BEST MANAGEMENT PRACTICES)

SECTION V
WATER DEMAND MANAGEMENT MEASURES
(BEST MANAGEMENT PRACTICES)

Law 10631(f). Provide a description of the supplier's water demand management measures. This description shall include all of the following: (1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following: (2) A schedule of implementation for all water demand management measures proposed or described in the plan. (3) A description of the methods, if any, that the supplier will use to evaluate the effectiveness of water demand management measures implemented or described under the plan. (4) An estimate, if available, of existing conservation savings on water use within the supplier's service area, and the effect of the savings on the supplier's ability to further reduce demand.

10631(g). An evaluation of each water demand management measure listed in paragraph (1) of subdivision (f) that is not currently being implemented or scheduled for implementation. In the course of the evaluation, first consideration shall be given to water demand management measures, or combination of measures, that offer lower incremental costs than expanded or additional water supplies.

10631(j). Urban water suppliers that are members of the California Urban Water Conservation Council and submit annual reports to that council in accordance with the "Memorandum of Understanding Regarding Urban Water Conservation in California," dated September 1991, may submit the annual reports identifying water demand management measures currently being implemented, or scheduled for implementation, to satisfy the requirements of subdivisions (f) and (g).

DWA is a signatory to the Memorandum of Understanding Regarding Urban Water Conservation in California (MOU) dated October 15, 1991, and is therefore a member of the California Urban Water Conservation Council (CUWCC).

As a member of the CUWCC, DWA has complied with all Best Management Practice targets outlined in the MOU that have been determined appropriate for the conditions within its Service Area. Full explanations have been provided herein for cases in which DWA determined it to be in the best interest of its customers to implement a Best Management Practice (BMP) contrary to a BMP suggested by the CUWCC, or to channel its conservation efforts in another direction.

DWA's CUWCC 2009 and 2010 BMP Reports are not yet available for inclusion in this UWMP. The reports are due for completion by April 30, 2011 by the CUWCC. A placeholder for the completed 2009

and 2010 BMP Reports is located in **Appendix F**. DWA's 2009 and 2010 BMP Reports will be submitted to CDWR and included in this UWMP upon completion.

The following are excerpts from DWA's Year 2008 BMP report to the CUWCC (refer to **Appendix E** for full reports) with additional explanations included as necessary:

BMP 01: Water Survey Programs for Single-Family and Multi-Family Residential Customers	
A. Implementation	
1. Has your agency developed and implemented a targeting/marketing strategy for SINGLE-FAMILY residential water use surveys?	NO
2. Has your agency developed and implemented a targeting/marketing strategy for MULTI-FAMILY residential water use surveys?	NO
B. "At Least As Effective As"	
1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	NO
C. Explanation	
DWA studies have concluded that as much as 80 percent of all residential water use is for landscape irrigation. Therefore, DWA has concluded that it is more cost effective to concentrate its efforts on reducing outdoor water consumption. DWA has selected to direct its resources into implementing BMP 05. (Complete information may be found in the "Water Conservation Program of the Desert Water Agency", which is included in **Appendix D** of this UWMP and on file with the CUWCC.)	

BMP 02: Residential Plumbing Retrofit	
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
2. Has your agency satisfied the 75 percent saturation requirement for single-family housing units?	NO
3. Has your agency satisfied the 75 percent saturation requirement for multi-family housing units?	NO
B. Low-Flow Device Distribution Information	
1. Has your agency developed a targeting/marketing strategy for distributing low-flow devices?	NO
C. "At Least As Effective As"	
1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	YES
D. Explanation	

In January 1977, DWA published the results of a residential pilot program to analyze Agency's customer water use habits, and to establish the focus of a water conservation program (refer to **Appendix C**, "Water Conservation Program of the Desert Water Agency"). The study concluded that 60 to 80 percent of all residential water use within DWA's Service Area is for landscape irrigation. This is due to the arid desert environment where temperatures can reach 120 degrees Fahrenheit.

The study involved the installation of devices such as low flow showerheads and toilet displacement devices (toilet retrofits) by DWA personnel. Public acceptance of the showerheads was favorable; however, the toilet devices were not well received.

Since a large percentage of water was found to be used for landscape irrigation, DWA felt that future programs should be directed towards customers reducing water use in the landscape as it has the highest potential for savings and is the most cost effective.

BMP 03: System Water Audits, Leak Detection, and Repair	
A. Implementation	
1. Has your agency completed a pre-screening system audit for this reporting year?	NO
2. Does your agency keep necessary data on file to verify the values used to calculate verifiable uses as a percent of total production?	YES
3. Did your agency complete a full-scale audit during this report year?	NO
4. Does your agency maintain in-house records of audit results or the completed AWWA audit worksheets for the completed audit?	NO
5 Does your agency operate a system leak detection program?	NO
B. Survey Data	
1. Total number of miles of distribution system line:	375
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?	YES
D. Explanation	
DWA informs all customers of possible onsite leaks when excessive consumption occurs when compared to the prior year's usage. DWA performs water audits by metering all customer connections and water used for construction purposes through fire hydrants. Water used for other purposes such as city street washing and fire fighting is also recorded. The combined usage is calculated and the percent unaccounted-for is determined. DWA does not have a leak detection program since DWA feels that it is more cost effective to fund an aggressive main replacement program. Additionally, the soils in DWA's service area are composed of coarse sand. This allows water from a leak to surface quickly where it is easily detected. All leaks are repaired as soon as they are discovered to prevent damage and waste of water. All leaks are tracked on maps and through a pipeline inventory computer program. In addition to aging mains, mains with a history of leaks are budgeted for replacement.	

BMP 04: Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections	
A. Implementation	
1. Does your agency have any unmetered service connections?	NO
2. Are all new service connections being metered and billed by volume of use?	YES
All DWA service connections are metered	
B. Feasibility Study	
1. Has your agency conducted a feasibility study to provide incentives to switch mixed-use accounts to dedicated landscape meters?	NO
Landscape water audits conducted and consumptive use mailings have shown that the majority of applicable developments within DWA's Service Area were fitted with dedicated irrigation meters at the time of construction. A feasibility study would not be cost effective.	
C. "At Least As Effective As"	
1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	NO

BMP 05: Large Landscape Conservation Programs and Incentives	
A. Water Use Budgets	
1. Number of Dedicated Irrigation Meter Accounts:	Not Determined
2. Number of Dedicated Irrigation Meter Accounts with Water Budgets:	0
3. Does your agency provide water use notices to accounts with budgets each billing cycle?	NO
4. 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?	07/01/89
b. Description of marketing/targeting strategy:	
Since 1989, DWA has had irrigation system evaluations conducted under contract with the Coachella Valley Resource Conservation District (Irrigation Evaluation/Management Mobile Lab) and the California Department of Water Resources. The program targets large volume irrigation users such as golf courses, parks, school grounds, and condominium projects. Water consumption reductions of 25 to 30 percent are not uncommon when the Mobile Lab recommendations are followed. In the early years of the program, sites were selected by reviewing DWA's system map pages and choosing ones with the greatest areas. Customers were then offered an evaluation by letter or telephone. Recently, as more customers have become aware of the program, all new evaluations and a number of follow-ups performed have been triggered following customers contacting DWA regarding this service. DWA contracts to have eleven new evaluations, and seven follow-ups performed annually. Of this quantity, up to eight sites may be designated as "implementation sites" whereby personnel will "walk" the customer through any changes they wish to execute.	
2. Number of Surveys Offered:	0
3. Number of Surveys Completed:	0
4. Indicate which of the following Landscape Elements are part of your survey:	
a. Irrigation System Check	YES
b. Distribution Uniformity Analysis	YES
c. Review / Develop Irrigation Schedules	YES
d. Measure Landscape Area	YES
e. Measure Total Irrigable Area	YES
f. Provide Customer Report / Information	YES
5. Do you track survey offers and results?	YES
6. Does your agency provide follow-up surveys for previously completed surveys?	YES
a. If YES, describe below:	
Follow-up surveys are performed following customer implementation of recommended changes, or as requested by the customer.	

C. Other BMP 5 Actions	
1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. Does your agency provide mixed-use accounts with landscape budgets?	YES
2. Number of Commercial/Industrial/Institutional (CII) mixed-use accounts with landscape budgets.	0
3. Do you offer landscape irrigation training?	NO
4. Does your agency offer financial incentives to improve landscape water use efficiency? If YES, describe below:	NO
5. Do you provide landscape water use efficiency information to new customers and customers changing services?	NO
DWA provides all new customers and customers changing service with a comprehensive, easy-to-read brochure which includes all facets of out functions, along with water conservation information. The brochure contains specific conservation information offering additional booklets containing plant lists and suggestions for conserving water. A rate brochure is provided as well. In addition, DWA plays on-hold telephone messages containing information about water conservation and water efficient plants.	
6. Do you have irrigated landscaping at your facilities?	YES
a. If YES, is it water-efficient?	YES
All new facility sites are designed utilizing exclusively water-efficient plants and low-volume irrigation systems. Older sites have been retrofitted utilizing water-efficient plants and irrigation systems. All outdated irrigation systems have been retrofitted with water-efficient components. Additionally, all facility site water usage is metered and evaluated using a computer generated spread sheet.	
b. If YES, does it have dedicated irrigation metering?	YES
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

BMP 06: High-Efficiency Washing Machine Rebate Programs	
A. Implementation	
1. Does your agency offer rebates for high-efficiency washers?	NO
2. Does your agency offer rebates for high-efficiency washers?	NO
B. "At Least As Effective As"	
1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	NO
C. Explanation	
DWA studies have concluded that as much as 80 percent of all residential water use is for landscape irrigation. Therefore, DWA has concluded that it is more cost effective to concentrate its efforts on reducing outdoor water consumption. DWA has selected to direct its resources into performing BMP 05. (Complete information may be found in the "Water Conservation Program of the Desert Water Agency", which is included in Appendix D of this UWMP and on file with the CUWCC).	

BMP 07: Public Information Programs

A. Implementation

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

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

Public education has played an expanding role in the DWA's formal Water Conservation Program since its adoption by its Board of Directors 1982 (refer to **Appendix C**, Ordinance No. 31). The program utilizes both staff personnel and contract consultants. All aspects of DWA's functions are communicated to the public utilizing the items checked below.

1) Public Tours

DWA has always encouraged members of the public to tour its facilities for purposes of learning how their water supply is obtained and why it is essential to not waste it. Recently, on-hold telephone messages have been added which invite callers to inquire about facility tours. In addition, DWA is in the process of redesigning the landscape at DWA's Operations Center using drought tolerant plants to further promote outdoor water conservation.

Additionally, as the seasons permit, DWA invites key members of the public to participate in comprehensive tours of its water and water recycling facilities. In these one-half day tours, DWA provides transportation and a box lunch at its Snow Creek intake facility at the base of the San Jacinto Mountains.

In 2005, 2007, and 2009, DWA sponsored a tour of MWD's Colorado River Aqueduct (CRA) and the Foothill Feeder (FF) from the Colorado River to Diamond Valley Lake. The tour was intended to inform interested members of the public of the interrelationship of the SWP and the CRA and the Coachella Valley's dependence on both.

Periodically, DWA sponsors public tours of SWP facilities. In these tours, participants generally travel by bus from Lake Oroville south along the Project route to the new Diamond Valley Lake near Hemet. The tours are intended to inform participants of the essential role the SWP plays within California, and how it relates to the water supply within DWA's Service Area. Because of security, DWA has not been permitted to tour SWP facilities since "9/11".

2) Conservation Literature

A wide selection of conservation literature illustrating how to save water both indoors and outdoors (landscaping) is available at the DWA's Operations Center and the public library. Brochures are also located at the local convention and visitor's bureau and on public transportation buses operating within DWA's Service Area. Literature is also distributed on public tours and to all new customers, as described in BMP 5.

3) Exhibits

DWA has prepared many exhibits on water conservation and water recycling. The exhibits have been displayed at DWA, home shows, shopping malls, energy conservation fairs, Chamber of Commerce events, Desert Hospital, schools, the public library, water conferences including ACWA and AWWA, and other locations throughout DWA's Service Area.

4) Speaker's Bureau

The "Speaker's Bureau" has provided speakers and presented programs to service clubs, social clubs, garden clubs, environmental groups, and schools within DWA's Service Area. Topics include water conservation, water management, use of water, the water cycle, water recycling, water/energy relationships, landscaping and plant materials, low flow irrigation, key water issues within the Service Area, southwestern water supply, and the SWP.

The "Speaker's Bureau" has a library of video, movie, and slide presentations available to interested organizations. In addition, DWA produced a 25-minute motion picture video presentation entitled "Water – The Flow of Life in the Desert" which describes water supply, use, and conservation in the desert environment. A condensed 12-minute version for viewing by service clubs was also produced, along with four 30 second Public Service Announcements for broadcasting on local television.

Members of the "Speaker's Bureau" have appeared on local radio and television interview and talk programs to discuss water conservation. Members of the "Speaker's Bureau" have prepared news releases for the local newspaper on conservation, landscaping, and reducing the waste of water.

5) Demonstration Gardens

DWA believes that it is essential to provide the public with settings in which water-efficient plants may be viewed. By observing the plants in attractive settings, the chance of people adopting similar types of landscapes is substantially increased.

When DWA constructed its new Operations Center in 1978, it also constructed a low water use demonstration garden. Subsequently, in 1981, it entered a 10-year research study of water efficient ornamental plants for the Coachella Valley with the U. S. Department of Agriculture's Natural Resources Conservation Service. The joint study, conducted at a special garden adjacent to DWA's Operations Center, resulted in a series of publications, one each in 1983, 1986, 1993, and 2000 which addressed drought tolerant and water efficient ornamental plants for the Coachella Valley using both groundwater and recycled water.

In 2008 and 2009, DWA's Operations Center underwent an extensive expansion with adjacent landscape replacement to demonstrate water-efficient landscaping and irrigation systems. Most of the grounds are available for public viewing at any time with the rest being available for public viewing by appointment. Identification signs containing plant names and descriptions and irrigation components and descriptions are located throughout the site.

DWA's 12-acre water recycling facility site has been developed as a water-efficient landscape laboratory dedicated to research and demonstration of environmentally appropriate landscapes. The facility is available for public tours and also contains plant identification signs. Both DWA's Operations Center and Recycling Facility grounds are irrigated with recycled water.

DWA has also partnered with the City of Palm Springs, Palm Springs Chamber of Commerce, and the Palm Springs Public Library on separate occasions to produce demonstration gardens.

In addition to the demonstration gardens, DWA also promotes Xeriscape, which is water wise landscaping that stresses proper soil preparation, efficient irrigation, and the use of water efficient plants. DWA has lead by example by re-landscaping their Operations Center. DWA replaced traditional water consuming landscaping with desert native plants. See the before and

after photos below for comparison purposes between traditional landscaping and Xeriscaping.

Landscape at the Desert Water Agency Operations Center before Xeriscape.

Landscaping at the Desert Water Agency Operations Center after Xeriscape.

DWA has been able to reduce it's outdoor water use by 50 percent. DWA uses its landscaping to educate the public on ideas for their own properties and share in the responsibility of conserving water.

6) Smart Irrigation Controllers

Along with Xeriscape, DWA has also implemented a program that promotes irrigation controllers. Smart Irrigation Controllers have the potential to save significant amounts of water used for landscaping. Smart controllers customize water times for irrigation systems based on the climate, temperature and evapotranspiration rates.

In a pilot study for the program, 18 Smart Controllers were distributed to homes in the Palm Springs area. In one year of use, homes using the controllers reduced their outdoor water use by an average of 18 percent. The success from the pilot program has prompted DWA to expand its Smart Controller Program (DWA).

Increased implementation of the Smart Irrigation Controllers throughout the service area has the potential to save large amounts of water used for landscaping as well as reduce DWA's gross per capita water use in the coming years.

Currently, controllers are available to customers at cost and free for any new meter installation. Customers living within Cathedral city may receive the controllers free due to a cost-share program between DWA and the City of Cathedral City.

7) Water Bills

Since the early 1980s, DWA's monthly water bill has provided water users with comparative consumption use figures for the same period of the previous year. In addition, for high water bills, a special notice is included with the bill to alert the water user that on-site repairs or adjustments may be necessary.

DWA is currently in the process of redesigning its water bills with a more attractive, easy-to-read format. The bill will also include a section showing customers how to read the meter for purposes of conserving water.

8) Annual Water Quality Report

Each year, DWA publishes and distributes an Annual Water Quality Report so that its customers have the opportunity to learn more about the water they receive. The report is distributed through a customer mailing and it is displayed at various locations throughout DWA's Service Area.

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

Public Information Program Activity	Yes/No	Number of Events
a. Paid Advertising	YES	15
b. Service Announcement	NO	0
c. Bill Inserts / Newsletters / Brochures	YES	2
d. Bill showing water usage in comparison to previous year's usage	YES	N/A
e. Demonstration Gardens	YES	4
f. Special Events, Media Events	YES	10
g. Speaker's Bureau	YES	7
h. Program to coordinate with other government agencies, industry, and public interest groups and media	YES	N/A

B. Conservation Information Program Expenditures		
1. Annual Expenditures (Excluding Staffing)	$155,815	
C. "At Least As Effective As"		
1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?		NO

BMP 08: School Education Programs

A. Implementation

1. How is your public information program implemented?

Retailer runs program without wholesaler sponsorship.

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

Grade	Are Grade-Appropriate Materials Distributed?	No. of Class Presentations	No. of Students Reached	No. of Teachers' Workshops
Grades K-3rd	YES	2	60	0
Grades 4th-6th	YES	2	60	0
Grades 7th-8th	YES	2	60	0
High School	YES	1	30	0

3. Did your Agency's materials meet the state education framework requirements?	YES
4. When did your Agency begin implementing this program?	5/01/89

B. School Education Program Expenditures

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

C. "At Least As Effective As"	
1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	NO

D. Comments

Following a brief absence, DWA has reinstated its formal school education program. It falls under Public Information Associate's responsibilities. The program consists of classroom presentations at all grade levels, facility tours, science fair participation, and career day involvement. Please note that the annual expenditures for program materials are included in the Public information Programs sections, BMP 07.

BMP 09: Conservation Programs for Commercial/Industrial/Institutional (CII) Accounts	
A. Implementation	
1. Has your agency identified and ranked COMMERCIAL customers according to use?	NO
2. Has your agency identified and ranked INDUSTRIAL customers according to use?	NO
3. Has your agency identified and ranked INSTITUTIONAL customers according to use?	NO
4. Is your agency operating on CII water use survey and customer incentives program for the purpose of complying with BMP 09 under this option?	NO
5. Does your agency track CII program interventions and water savings for the purpose of complying with BMP 9 under this option?	YES
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	NO
7. Estimated annual savings (AF/Yr) from site-verified actions taken by the agency since 1991.	0
8. Estimated annual savings (AF/Yr) from non-site verified actions taken by agency since 1991.	0
B. "At Least as Effective As"	
1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	NO

C. Explanation

DWA chooses to perform neither Option A (item A.4.), nor Option B (items A.5. through A.8.). The reasons are contained in the comments below. "Yes" was checked for Option B as CII accounts are tracked for purposes of the mailings listed below, but not specifically for BMP 9.

DWA does not differentiate between commercial and industrial accounts. All multi-family residential connections are classified as commercial. Since DWA's studies indicate that the highest potential for water savings exists in landscape irrigation practices, the bulk of DWA's conservation efforts have been focused in this direction. DWA does not, however, discard the potential for water savings in its commercial accounts. Annual consumptive use reports and conservation literature are mailed to most of DWA's large commercial accounts (nearly 200 customers annually).

Even though DWA has chosen to perform "Water Audits" solely on irrigated areas (on the basis that DWA believes it is most cost effective to do so), the consumptive use program has received good response from its customers.

Additionally, DWA co-sponsors the Mobile Irrigation Laboratory Evaluation Program implemented by the Coachella Valley Resource Conservation District. The Mobile Lab team evaluates large water users and issues a comprehensive report. A follow-up evaluation is provided after five years. Frequently, customers will request a mobile lab survey following the mailings previously mentioned.

BMP 10: Wholesale Agency Assistance Programs
DWA is a retail water agency and therefore does not report on this BMP.

BMP 11: Conservation Pricing	
A. Implementation	
Rate Structure Data Volumetric Rates for Water Service by Customer Class	
1. Residential	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Non-Volumetric Flat Rate
c. Total Revenue from Volumetric Rates	$10,560,800
d. Total Revenue from Non-Volumetric Charges, Fees, and other Revenue Sources	$1,221,242
2. Commercial	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$4,300,017
d. Total Revenue from Non-Volumetric Charges, Fees, and other Revenue Sources	$ amount from these accounts is contained in the residential total.
3. Industrial	
a. Water Rate Structure	Service Not Provided
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	$0
d. Total Revenue from Non-Volumetric Charges, Fees, and other Revenue Sources	$0
4. Institutional / Government	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Uniform
c. Total Revenue from Volumetric Rates	$661,279
d. Total Revenue from Non-Volumetric Charges, Fees, and other Revenue Sources	$ amount from these accounts is contained in the residential total.
5. Recycled-Reclaimed Water	
a. Water Rate Structure	Uniform
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	$851,295
d. Total Revenue from Non-Volumetric Charges, Fees, and other Revenue Sources	$0
6. Other	
a. Water Rate Structure	Service Not Provided
b. Sewer Rate Structure	Service Not Provided
c. Total Revenue from Volumetric Rates	$0
d. Total Revenue from Non-Volumetric Charges, Fees, and other Revenue Sources	$0

Retail Wastewater (Sewer) Rate Structure by Customer Class	
1. Residential	
a. Sewer Rate Structure	Non-Volumetric Flat Rate
b. Total Annual Revenue	$141,805
c. Total Revenue from Commodity Charges (Volumetric Rates)	$0
2. Commercial	
a. Sewer Rate Structure	Uniform
b. Total Annual Revenue	$90,363
c. Total Revenue from Commodity Charges (Volumetric Rates)	$0
3. Industrial	
a. Sewer Rate Structure	Service Not Provided
b. Total Annual Revenue	$0
c. Total Revenue from Commodity Charges (Volumetric Rates)	$0
4. Institutional / Government	
a. Sewer Rate Structure	Uniform
b. Total Annual Revenue	$0
c. Total Revenue from Commodity Charges (Volumetric Rates)	$0
5. Recycled-Reclaimed Water	
a. Sewer Rate Structure	Service Not Provided
b. Total Annual Revenue	$0
c. Total Revenue from Commodity Charges (Volumetric Rates)	$0
B. Implementation Options	
Option 1: Use Annual Revenue as Reported	SELECTED
C. "At Least as Effective As"	
1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	NO
D. Comments	
DWA does not classify accounts as "Industrial". All industrial (light industrial) customers are included under "Commercial"; therefore "Service Not Provided" is listed within the "Industrial" category.	

BMP 12: Conservation Coordinator		
A. Implementation		
1. Does your Agency have a conservation coordinator?		YES
2. Is the coordinator position supplied by another agency with which you cooperate in a regional Conservation program?		NO
3. If your agency supplies the conservation coordinator:		
a. What percent is this conservation coordinator's position?		50%
b. Coordinator's Name		Katie Ruark
c. Coordinator's Title		Public Information Associate
d. Coordinator's Experience and Number of Years		1 Year
e. Date Coordinator's position was created		01/02/1977
4. Number of conservation staff, including Conservation Coordinator		2
B. Conservation Pricing Program Expenditures		
1. Staffing Expenditures (In-House Only)	$49,352	
2. BMP Program Implementation Expenditures	$56,049	
C. "At Least as Effective As"		
1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	NO	

BMP 13: Water Waste Prohibition	
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:	
DWA adopted Ordinance No. 31, An Ordinance of the Board of Directors of Desert Water Agency Prohibiting the Waste of Water in February 1982 (refer to **Appendix C**). It defines "waste," discusses actions to be taken, spells out customers' rights, and states exemptions. In addition, DWA is now preparing a landscape and Water Conservation Ordinance. The Ordinance coupled with a planned water conservation incentive program, will be applicable throughout DWA's Service Area.	
2. Is a copy of the most current ordinance(s) on file with CUWCC?	YES
a. List local jurisdictions in your service area in the first text box and water waste ordinance citations in each jurisdiction in the second box:	
Desert Water Agency	Typically violators have been cooperative in eliminating waste after being sent a written notice informing them of the situation. No citations were issued during reporting period.

B. Implementation	
1. Indicate which of the water uses listed below is prohibited by your agency or service area.	
a. Gutter flooding	YES
b. Single-pass cooling system for new connections	YES
c. Non-recirculating systems in all new conveyor or car wash systems	YES
d. Non-recirculating systems in all new commercial laundry systems	NO
e. Non-recirculating systems in all new decorative fountains	NO
2. Describe measures that prohibit water uses as listed above.	
In cases such as gutter flooding, written notice is sent to the subject customer, or a blanket mailing is conducted throughout neighborhoods with high incidences of waste. In areas where DWA is responsible for providing sewage collection, DWA requires submittal of plans, and then checks them to verify that recirculation systems are installed. In situations where water is used in cooling systems and decorative fountains, it is not practical to use non-recirculating types due to the cost associated with water.	
Water Softeners:	
3. Indicate which of the following measures your agency has supported in developing state law:	
a. Allow the sale of more efficient demand-initiated regenerating DIR models.	NO
b. Develop minimum appliance efficiency standards that:	
i) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used.	NO
ii) Implement an identified maximum number of gallons discharged per gallon of soft water produced.	NO
c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply.	NO
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 time models?	NO
C. Water Waste Prohibition Program Expenditures	
Water Waste Prohibition Program costs are included in the Conservation Staff Program Expenditures, BMP 12.	
D. "At Least as Effective As"	
1. Is your AGENCY implementing an "at least as effective as" variant of this BMP?	NO

BMP 14: Residential ULFT Replacement Programs

A. Implementation

	Single-Family Accounts	Multi-Family Accounts
1. Does your Agency have program(s) for replacing high-water-using toilets?	NO	
2. Is a toilet retrofit on resale ordinance in effect for your service area?	NO	
3. Is a toilet retrofit or resale ordinance in effect for your service area?	NO	

B. Residential ULFT Program Expenditures

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

C. "At Least As Effective As"

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

DWA studies have concluded that as much as 80 percent of all residential water use is for landscape irrigation. Therefore, DWA has concluded that it is most cost effective for DWA to concentrate the bulk of its efforts on reducing water consumption in the landscape. DWA, therefore, has chosen to direct its resources into performing BMP 5 (refer to **Appendix C**, "Water Conservation Program of the Desert Water Agency").

DWA does recognize that Ultra Low Flush Toilets (ULFT) save substantial quantities of water in comparison to older models. DWA, therefore, has supported legislation requiring installation of ULFTs in building applications. City and County Standards require the installation of ULFTs. Building department personnel verify that these standards are being enforced.

SECTION VI

WATER SHORTAGE CONTINGENCY PLAN

SECTION VI
WATER SHORTAGE CONTINGENCY PLAN

A. WATER SHORTAGE CONTINGENCY ORDINANCE

Law 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

10632(h). A draft water shortage contingency resolution or ordinance.

1. Desert Water Agency's Water Shortage Response

In October 1988, DWA adopted Ordinance No. 45, An Ordinance of the Board of Directors of the Desert Water Agency Restricting Water Use During Water Supply Emergencies (refer to **Appendix C**). Ordinance No. 45 details specific actions to be taken during water shortage emergencies that are deemed to be in the best interest of the public at large.

Ordinance No. 45 describes specific rules and regulations which will be in effect should the Board declare a water supply emergency, and illustrates the methods in which the public shall be informed. Four stages of severity are discussed, each containing specific restrictions corresponding to the degree of incidence.

Penalties for violation and exemptions to water use restrictions are included in Ordinance No. 45. Methods by which the public may voice their objection to any penalties levied for violation are also described. To date, there have been no incidents triggering the restrictions set forth in Ordinance No. 45 to go into effect within the DWA Service Area.

B. STAGES OF ACTION

Law 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

10632(a). Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.

1. Rationing Stages and Reduction Goals

DWA has established four stages of water use restrictions to be evoked during water supply emergencies. The stages involve voluntary and mandatory rationing, depending on the causes, severity, and anticipated duration of the water supply shortage. The stages are summarized below in **Table 23**.

Table 23
Water Supply Shortage Stage Conditions

Stage No.	Water Supply Conditions	Supply Shortage (%)	Reduction Goal (%)
1 Normal Conditions	Voluntary Conservation Measures	5%	5%
2 Water Supply Shortage Alert	Mandatory Conservation Measures	10%	10%
3 Water Shortage Warning	Stronger Mandatory Conservation Measures	20%	20%
4 Water Shortage Emergency	Severe Water Use Prohibitions	50%	50%

DWA has a civic and legal responsibility to provide for the water-related health and safety needs of the community. In order to minimize the social and economic impact of water shortages, DWA will prudently manage water supplies.

As previously described in various sections of this UWMP, DWA obtains its water supply from stored local groundwater, local surface water, and imported water to recharge the Whitewater River Subbasin, thus augmenting groundwater supplies. Since the majority of the supply is pumped from approximately 30 deep wells, located throughout the community, the inability to pump water from a less than significant number of wells will not result in a shortage situation. Additionally, DWA's reliance on stored ("banked") groundwater as its primary source provides a sufficient cushion against dry years.

Due to the current and historic condition of overdraft of the Whitewater River Subbasin (where groundwater extractions exceed natural replenishment) and the need to import water to recharge the groundwater supply, DWA has established a Stage 1 condition that includes voluntary conservation measures that will remain in effect. Stages 2, 3, and 4 restrictions will become effective when triggered, and will most likely be triggered by a large scale emergency, such as a sustained power outage or earthquake disaster. The type and severity of the event and the water supply conditions at the time will determine the specific water supply shortage stage that the Board elects to implement.

2. Priority by Use

Priorities for use of available potable water supplies during shortage situations are as follows:

a. Hospitals and Disaster Care Centers
b. Interior Residential Needs as Required for Health and Safety
c. Fire Fighting Needs
d. Commercial / Industrial Needs
e. Existing Landscaping
f. New Construction Needs

3. Health and Safety Requirements

The primary goal of Ordinance No. 45 is to restrict water usage during water shortage emergencies that will meet the minimum health and safety requirements of its customers throughout the course of the shortage.

During a Stage 1 water shortage condition, compliance is voluntary with emphasis on using water sparingly. A Stage 2 water shortage condition involves a water supply condition that may be inadequate for meeting customer needs; therefore, mandatory restrictions become effective during this stage. In Stages 3 and 4 water shortage conditions, DWA would be clearly unable to meet customer needs and stricter restrictions would be implemented.

C. 3-YEAR DRY PERIOD WATER SUPPLY

Law 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

> 10632 (b). An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

DWA has never experienced an actual water supply deficiency since more than 90 percent of its municipal water supply consists of groundwater. Further, DWA has the ability to import water and store it within the Whitewater River Subbasin. Short-term droughts have historically had negligible effects on DWA's ability to supply water to its customers since DWA can secure needed water supplies from groundwater in storage, if necessary.

Table 24 represents DWA's 2010 water supply and its estimated minimum water supply for three subsequent years, which is based on a multiple dry year history. The 2010 water supply, which excludes groundwater from storage, is about 56,500 AF, about 6,000 AF more than demand, estimated to be 50,500 AF (**Table 15**). In contrast, the 2011 through 2013 multiple dry year supplies require annual extractions from

groundwater in storage in quantities ranging from approximately 16,100 AF to approximately 16,700 AF, in order to meet demands.

Table 24
Three-Year Estimated Minimum Water Supply
(AF/Yr)

Source	2010	2011	2012	2013
External Sources				
Surface Water [1]	5,900	5,900	5,900	5,900
Natural Groundwater Recharge [2]	7,000	7,000	7,000	7,000
Imported Water [3]	27,500	7,100	7,400	7,400
Groundwater from Storage[2]	0	10,000	10,100	10,600
Internal Sources				
Non-Consumptive Return [4]	16,100	16,100	16,400	16,700
Recycled Water [5]	4,500	6,100	6,100	6,100
Total	**61,000**	**52,200**	**52,900**	**53,700**

(1) DWA diverts surface water from Snow Creek and Falls Creek (per State Water Resources Control Board Water Rights Division and Licenses 2592, 3097, and 8226), Chino Creek and the Whitewater River (per the Whitewater River Adjudication Decree, Case No. 18035, dated September 28, 1938, Section XXVI, Paragraphs 32 and 48).

(2) DWA extracts groundwater comprising natural recharge, non-consumptive return, and groundwater from storage. Net natural recharge for the Upper Whitewater River Subbasin is described in USGS Water Resources Investigation 91-4142 as 29,000 AF/Yr (36,000 AF/Yr natural inflow less 7,000 AF/Yr natural outflow), with DWA's share being about 7,000 AF/Yr reflecting long term average supply. "Groundwater from storage" is continued groundwater extraction required to meet demands in addition to natural and imported supplies.

(3) Colorado River water has been and continues to be exchanged for State Water Project water per the 2003 and prior Exchange Agreements among DWA, CVWD, and MWDSC. Currently, approximately 93 percent of exchange water is directed to the Whitewater River Subbasin, of which 25 percent is allocable to DWA and 75 percent is allocable to CVWD. State Water Project water consists of DWA's apportionment of its Table A allocation, Article 21 surplus water allocation (when available) and other surplus water acquired and conveyed through the State Water Project. Herein, projected Table A and Article 21 State Water Project water deliveries are based on the 2009 State Water Project Reliability Report. Other surplus water included State Water Project Pools A and B Turnback water, Yuba River Accord water, and Central Valley flood waters (Kern River and other rivers).

(4) Non-consumptive return to the aquifer is estimated to be 35 percent of groundwater and surface water produced and used but not consumed, per USGS Water Resources Investigation 91-4142, with annual quantities varying with varying production.

(5) DWA's Recycled Water Treatment Facility reclaims secondary effluent from the City of Palm Springs Wastewater Treatment Plant. Currently, DWA reclaims over half of the secondary effluent available from the City, which is approximately 6.0 million gallons per day (6,700 AF/Yr). Potential future recycled water demands are described in DWA's 2008 General Plan. Due to the fact that the use of recycled water does not change the nature of consumptive water use, use of recycled water is considered herein to have a negligible effect on the assumed 35% rate of non-consumptive return to the aquifer based on the total groundwater and surface water production. However, increased recycled water use can help offset the use of other sources (such as pumped groundwater) to meet total demand.

Since DWA's goal is to provide its customers with adequate and reliable supplies of high-quality water to meet present and future needs, DWA strives to ensure that customer demand can be met at all times. DWA and CVWD jointly recharge the Whitewater River Subbasin in years of surplus water supplies to prepare for dry years. Therefore, in the event that the next three years are not dry, surplus water supplies will be stored within the groundwater basin for future use.

D. PREPARATION FOR CATASTROPHIC WATER SUPPLY INTERRUPTION

Law 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

> 10632(c). Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

1. Water Shortage Emergency Response

DWA frequently reviews and updates its Emergency Response Plan, with the most recent update in August 2005. DWA has developed specific disaster related procedures which guide staff in responding efficiently to catastrophic interruptions of water supply. Disaster related drills are conducted periodically involving DWA staff, City, Fire, and County personnel. DWA also coordinates its planning efforts with the local hospital. DWA staff periodically attends local disaster preparedness coordinating meetings, and closely adheres to all disaster response training requirements.

Table 25 Preparation Actions for a Catastrophe	
Possible Catastrophe	**Action**
Regional Power Outage	Create a catastrophe preparedness plan.
Earthquake	Determine water shortage condition.
Flash Flooding	Contact and coordinate with other agencies.
Terrorism	Create an Emergency Response Team/Coordinator.
	Put employees/contractors on-call.
	Communicate with the public.
	Implement Stage 2 to Stage 4 as necessary.

Water Supply - CDWR's 2009 Reliability Report describes potential interruptions that may occur due to a catastrophic event such as an earthquake and levee failure in the Delta. As a result, levee repairs could take more than 3 years to complete while disrupting water deliveries for approximately one year. Refer to **Section III - *Reliability Planning***, for additional discussion regarding short-term and long-term water supplies.

Water Transfers - Refer to the Transfer or Exchange Opportunities in **Section III** for a discussion regarding water transfers.

E. PROHIBITIONS, CONSUMPTION REDUCTION METHODS, AND PENALTIES

Law 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

> 10632(d). Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.
>
> 10632(e). Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.
>
> 10632(f). Penalties or charges for excessive use, where applicable.

1. Mandatory Prohibitions on Water Wasting

Detailed in Ordinance No. 45 (**Appendix C**), An Ordinance of the Board of Directors of the Desert Water Agency Restricting Water Use During Water Supply Emergencies, and Ordinance No. 31 (**Appendix C**), An Ordinance of the Board of Directors of the Desert Water Agency Prohibiting the Waste of Water, are specific prohibitions and penalties on water wasting which may result in cases of noncompliance. Also contained within each ordinance are methods in which the public may voice their objection to any penalty levied.

The specific prohibitions associated with each water supply shortage stage set forth in **Table 23** are shown in **Table 26**. As previously stated, a Stage 1 condition is, and will remain, in effect at all times. Additionally, Ordinance No. 31 prohibits any actions which are deemed wasteful, such as excessive landscape irrigation, severe overspray conditions, or failure to remedy a wasteful condition within a reasonable period of time.

Table 26 Mandatory Prohibitions	
Prohibitions	**Stage When Prohibition Becomes Mandatory**
Using potable water to wash driveways, parking lots, or other hard surfaced area or building exteriors at any time, except to alleviate immediate fire hazards	2
Irrigating parks, golf courses (golf courses and parks using reclaimed water are exempt from this prohibition), and school grounds during daytime hours (sunrise to sunset)	2
Serving drinking water to customers at a restaurant, hotel, café, cafeteria, or other public place where food is sold, unless expressly requested	2
Commercial nurseries using water between the hours of 6:00 a.m. and midnight	2
Filling or adding water to swimming pools, wading pools, spas, ornamental ponds, fountains, and artificial lakes	3
All watering and irrigation by commercial nurseries, unless reclaimed water is used	4
Washing cars, boats, trailers, aircraft, or other vehicles except when done by commercial car wash establishments using recycled or reclaimed water	4
Using potable water to clean, fill, or maintain decorative fountains, lakes, or ponds, unless such water is recycled.	At All Times*
Watering of lawns and irrigating landscape between the hours of 10:00 a.m. and 5:00 p.m.	At All Times*
Washing cars, boats, trailers, aircraft, or other vehicles by hose without a shutoff nozzle and bucket	At All Times*

*Compliance is voluntary during Stage 1.

Table 27 represents the methods DWA will use for consumption reduction during the various stages of water supply shortages. The projected water reduction percentage is also presented for each method.

Table 27 Consumption Reduction Methods		
Consumption Reduction Method	**Stage When Method Takes Effect**	**Projected Reduction (%)**
Voluntary Rationing	1	Up to 5%
Mandatory Rationing	2, 3, & 4	Varies with Stage
No New Construction Meter Permits Issued by DWA	3 & 4	Varies with Stage
All existing construction meters shall be turned off and locked	4	Up to 50%
Flow Restriction	4	Up to 50%
Use Prohibitions	All Stages	Varies with Stage
Demand Reduction Program	All Stages	Varies with Stage
Education Programs	All Stages	Varies with Stage
Use Non-Potable Water for Construction Purposes	All Stages	Varies with Stage

2. Excessive Use Penalties

Any customer violating the regulations and restrictions on water use set forth in Ordinance No. 45 shall receive a written warning for the first such violation. Upon a second violation, a 25 percent surcharge is applied to the customer's water bill. A third violation subjects the customer to a 50 percent surcharge and installation of a flow restrictor. Subsequent violations result in discontinuance of service. More complete descriptions of each penalty assessment and the methods in which the customer is to be notified are found in the complete Ordinance No. 45 contained in **Appendix C**.

Table 28 - *Penalties and Charges*, from CDWR's 2005 UWMP Guidebook - does not serve to provide any additional information to this section; therefore, it is not included herein.

F. REVENUE AND EXPENDITURE IMPACTS AND MEASURES TO OVERCOME IMPACTS

Law 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

> 10632(g). An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier...
>
> 10632(g). [An analysis of the impacts of each of the] proposed measures to overcome those [revenue and expenditure] impacts, such as the development of reserves and rate adjustments.

During a water supply emergency, depending on water use restrictions implemented and as water availability and use decreases, revenue from water sales will also decrease. DWA maintains and will continue to maintain sufficient funds in reserve to maintain operations during and following such periods of reduced use. As such, rate adjustments are not anticipated; however, rate adjustments can be considered, if necessary.

DWA does not have additional information to include in this section; therefore, **Table 29 - *Proposed Measures to Overcome Revenue Impacts***, **Table 30 - *Proposed Measures to Overcome Expenditure Impacts***, and **Table 31 - *Water Use Monitoring Mechanisms***, from CDWR's 2005 Guidebook - are not included herein.

G. REDUCTION MEASURING MECHANISM

Law 10632. The plan shall provide an urban water shortage contingency analysis which includes each of the following elements which are within the authority of the urban water supplier:

> 10632(i). A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

1. Mechanism to Determine Reductions in Water Use

Daily production readings are taken by personnel at all water supply sources, and all reservoir water levels are monitored on a continual basis. The collected

data are reviewed daily to determine water supply adequacy. Such data are then incorporated into monthly reports.

During a water supply emergency, normal monitoring will continue with strict observation and recording of all water supply sources and water reservoir storage. Collected data will be reported directly to the General Manager and/or Assistant General Manager, as deemed appropriate for the emergency conditions, for action.

SECTION VII

WATER RECYCLING

SECTION VII
WATER RECYCLING

A. WASTEWATER SYSTEM DESCRIPTION

Law 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

10633(a). A description of the wastewater collection and treatment systems in the supplier's service area including the quantification of the amount of wastewater collected and treated and the methods of wastewater disposal.

1. Introduction

The use of recycled water plays a key role in DWA's Basin Management Program as it conserves and protects the valuable water supply for potable uses. In 1988, DWA and the City of Palm Springs (CPS) entered into an agreement to treat wastewater. Under the agreement, the City provides primary and secondary treatment at the City of Palm Springs Wastewater Treatment Plant (CPS WWTP), after which the secondary effluent is piped to DWA's Recycled Water Treatment Facility for tertiary treatment.

Table 32
Participating Agencies

Participating Agencies	Role
City of Palm Springs Desert Water Agency	Collects city wastewater and provides primary and secondary wastewater treatment.
Desert Water Agency	Provides tertiary treatment and provides recycled water service to recycled water customers.

2. Wastewater Collection and Treatment

DWA is responsible for providing wastewater service within portions of Palm Springs, Cathedral City, and unincorporated Riverside County within its Service Area. The CPS provides wastewater service within Palm Springs city limits (primary and secondary treatment).

DWA owns and operates a wastewater collection system within areas of Cathedral City that have been developed since 1980. Since these areas are located at a lower elevation than the CPS WWTP, wastewater must be pumped and piped to neighboring CVWD's wastewater collection system for treatment and disposal. Both DWA and the City of Cathedral City are actively involved in the pursuit of a wastewater collection system to serve any remaining areas currently served by septic systems.

In 1989, DWA constructed its Recycled Water Treatment Facility (RWTF) with an initial capacity of 5.0 MGD. The facility was expanded in 1995 to its present capacity of 10.0 MGD (ultimate capacity of 15.0 MGD). DWA's recycled water system facilities consist of the RWTF, two booster pumping plants, and transmission pipelines (2008 General Plan).

DWA's raw water supply for the RWTF consists of secondary effluent from the CPS WWTP. Currently, the average daily flow from the CPS WWTP is 5.5 MGD; ultimately, the average daily flow will be 19 MGD (based on the City's 1993 Sewer Master Plan). When supply is available, recycled water is expected to ultimately provide 10,000 AF/Yr up from the current use of about 4,500 AF/Yr (2008 General Plan).

At present, DWA's RWTF treats approximately half of the secondary effluent from the CPS WWTP in the winter months - and all of the secondary effluent during the summer. DWA's current recycled water customer base does not require the full capacity of the CPS WWTP to meet their needs during the winter months.

DWA's Board of Directors and staff are fully committed to increasing the use of recycled water as a means of conserving the community's municipal water supply to the greatest extent possible. As new projects develop and existing developments come on-line, DWA's ability to serve more customers will increase. DWA is planning additional pipelines which will expand municipal use of recycled water over time. As indicated in **Table 33**, future wastewater flows are projected to increase as the population increases.

Table 33 Wastewater Collection and Treatment (AF/Yr)							
	2005	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Wastewater Collected & Treated in Service Area	7,300	7,900	8,500	9,200	9,700	10,400	11,000
Quantity Meeting Recycled Water Standard	2,730	4,500	6,100	6,100	8,400	8,400	8,400

3. Wastewater Disposal Methods (Non-Recycled)

As mentioned previously, the RWTF has the ability to process all secondary treated wastewater generated by the CPS WWTP; however, DWA's current recycled water customer base does not always have the full capacity of the CPS WWTP available to meet its needs. At such times, DWA augments recycled water with potable water to satisfy the irrigation demand. Any secondary treated sewage produced above and beyond DWA's recycled water customer requirements is discharged into percolation ponds for groundwater recharge.

Table 34 Disposal of Wastewater (Non-Recycled) (AF/Yr)							
Types of Use	**Treatment Level**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Percolation Ponds	Secondary	3,400	2,400	3,100	1,300	2,000	2,600
	Total	**3,400**	**2,400**	**3,100**	**1,300**	**2,000**	**2,600**

B. RECYCLED WATER STANDARDS

Law 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

> 10633(b). A description of the quantity of treated wastewater that meets recycled water standards, is being discharged, and is otherwise available for use in a recycled water project.

Table 33 above sets forth the projected quantities of recycled water meeting recycled water standards and available for use in recycled water projects.

DWA's recycled water is used for irrigation in areas where the public has access or exposure (i.e., where private dwellings are located adjacent to golf courses); therefore, it must be adequately disinfected, oxidized, coagulated, clarified, and filtered in accordance with the recycled water treatment criteria specified in Title 22 of the California Code of Regulations, Division 4, Chapter 3.

DWA's recycled water also meets the discharge requirements as specified in the General Waste Discharge Requirements for the Discharge of Recycled Water for Golf Course and Landscape Irrigation, Order No. 97-700, as issued by the California Regional Water Quality Control Board, Colorado River Basin Region.

High quality, tertiary treated recycled water is produced utilizing the following processes:

1. Primary Treatment (provided by CPS WWTP)
2. Secondary Treatment (provided by CPS WWTP)
3. Tertiary Treatment (provided by DWA's RWTF)
    a. Chlorination
    b. Coagulation/Flocculation (Addition of Alum and Polymer)
    c. Filtration
    d. Chlorination
    e. Storage and distribution to customers

The recycled water produced by DWA's RWTF is approved for all uses, except drinking, by the California Department of Public Health. To help demonstrate the positive effects of using recycled water, DWA's Operations Center and Water Recycling Facility are both irrigated with recycled water. The CPS DeMuth Park and several Palm Springs golf courses are also irrigated with recycled water, among other locations within DWA's service area.

C. CURRENT AND POTENTIAL RECYCLED WATER USES AND PROJECTIONS

Law 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

> 10633(c). A description of the recycled water currently being used in the supplier's service area, including, but not limited to, the type, place, and quantity of use.
>
> 10633(d). A description and quantification of the potential uses of recycled water...
>
> 10633(e). The projected use of recycled water within the supplier's service area at the end of 5, 10, 15, and 20 years...

1. Current and Potential Recycled Water Uses

Within DWA's service area, recycled water is utilized for irrigation of large turf areas, such as golf courses and parks.

DWA implemented a very aggressive program regarding expanding the use of recycled water within its Service Area. Presently, there are nine customer locations using tertiary treated recycled water for irrigation purposes, and additional customers are forecast for the future. The nine current customer locations are:

- DWA Operations Center
- DWA Reclamation Plant
- Escena Golf Course
- Indian Canyons South Golf Course
- Mesquite Country Club Golf Course
- Mid-Valley Parkway Median Strips
- City of Palm Springs DeMuth Park
- Palm Springs High School
- Tahquitz Creek 1 and 2 Golf Courses

DWA is actively pursuing the expansion of its existing recycled water customer base. An additional recycled water use site (Indian Canyon North Golf Course) is proposed as early as mid-2011. There are also five other water use sites that are proposed for future service (Sunrise Park, Tommy Jacobs Bel Air Greens, Seven Lakes Country Club, Indian Oasis Resort, and Cathedral Canyon Country Club). The startup for recycled water use at these facilities is not known at this time.

Table 35 represents the current and projected recycled water and groundwater recharge quantities for DWA's service area.

Table 35
Recycled Water Uses
(AF/Yr)

Types of Use	Treatment Level	2010	2015	2020	2025	2030	2035
Landscape	Tertiary	4,500	6,100	6,100	8,400	8,400	8,400
Groundwater Recharge	Secondary	3,400	2,400	3,100	1,300	2,000	2,600
	Total	**7,900**	**8,500**	**9,200**	**9,700**	**10,400**	**11,000**

2. Projected Recycled Water Quantities

DWA's RWTF has the capacity to process all secondary treated wastewater generated by the CPS WWTP. Since recycled water is dependent upon available wastewater treatment plant effluent, DWA plans to expand the recycled water system and increase wastewater flows by collecting Palm Oasis and Cathedral City wastewater flows to serve additional irrigated areas, in addition to the parks and golf courses identified above. The addition of these areas to the existing system will increase the available quantity of wastewater to be treated for recycled water use.

Currently, DWA is projecting that all recycled water produced by its facility will be utilized for irrigation purposes, such as golf courses, medians, freeway landscape, schools, cemeteries, and parks. Other uses for recycled water could result; however, due to the large quantity of water required for irrigation within DWA's boundaries, it is prudent to assume that the predominant use will be for irrigation. Irrigation use also has the highest potential for conserving valuable groundwater as well.

As supplemental irrigation is required year-round, even during the cooler winter months, recycled water use will continue throughout the year. The months with the highest usage are April through October, with the remaining winter months requiring approximately 50 percent less.

D. ENCOURAGING RECYCLED WATER USE

Law 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

> 10633(e). ...a description of the actual use of recycled water in comparison to previously projected pursuant to this subdivision.
>
> 10633(f). A description of actions, including financial incentives, which may be taken to encourage the use of recycled water, and the projected results of these actions in terms of acre-feet of recycled water used per year.

1. Marketing Strategy

As previously stated within this UWMP, DWA has implemented a very aggressive program toward obtaining new recycled water customers. This strategy is the primary focus of DWA's water conservation efforts as it has the potential to conserve significantly more groundwater than other water conservation efforts.

DWA recognizes that in order to develop the widespread use of recycled water, public acceptance and cost incentives are necessary. In 1999, DWA undertook a cooperative 10-year study at its RWTF with the U.S. Department of Agriculture's Natural Resources Conservation Service comparing the effects of tertiary-treated recycled water on water-efficient plants to that of potable water.

The purpose of the study was to show potential recycled water customers, specifically, how native plants perform using tertiary recycled water. In almost all cases, plants

utilizing recycled water performed better than those irrigated with municipal water. It is hoped that results of this study will set aside potential customers' concerns regarding the effects of recycled water on their plantings. Additionally, existing landscape customers within reasonable proximity to DWA's RWTF have been targeted for marketing, and discussions with the appropriate representatives of said potential customers are underway.

2. Proposed Actions to Encourage Use of Recycled Water

DWA offers the following incentives to encourage recycled water use within its Service Area:

- ***Favorable Rates*** – DWA's rates for providing recycled water to its customers are approximately one-half of its rates for providing potable water.

- ***Cost-Sharing*** – DWA participates in the cost of constructing offsite water recycling facilities.

- ***Technical Assistance*** – DWA provides technical assistance to its recycled water customers at no charge.

- ***Reliability Guarantee*** – DWA guarantees its recycled water service reliability (with qualifying statements), even during water supply shortages (excluding disaster conditions). In the event that DWA is unable to provide recycled water, it will supply potable water to its recycled water customers.

- ***Cost-Comparisons*** – DWA provides potential recycled water customers with a comparison of the costs of using recycled water for irrigation versus the costs of constructing and operating a private water well, including costs associated with groundwater replenishment assessments.

Historically, the favorable rates for recycled water have been the primary incentive for customers with large landscaped areas to use recycled water in lieu of potable water. DWA believes that continued expansion of recycled water facilities, in addition to the

incentives listed above, will play a significant role in the increased use of recycled water within its Service Area.

3. Projected Results

DWA's recycled water marketing efforts are projected to result in future recycled water use as follows:

Table 36
Projected Future Use of Recycled Water in Service Area
(AF/Yr)

	2015	2020	2025	2030	2035
Recycled Water	6,100	6,100	8,400	8,400	8,400
% of Total Water Supply	11.0%	10.0%	13.0%	12.0%	11.0%

In its 2005 UWMP, DWA projected recycled water use for 2010 based on anticipated increases in recycled water irrigation on golf courses. DWA generally implemented their 2005 UWMP in accordance with the schedule set forth in the plan, but since the projected recycled water use on golf courses was less than anticipated, the actual use in 2010 was three-quarters of that projected in 2005. Additional golf courses are forecasted for future recycled water use, and are expected to increase sales significantly. 2005 projected and 2010 actual recycled water uses are shown in **Table 37** as follows:

Table 37
Recycled Water Uses - 2005 Projection Compared with 2010 Actual
(AF/Yr)

User type	2005 Projection for 2010	2010 Actual Use
Landscape	6,000	4,500
Groundwater Recharge	2,100	3,400
Totals	**8,100**	**7,900**

E. RECYCLED WATER OPTIMIZATION PLAN

Law 10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

> 10633(g). A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems, to promote recirculating uses, to facilitate the increased use of treated wastewater that meets recycled water standards, and to overcome any obstacles to achieving that increased use.

1. Plan for Optimizing the Use of Recycled Water

As previously discussed, due to the significant irrigation requirements within DWA's Service Area, the optimum use for recycled water is landscape irrigation. Large irrigated areas not currently receiving recycled water are irrigated with municipal water provided by DWA or pumped groundwater supplied through privately owned wells. In such cases, DWA levies a replenishment fee upon the customer for water pumped.

DWA only has projections of recycled water use for water users that have the potential to become recycled water customers or are scheduled to use recycled water in the near future; therefore, **Table 38 - *Methods to Encourage Recycled Water Use***, from CDWR's 2005 UWMP Guidebook - does not present any additional information and is not included herein.

In 2000, an additional storage reservoir was constructed to store tertiary-treated water for purposes of meeting the need of future recycled water customers. Further storage reservoir locations are currently being considered and all recycled water mains installed are sized to meet estimated future customer demands.

F. WATER QUALITY IMPACTS

Law 10634. The Plan shall include information, to the extent practicable, relating to the quality of existing sources of water available to the supplier over the same five-year increments as described in the subdivision (a) of Section 10631, and the manner in which water quality affects water management strategies and supply reliability.

As discussed in **Section III - *Reliability Planning***, the surface water and groundwater that DWA delivers to its customers is of high quality and complies with state and federal safe drinking water standards without any treatment (except disinfection, where needed). Existing surface water treatment regulations are codified in Chapter 17 of Title 22 of the California Code of Regulations, Section 64650 through 64666. DWA is presently exempt from said regulations and filtration due to DWA's control of the watershed, the surface water supply's low turbidity, and DWA's continued monitoring of the supply. In the event that filtration is required, DWA will determine whether to construct filtration facilities or use surface water supplies for additional groundwater recharge (2008 General Plan).

Groundwater extractions are not disinfected since the groundwater is naturally filtered and the wells are securely sealed from contaminants. As discussed in Section B, DWA's RWTF provides tertiary treatment in full compliance with all applicable recycled water standards and discharge requirements. Since recycled water produced by DWA's RWTF is of higher quality than the CPS WWTP effluent percolated into the aquifer, the use of recycled water has no adverse effects on the groundwater.

The water that DWA provides meets or exceeds all guidelines and standards established by the USEPA and the California Department of Public Health (CDPH). DWA regards adequate, high-quality water as a primary goal to ensure public health, safety, and community well-being. There are no water quality impacts projected in DWA's Service Area. No impacts to DWA's water supply are expected to result from water quality issues; therefore, **Table 39 - *Current & Projected Water Supply Changes due to Water Quality***, from CDWR's 2005 UWMP Guidebook - does not apply to DWA and is not included herein.

SECTION VIII

SUPPLY AND DEMAND COMPARISON PROVISIONS

SECTION VIII
SUPPLY AND DEMAND COMPARISON PROVISIONS

Law 10635 (a). Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from the state, regional, or local agency population projections within the service area of the urban water supplier.

As detailed in **Section III - *Reliability Planning***, approximately 90 percent of the domestic and irrigation water supply for DWA's municipal Service Area is derived from groundwater extracted from the Whitewater River Subbasin and water recycled by DWA's Recycled Water Treatment Facility (RWTF). Of the total water supply, 10 percent is derived from surface water (Snow Creek, Falls Creek, Chino Creek North (out of service since 2000), Chino Creek West, and the Whitewater River). Domestic requirements are met with groundwater and surface water; irrigation requirements are met through the use of groundwater and recycled water.

Due to its size, the Whitewater River Subbasin, which has been historically recharged from natural runoff and non-consumptive return, and recharged with imported water since 1973, is capable of meeting demands placed on it during normal or dry years. It will continue to meet such demands, provided the groundwater basin continues to be replenished with sufficient quantities of imported water to meet future needs.

The following tables (**Tables 40** through **46**) provide comparisons of current and projected water supply and demand under various conditions of normal and dry water years. The tables indicate that, in normal and dry water years, DWA does have sufficient supply to meet its demands through 2035 as long as it extracts groundwater from storage within the Whitewater River Subbasin in addition to natural and imported water supplies.

The need for extracting groundwater from storage is due to reductions in the probable water deliveries from the SWP, projected by the CDWR, primarily resulting from the environmental and legal restrictions described in **Section III**. According to CDWR's *State Water Project Delivery Reliability Report 2009*, it is estimated that the SWP will have the ability to deliver a long term average of only 60 percent of the

maximum Table A allocations for the 29 State Water Contractors through 2029 during normal years. This percentage is based on current deliveries and interpolating future annual SWP Table A deliveries.

Article 21 refers to a provision in the contract for delivering water that is available in addition to the SWP Table A quantities. This water is only available when it does not interfere with SWP Table A allocations and operations, when excess water is available in the Delta, and when the conveyance capacity is not being used for SWP purposes or scheduled deliveries. To obtain Article 21 water, contractors must be able to use or store it within their own systems, as it cannot be stored in the State Water Project facilities (CDWR 2009). From 2000 through 2003, DWA and CVWD obtained 36,472 AF of Article 21 surplus water, which was exchanged for Colorado River Water delivered to the Whitewater River Subbasin.

Other surplus water includes Turn-Back Pool water, Yuba River Accord water, and flood waters from the Kern and other rivers. Contractors may choose to offer their allocated Table A water in excess of their needs to other contractors through two "Turn-Back Pools" (Pool A and Pool B) in February and March (CDWR 2009). From 1997 through 2009, DWA and CVWD jointly obtained 292,945 AF of water under CDWR's Turn-Back Water Pool Program, which water was exchanged for a like quantity of Colorado River Water and delivered to the Whitewater River Subbasin.

The Yuba River Accord is a newly-ratified agreement where the Yuba County Water Agency provides water supplies to improve reliability for the CDWR. DWA and CVWD received 1,836 AF in 2008 and 3,482 AF in 2009 (exchanged for Colorado River Water) under the Yuba River Accord.

In 1997 and 1998 DWA and CVWD received 47,286 AF of Kaweah River, Tule River, and Kings River flood flow water which was exchanged for Colorado River Water, as part of an additional SWP surplus water program. DWA has not received flood water since those deliveries.

"Non-Consumptive Return" refers to water returned to the aquifer after use (for example, irrigation water percolating into the ground, and treated wastewater discharged to percolation ponds). Per USGS Water Resources Investigation 91-4142 (1992), consumptive use in the Whitewater River Subbasin is estimated to be approximately 65 percent of annual water production, which results in non-consumptive return of approximately 35 percent. There is evidence that non-consumptive return may now be significantly higher than 35 percent, perhaps 40 percent or 45 percent. The non-consumptive return proportion of developed water is now being re-evaluated in light of current groundwater basin conditions and operations.

For the purposes of this UWMP, it is assumed that non-consumptive return within DWA's Service Area is approximately 35 percent of DWA's total annual water production.

In the supply and demand comparison tables that follow (**Tables 40** through **46**), the quantity of groundwater from storage indicates that demand exceeds supply and additional groundwater extraction in needed to meet that demand. Since SWP water deliveries have been reduced due to current restrictions, demands are expected to exceed supplies beginning in 2020.

A. NORMAL WATER YEAR

A normal water year is a year in the historical sequence that most closely represents median runoff levels and patterns.

Table 40 provides a comparison of water supply and demand for normal water years through 2035. Note that water recycling increases significantly in the years 2011 and 2025 due to anticipated increases in recycled water demand.

Although recycled water use can offset potable water demand, the produced water estimates have not been adjusted to show decreases in parallel with increases in recycled water use in the following tables. This was done to provide a conservative estimate of future water demands, because recycled water production is subject to uncertainties in reliability stemming from wastewater production and treatment issues.

Surface water is diverted from Snow Creek, Falls Creek, Chino Creek, and the Whitewater River. The annual quantities shown in the following tables reflect long-term average supply, including dry years. See **Figure 5** for a diagram of water sources and uses.

Table 40
Projected Normal Water Year Supply and Demand
(AF/Yr)

		Supply								Demand		
		Groundwater			State Water Project Water Exchanged for Colorado River Water							
Year	Surface Water	Natural Groundwater	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water	Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
2010	5,900	7,000	16,100	0	26,000	1,000	500	4,500	61,000	4,500	46,000	50,500
2011	5,900	7,000	16,100	0	26,000	990	500	6,100	62,600	6,100	46,100	52,200
2012	5,900	7,000	16,400	0	26,000	970	500	6,100	62,900	6,100	46,800	52,900
2013	5,900	7,000	16,700	0	26,000	960	500	6,100	63,200	6,100	47,600	53,700
2014	5,900	7,000	16,900	0	26,000	940	500	6,100	63,300	6,100	48,400	54,500
2015	5,900	7,000	17,200	0	26,000	930	500	6,100	63,600	6,100	49,000	55,100
2016	5,900	7,000	17,500	0	26,000	910	500	6,100	63,900	6,100	49,900	56,000
2017	5,900	7,000	17,700	0	26,000	900	500	6,100	64,100	6,100	50,700	56,800
2018	5,900	7,000	18,000	0	26,000	880	500	6,100	64,400	6,100	51,500	57,600
2019	5,900	7,000	18,300	0	26,000	870	500	6,100	64,700	6,100	52,200	58,300
2020	5,900	7,000	18,600	0	26,000	850	500	6,100	65,000	6,100	53,000	59,100
2021	5,900	7,000	18,800	0	26,000	840	500	6,100	65,100	6,100	53,800	59,900
2022	5,900	7,000	19,100	0	26,000	820	500	6,100	65,400	6,100	54,600	60,700
2023	5,900	7,000	19,400	0	26,000	810	500	6,100	65,700	6,100	55,300	61,400
2024	5,900	7,000	19,600	0	26,000	790	500	6,100	65,900	6,100	56,100	62,200
2025	5,900	7,000	20,000	0	26,000	780	500	8,400	68,600	8,400	57,000	65,400
2026	5,900	7,000	20,200	0	26,000	760	500	8,400	68,800	8,400	57,600	66,000
2027	5,900	7,000	20,400	0	26,000	750	500	8,400	69,000	8,400	58,400	66,800
2028	5,900	7,000	20,700	0	26,000	730	500	8,400	69,200	8,400	59,200	67,600
2029	5,900	7,000	21,000	0	26,000	720	500	8,400	69,500	8,400	60,000	68,400
2030	5,900	7,000	21,400	0	26,000	700	500	8,400	69,900	8,400	61,000	69,400
2031	5,900	7,000	21,500	0	26,000	690	500	8,400	70,000	8,400	61,500	69,900
2032	5,900	7,000	21,800	400	26,000	670	500	8,400	70,700	8,400	62,300	70,700
2033	5,900	7,000	22,100	800	26,000	660	500	8,400	71,400	8,400	63,000	71,400
2034	5,900	7,000	22,300	1,500	26,000	640	500	8,400	72,200	8,400	63,800	72,200
2035	5,900	7,000	22,800	2,200	26,000	630	500	8,400	73,400	8,400	65,000	73,400

B. SINGLE DRY WATER YEAR

In addition to meeting the demands for normal water years, DWA must also meet the demands of its customers during single dry water years. A single dry water year is generally considered to be the lowest average runoff for a watershed since the water year beginning in 1903. Water supply and demand for selected single dry water years through 2035 are set forth in **Table 41**.

Based on CDWR's 2009 Reliability Report, the percentage of estimated SWP water deliveries ranges from 7 percent (2009 estimate) to 11 percent (2029 estimate) of the total Table A allocations during single dry water years.

With the reliability of DWA's groundwater, surface water, and recycled water supplies, DWA is confident in its ability to meet demand through 2035. As shown in **Table 41**, the annual groundwater from storage during the dry years represent the quantity of water required to meet demands. The same is true for the groundwater from storage quantities shown in normal years. DWA will not extract more groundwater than is needed to meet such demands.

The imported water quantities do not include surplus water or 100,000 AF of MWDSC exchanged Table A allocations (call-back), assuming those sources of supply would not be available during dry years. Surplus water, such as Article 21 water, is only available when excess water is available in the Delta and can be conveyed. MWDSC may call-back up to 100,000 AF in two 50,000 AF increments when supply is low, per the 2003 Exchange Agreement with DWA and CVWD.

Table 41
Projected Single Dry Water Year Supply and Demand
(AF/Yr)

		Supply								Demand		
		Groundwater			State Water Project Water Exchanged for Colorado River Water							
Year	Surface Water	Natural Groundwater	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water	Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
2010	5,900	7,000	16,100	15,500	1,500	0	0	4,500	50,500	4,500	46,000	50,500
2011	5,900	7,000	16,100	0	26,000	990	500	6,100	62,600	6,100	46,100	52,200
2012	5,900	7,000	16,400	0	26,000	970	500	6,100	62,900	6,100	46,800	52,900
2013	5,900	7,000	16,700	0	26,000	960	500	6,100	63,200	6,100	47,600	53,700
2014	5,900	7,000	16,900	0	26,000	940	500	6,100	63,300	6,100	48,400	54,500
2015	5,900	7,000	17,200	17,200	1,700	0	0	6,100	55,100	6,100	49,000	55,100
2016	5,900	7,000	17,500	0	26,000	910	500	6,100	63,900	6,100	49,900	56,000
2017	5,900	7,000	17,700	0	26,000	900	500	6,100	64,100	6,100	50,700	56,800
2018	5,900	7,000	18,000	0	26,000	880	500	6,100	64,400	6,100	51,500	57,600
2019	5,900	7,000	18,300	0	26,000	870	500	6,100	64,400	6,100	52,200	58,300
2020	5,900	7,000	18,600	19,600	1,900	0	0	6,100	59,100	6,100	53,000	59,100
2021	5,900	7,000	18,800	0	26,000	840	500	6,100	65,100	6,100	53,800	59,900
2022	5,900	7,000	19,100	0	26,000	820	500	6,100	65,400	6,100	54,600	60,700
2023	5,900	7,000	19,400	0	26,000	810	500	6,100	65,700	6,100	55,300	61,400
2024	5,900	7,000	19,600	0	26,000	790	500	6,100	65,900	6,100	56,100	62,200
2025	5,900	7,000	20,000	22,000	2,100	0	0	8,400	65,400	8,400	57,000	65,400
2026	5,900	7,000	20,200	0	26,000	760	500	8,400	68,800	8,400	57,600	66,000
2027	5,900	7,000	20,400	0	26,000	750	500	8,400	69,000	8,400	58,400	66,800
2028	5,900	7,000	20,700	0	26,000	730	500	8,400	69,200	8,400	59,200	67,600
2029	5,900	7,000	21,000	0	26,000	720	500	8,400	69,500	8,400	60,000	68,400
2030	5,900	7,000	21,400	24,400	2,300	0	0	8,400	69,400	8,400	61,000	69,400
2031	5,900	7,000	21,500	0	26,000	690	500	8,400	70,000	8,400	61,500	69,900
2032	5,900	7,000	21,800	400	26,000	670	500	8,400	70,700	8,400	62,300	70,700
2033	5,900	7,000	22,100	800	26,000	660	500	8,400	71,400	8,400	63,000	71,400
2034	5,900	7,000	22,300	1,500	26,000	640	500	8,400	72,200	8,400	63,800	72,200
2035	5,900	7,000	22,800	26,800	2,500	0	0	8,400	73,400	8,400	65,000	73,400

C. MULTIPLE DRY WATER YEARS

In addition to meeting the demands for normal and single dry water years, DWA must also meet the demands of its customers during multiple dry water years. A multiple dry water year period is generally considered to be the lowest average runoff for a consecutive multiple year period (three or more) for a watershed since 1903. Water supply and demand for selected multiple dry water years through 2035 are set forth in **Tables 42** through **46**.

Based on CDWR's 2009 Reliability Report, the percentage of estimated SWP water deliveries ranges from 34 percent (2009 estimate) to 36 percent (2029 estimate) of the total Table A allocations during multiple dry water years.

With the reliability of DWA's groundwater, surface water, and recycled water supplies, DWA is confident in its ability to meet demand through 2035. As shown in **Tables 42** through **46**, the annual groundwater from storage during the dry years represent the quantity of water required to meet demands. The same is true for the groundwater from storage quantities shown in normal years. DWA will not extract more groundwater than is needed to meet such demands.

The imported water quantities do not include surplus water or 100,000 AF of MWDSC exchanged Table A allocations (call-back), assuming those sources of supply would not be available during dry years. Surplus water such as Article 21 water is only available when excess water is available in the Delta and can be conveyed, and MWDSC may call-back up to 100,000 AF in 50,000 AF increments when supply is low.

Table 42
Projected Supply and Demand during Multiple Dry Water Year Period Ending in 2015
(AF/Yr)

		Supply						Demand				
		Groundwater			State Water Project Water Exchanged for Colorado River Water							
Year	Surface Water	Natural Groundwater	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water	Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
2010	5,900	7,000	16,100	0	26,000	1,000	500	4,500	61,000	4,500	46,000	50,500
2011	5,900	7,000	16,100	10,000	7,100	0	0	6,100	52,200	6,100	46,070	52,200
2012	5,900	7,000	16,400	10,100	7,400	0	0	6,100	52,900	6,100	46,840	52,900
2013	5,900	7,000	16,700	10,600	7,400	0	0	6,100	53,700	6,100	47,610	53,700
2014	5,900	7,000	16,900	11,200	7,400	0	0	6,100	54,500	6,100	48,380	54,500
2015	5,900	7,000	17,200	11,500	7,400	0	0	6,100	55,100	6,100	49,000	55,100
2016	5,900	7,000	17,500	0	26,000	910	500	6,100	63,900	6,100	49,920	56,000
2017	5,900	7,000	17,700	0	26,000	900	500	6,100	64,100	6,100	50,700	56,800
2018	5,900	7,000	18,000	0	26,000	880	500	6,100	64,400	6,100	51,470	57,600
2019	5,900	7,000	18,300	0	26,000	870	500	6,100	64,700	6,100	52,240	58,300
2020	5,900	7,000	18,600	0	26,000	850	500	6,100	65,000	6,100	53,000	59,100
2021	5,900	7,000	18,800	0	26,000	840	500	6,100	65,100	6,100	53,780	59,900
2022	5,900	7,000	19,100	0	26,000	820	500	6,100	65,400	6,100	54,550	60,700
2023	5,900	7,000	19,400	0	26,000	810	500	6,100	65,700	6,100	55,320	61,400
2024	5,900	7,000	19,600	0	26,000	790	500	6,100	65,900	6,100	56,090	62,200
2025	5,900	7,000	20,000	0	26,000	780	500	8,400	68,600	8,400	57,000	65,400
2026	5,900	7,000	20,200	0	26,000	760	500	8,400	68,800	8,400	57,640	66,000
2027	5,900	7,000	20,400	0	26,000	750	500	8,400	69,000	8,400	58,410	66,800
2028	5,900	7,000	20,700	0	26,000	730	500	8,400	69,200	8,400	59,180	67,600
2029	5,900	7,000	21,000	0	26,000	720	500	8,400	69,500	8,400	59,950	68,400
2030	5,900	7,000	21,400	0	26,000	700	500	8,400	69,900	8,400	61,000	69,400
2031	5,900	7,000	21,500	0	26,000	690	500	8,400	70,000	8,400	61,490	69,900
2032	5,900	7,000	21,800	400	26,000	670	500	8,400	70,700	8,400	62,270	70,700
2033	5,900	7,000	22,100	800	26,000	660	500	8,400	71,400	8,400	63,040	71,400
2034	5,900	7,000	22,300	1,500	26,000	640	500	8,400	72,200	8,400	63,810	72,200
2035	5,900	7,000	22,800	2,200	26,000	630	500	8,400	73,400	8,400	65,000	73,400

Table 43
Projected Supply and Demand during Multiple Dry Water Year Period Ending in 2020
(AF/Yr)

		Supply								Demand		
		Groundwater			State Water Project Water Exchanged for Colorado River Water							
Year	Surface Water	Natural Groundwater	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water	Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
2010	5,900	7,000	16,100	0	26,000	1,000	500	4,500	61,000	4,500	46,000	50,500
2011	5,900	7,000	16,100	0	26,000	990	500	6,100	62,600	6,100	46,100	52,200
2012	5,900	7,000	16,400	0	26,000	970	500	6,100	62,900	6,100	46,800	52,900
2013	5,900	7,000	16,700	0	26,000	960	500	6,100	63,200	6,100	47,600	53,700
2014	5,900	7,000	16,900	0	26,000	940	500	6,100	63,300	6,100	48,400	54,500
2015	5,900	7,000	17,200	0	26,000	930	500	6,100	63,600	6,100	49,000	55,100
2016	5,900	7,000	17,500	12,100	7,400	0	0	6,100	56,000	6,100	49,900	56,000
2017	5,900	7,000	17,700	12,700	7,400	0	0	6,100	56,800	6,100	50,700	56,800
2018	5,900	7,000	18,000	13,200	7,400	0	0	6,100	57,600	6,100	51,500	57,600
2019	5,900	7,000	18,300	13,600	7,400	0	0	6,100	58,300	6,100	52,200	58,300
2020	5,900	7,000	18,600	14,100	7,400	0	0	6,100	59,100	6,100	53,000	59,100
2021	5,900	7,000	18,800	0	26,000	840	500	6,100	65,100	6,100	53,800	59,900
2022	5,900	7,000	19,100	0	26,000	820	500	6,100	65,400	6,100	54,600	60,700
2023	5,900	7,000	19,400	0	26,000	810	500	6,100	65,700	6,100	55,300	61,400
2024	5,900	7,000	19,600	0	26,000	790	500	6,100	65,900	6,100	56,100	62,200
2025	5,900	7,000	20,000	0	26,000	780	500	8,400	68,600	8,400	57,000	65,400
2026	5,900	7,000	20,200	0	26,000	760	500	8,400	68,800	8,400	57,600	66,000
2027	5,900	7,000	20,400	0	26,000	750	500	8,400	69,000	8,400	58,400	66,800
2028	5,900	7,000	20,700	0	26,000	730	500	8,400	69,200	8,400	59,200	67,600
2029	5,900	7,000	21,000	0	26,000	720	500	8,400	69,500	8,400	60,000	68,400
2030	5,900	7,000	21,400	0	26,000	700	500	8,400	69,900	8,400	61,000	69,400
2031	5,900	7,000	21,500	0	26,000	690	500	8,400	70,000	8,400	61,500	69,900
2032	5,900	7,000	21,800	400	26,000	670	500	8,400	70,700	8,400	62,300	70,700
2033	5,900	7,000	22,100	800	26,000	660	500	8,400	71,400	8,400	63,000	71,400
2034	5,900	7,000	22,300	1,500	26,000	640	500	8,400	72,200	8,400	63,800	72,200
2035	5,900	7,000	22,800	2,200	26,000	630	500	8,400	73,400	8,400	65,000	73,400

Table 44
Projected Supply and Demand during Multiple Dry Year Period Ending in 2025
(AF/Yr)

		Supply								Demand		
		Groundwater			State Water Project Water Exchanged for Colorado River Water							
Year	Surface Water	Natural Groundwater	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water	Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
2010	5,900	7,000	16,100	0	26,000	1,000	500	4,500	61,000	4,500	46,000	50,500
2011	5,900	7,000	16,100	0	26,000	990	500	6,100	62,600	6,100	46,100	52,200
2012	5,900	7,000	16,400	0	26,000	970	500	6,100	62,900	6,100	46,800	52,900
2013	5,900	7,000	16,700	0	26,000	960	500	6,100	63,200	6,100	47,600	53,700
2014	5,900	7,000	16,900	0	26,000	940	500	6,100	63,300	6,100	48,400	54,500
2015	5,900	7,000	17,200	0	26,000	930	500	6,100	63,600	6,100	49,000	55,100
2016	5,900	7,000	17,500	0	26,000	910	500	6,100	63,900	6,100	49,900	56,000
2017	5,900	7,000	17,700	0	26,000	900	500	6,100	64,100	6,100	50,700	56,800
2018	5,900	7,000	18,000	0	26,000	880	500	6,100	64,400	6,100	51,500	57,600
2019	5,900	7,000	18,300	0	26,000	870	500	6,100	64,700	6,100	52,200	58,300
2020	5,900	7,000	18,600	0	26,000	850	500	6,100	65,000	6,100	53,000	59,100
2021	5,900	7,000	18,800	14,700	7,400	0	0	6,100	59,900	6,100	53,800	59,900
2022	5,900	7,000	19,100	15,200	7,400	0	0	6,100	60,700	6,100	54,600	60,700
2023	5,900	7,000	19,400	15,400	7,600	0	0	6,100	61,400	6,100	55,300	61,400
2024	5,900	7,000	19,600	16,000	7,600	0	0	6,100	62,200	6,100	56,100	62,200
2025	5,900	7,000	20,000	16,500	7,600	0	0	8,400	65,400	8,400	57,000	65,400
2026	5,900	7,000	20,200	0	26,000	760	500	8,400	68,800	8,400	57,600	66,000
2027	5,900	7,000	20,400	0	26,000	750	500	8,400	69,000	8,400	58,400	66,800
2028	5,900	7,000	20,700	0	26,000	730	500	8,400	69,200	8,400	59,200	67,600
2029	5,900	7,000	21,000	0	26,000	720	500	8,400	69,500	8,400	60,000	68,400
2030	5,900	7,000	21,400	0	26,000	700	500	8,400	69,900	8,400	61,000	69,400
2031	5,900	7,000	21,500	0	26,000	690	500	8,400	70,000	8,400	61,500	69,900
2032	5,900	7,000	21,800	400	26,000	670	500	8,400	70,700	8,400	62,300	70,700
2033	5,900	7,000	22,100	800	26,000	660	500	8,400	71,400	8,400	63,000	71,400
2034	5,900	7,000	22,300	1,500	26,000	640	500	8,400	72,200	8,400	63,800	72,200
2035	5,900	7,000	22,800	2,200	26,000	630	500	8,400	73,400	8,400	65,000	73,400

Table 45
Projected Supply and Demand during Multiple Dry Water Year Period Ending in 2030
(AF/Yr)

		Supply								Demand		
		Groundwater			State Water Project Water Exchanged for Colorado River Water							
Year	Surface Water	Natural Groundwater	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water	Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
2010	5,900	7,000	16,100	0	26,000	1,000	500	4,500	61,000	4,500	46,000	50,500
2011	5,900	7,000	16,100	0	26,000	990	500	6,100	62,600	6,100	46,100	52,200
2012	5,900	7,000	16,400	0	26,000	970	500	6,100	62,900	6,100	46,800	52,900
2013	5,900	7,000	16,700	0	26,000	960	500	6,100	63,200	6,100	47,600	53,700
2014	5,900	7,000	16,900	0	26,000	940	500	6,100	63,300	6,100	48,400	54,500
2015	5,900	7,000	17,200	0	26,000	930	500	6,100	63,600	6,100	49,000	55,100
2016	5,900	7,000	17,500	0	26,000	910	500	6,100	63,900	6,100	49,900	56,000
2017	5,900	7,000	17,700	0	26,000	900	500	6,100	64,100	6,100	50,700	56,800
2018	5,900	7,000	18,000	0	26,000	880	500	6,100	64,400	6,100	51,500	57,600
2019	5,900	7,000	18,300	0	26,000	870	500	6,100	64,700	6,100	52,200	58,300
2020	5,900	7,000	18,600	0	26,000	850	500	6,100	65,000	6,100	53,000	59,100
2021	5,900	7,000	18,800	0	26,000	840	500	6,100	65,100	6,100	53,800	59,900
2022	5,900	7,000	19,100	0	26,000	820	500	6,100	65,400	6,100	54,600	60,700
2023	5,900	7,000	19,400	0	26,000	810	500	6,100	65,700	6,100	55,300	61,400
2024	5,900	7,000	19,600	0	26,000	790	500	6,100	65,900	6,100	56,100	62,200
2025	5,900	7,000	20,000	0	26,000	780	500	8,400	68,600	8,400	57,000	65,400
2026	5,900	7,000	20,200	16,900	7,600	0	0	8,400	66,000	8,400	57,600	66,000
2027	5,900	7,000	20,400	17,500	7,600	0	0	8,400	66,800	8,400	58,400	66,800
2028	5,900	7,000	20,700	18,000	7,600	0	0	8,400	67,600	8,400	59,200	67,600
2029	5,900	7,000	21,000	18,500	7,600	0	0	8,400	68,400	8,400	60,000	68,400
2030	5,900	7,000	21,400	19,100	7,600	0	0	8,400	69,400	8,400	61,000	69,400
2031	5,900	7,000	21,500	0	26,000	690	500	8,400	70,000	8,400	61,500	69,900
2032	5,900	7,000	21,800	400	26,000	670	500	8,400	70,700	8,400	62,300	70,700
2033	5,900	7,000	22,100	800	26,000	660	500	8,400	71,400	8,400	63,000	71,400
2034	5,900	7,000	22,300	1,500	26,000	640	500	8,400	72,200	8,400	63,800	72,200
2035	5,900	7,000	22,800	2,200	26,000	630	500	8,400	73,400	8,400	65,000	73,400

Table 46
Projected Supply and Demand during Multiple Dry Year Period Ending in 2035
(AF/Yr)

		Supply								Demand		
		Groundwater			State Water Project Water Exchanged for Colorado River Water							
Year	Surface Water	Natural Groundwater	Non-Consumptive Return	Ground-water from Storage	Table A	Article 21	Other Surplus Water	Recycled Water	Total Supply	Recycled Water	Produced Water	Total Demand
2010	5,900	7,000	16,100	0	26,000	1,000	500	4,500	61,000	4,500	46,000	50,500
2011	5,900	7,000	16,100	0	26,000	990	500	6,100	62,600	6,100	46,100	52,200
2012	5,900	7,000	16,400	0	26,000	970	500	6,100	62,900	6,100	46,800	52,900
2013	5,900	7,000	16,700	0	26,000	960	500	6,100	63,200	6,100	47,600	53,700
2014	5,900	7,000	16,900	0	26,000	940	500	6,100	63,300	6,100	48,400	54,500
2015	5,900	7,000	17,200	0	26,000	930	500	6,100	63,600	6,100	49,000	55,100
2016	5,900	7,000	17,500	0	26,000	910	500	6,100	63,900	6,100	49,900	56,000
2017	5,900	7,000	17,700	0	26,000	900	500	6,100	64,100	6,100	50,700	56,800
2018	5,900	7,000	18,000	0	26,000	880	500	6,100	64,400	6,100	51,500	57,600
2019	5,900	7,000	18,300	0	26,000	870	500	6,100	64,700	6,100	52,200	58,300
2020	5,900	7,000	18,600	0	26,000	850	500	6,100	65,000	6,100	53,000	59,100
2021	5,900	7,000	18,800	0	26,000	840	500	6,100	65,100	6,100	53,800	59,900
2022	5,900	7,000	19,100	0	26,000	820	500	6,100	65,400	6,100	54,600	60,700
2023	5,900	7,000	19,400	0	26,000	810	500	6,100	65,700	6,100	55,300	61,400
2024	5,900	7,000	19,600	0	26,000	790	500	6,100	65,900	6,100	56,100	62,200
2025	5,900	7,000	20,000	0	26,000	780	500	8,400	68,600	8,400	57,000	65,400
2026	5,900	7,000	20,200	0	26,000	760	500	8,400	68,800	8,400	57,600	66,000
2027	5,900	7,000	20,400	0	26,000	750	500	8,400	69,000	8,400	58,400	66,800
2028	5,900	7,000	20,700	0	26,000	730	500	8,400	69,200	8,400	59,200	67,600
2029	5,900	7,000	21,000	0	26,000	720	500	8,400	69,500	8,400	60,000	68,400
2030	5,900	7,000	21,400	0	26,000	700	500	8,400	69,900	8,400	61,000	69,400
2031	5,900	7,000	21,500	18,300	7,600	0	0	8,400	69,900	8,400	61,500	69,900
2032	5,900	7,000	21,800	18,800	7,600	0	0	8,400	70,700	8,400	62,300	70,700
2033	5,900	7,000	22,100	19,200	7,600	0	0	8,400	71,400	8,400	63,000	71,400
2034	5,900	7,000	22,300	19,900	7,600	0	0	8,400	72,200	8,400	63,800	72,200
2035	5,900	7,000	22,800	20,600	7,600	0	0	8,400	73,400	8,400	65,000	73,400

D. SUMMARY

In summary, demand will exceed supply during normal, single dry year, and multiple dry year periods due to the reduction in SWP deliveries as described in CDWR's Reliability Report, unless DWA continues to extract groundwater in storage. Without consistently importing water to offset overdraft in the Whitewater River Subbasin, significant reduction of groundwater in storage will occur, and DWA may be required to "mine" groundwater in order to meet anticipated water demands within the next 25 years. Should DWA receive a greater than 60 percent of its Table A allocations, demand will not exceed supply in the Upper Whitewater River Subbasin for at least the next 25 years.

SECTION IX

WATER USE BASELINE AND TARGETS

SECTION IX
WATER USE BASELINE AND TARGETS

A. SENATE BILL X7 7

Law 10608.16 (a) The state shall achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020.

(b) The state shall make incremental progress towards the state target specified in subdivision (a) by reducing urban water use by at least ten percent on or December 31, 2015.

10608.20 (e) An urban retail water supplier shall include in its urban water management plan...due in 2010 the baseline daily per capita water use, urban water use target, interim urban water use target, and compliance daily per capita water use, along with the bases for determining those estimates, including references to supporting data.

Senate Bill No. 7 of the 2009-2010 Seventh Extraordinary Session, also known as the Water Conservation Act of 2009, referred to hereinafter as SB x7 7, was passed by the State Assembly and the State Senate on November 3, 2009 and November 4, 2009, respectively, in response to the Governor's call for a 20 percent reduction in urban water use by the year 2020. SB x7 7 was subsequently approved by the Governor and Chaptered by the Secretary of State on November 10, 2009.

SB x7 7 requires that the state achieve a 20 percent reduction in urban per capita water use on or before December 31, 2020. In order to achieve this reduction, SB x7 7 requires that an urban retail water supplier determine its base daily per capita water use from gross water use and historic population, as well as develop a water use target (to be achieved by 2020) and interim water use target (to be achieved by 2015) for inclusion in its 2010 Urban Water Management Plan.

Subsections B through G herein set forth DWA's gross water use, historic population, base daily per capita water use, urban water use target, and interim water use target, as well as a summary of the methodologies used in determining said water use and targets. The methodologies described herein are in accordance with those developed by CDWR, as set forth in the document, Calculating Baseline and Compliance Urban Per Capita Water Use, dated October 1, 2010 (referred to hereinafter as CDWR's Methodologies).

B. GROSS WATER USE

Law 10608.12(g). "Gross Water Use" means the total volume of water, whether treated or untreated, entering the distribution system of an urban retail water supplier, excluding all of the following:

(1) Recycled water that is delivered within the service area of a retail water supplier or its urban wholesale water supplier.

(2) The net volume of water that the urban retail water supplier places into long-term storage.

(3) The volume of water the urban retail water supplier conveys for use by another urban water supplier.

(4) The volume of water delivered for agricultural use, except as otherwise provided in subdivision (f) of Section 10608.24.

Gross water use, defined above, is a measure used to determine an urban retail water supplier's baseline per capita water use. DWA's gross water use has been calculated as described in the following steps, which correspond to the steps listed in Methodology 1 (Gross Water Use), as set forth in CDWR's Methodologies.

Step 1: Define the 12-Month Calculation Period – DWA's annual water production records are organized by fiscal year. Therefore, for purposes of this Urban Water Management Plan (UWMP), the 12-month calculation period is July 1 through June 30.

Step 2: Delineate Distribution System Boundary – DWA's Service Area boundary has been defined in **Section I** of this UWMP. The Service Area boundary is shown on **Figure 1** in **Appendix F**.

Step 3: Compile Water Volumes from Own Sources – All of DWA's water sources are defined and quantified in **Section II** of this UWMP.

Step 4: Compile Imported Water Volume – All of DWA's imported water consists of Colorado River water that is exchanged for State Water Project water. The supply volumes are defined and quantified in **Section VIII** of this UWMP.

Step 5: Compile Exported Water Volumes – DWA does not export any water from its Service Area.

Step 6: Calculate Net Change in Distribution System Storage – DWA's distribution system storage volumes remain approximately the same year after year, and any changes over the course of a year are not considered significant.

Step 7: Calculate Gross Water Use Before Indirect Recycled Water Use Deductions – **Table 47** sets forth DWA's total annual water production, which is also DWA's annual Gross Water Use. DWA's total annual production is shown in acre-feet per year (as reported by DWA) and gallons per day (gpd) for fiscal years 1990/1991 through 2009/2010.

Table 47
Gross Water Use

Fiscal Year	Total Production	
	(AF)	(GPD)
1990/1991	41,062	36,655,294
1991/1992	38,796	34,632,477
1992/1993	39,520	35,278,779
1993/1994	39,304	35,085,959
1994/1995	38,634	34,487,863
1995/1996	42,192	37,664,024
1996/1997	40,389	36,054,519
1997/1998	37,869	33,804,961
1998/1999	42,401	37,850,594
1999/2000	42,481	37,922,009
2000/2001	41,659	37,188,225
2001/2002	42,962	38,351,389
2002/2003	42,261	37,725,619
2003/2004	43,882	39,172,656
2004/2005	42,479	37,920,224
2005/2006	43,390	38,733,457
2006/2007	46,373	41,396,326
2007/2008	42,957	38,346,925
2008/2009	38,674	34,523,570
2009/2010	38,303	34,192,385

Step 8: Deduct Recycled Water Used for Indirect Reuse from Gross Water Use – DWA does not use recycled water for indirect potable reuse; therefore, this deduction is not applicable.

Step 9: Calculate the Gross Water Use After Deducting Indirect Recycled Water Use – Since DWA does not use recycled water for indirect potable reuse, the gross water quantities determined by this step are equal to those determined in Step 7.

Step 10 (Optional): Deduct from Gross Water Use the Volume of Water Delivered for Agricultural Use – DWA does not have an agricultural sector and does not deliver water for agricultural use; therefore, this deduction is not applicable.

Step 11 (Optional): Deduct Volume of Water Delivered for Process Water Use – DWA does not deliver water for process water use.

Step 12: Calculate Gross Water Use After Optional Deductions – Since there are no additional deductions that apply to DWA, the gross water use is equal to that determined in Step 7, which is shown in **Table 47**.

C. SERVICE AREA POPULATION

Law 10608.20(f). When calculating per capita values for the purposes of this chapter, an urban retail water supplier shall determine population using federal, state, and local population reports and projections.

DWA's historic Service Area populations were determined in accordance with Methodology 2 (Service Area Population) of CDWR's Methodologies. DWA's historic permanent population was determined from the total number of active connections within its Service Area for each fiscal year, multiplied by 2.6 persons per connection, as previously discussed in **Section IV**(A) of this UWMP. DWA's permanent population for fiscal years 1990/1991 through 2009/2010 is set forth in **Table 48**.

Table 48 Service Area Population		
Fiscal Year	**Active Service Connections**	**Total Population**
1990/1991	18,828	49,000
1991/1992	18,787	48,800
1992/1993	18,814	48,900
1993/1994	18,805	48,900
1994/1995	18,845	49,000
1995/1996	18,864	49,000
1996/1997	18,881	49,100
1997/1998	18,884	49,100
1998/1999	19,103	49,700
1999/2000	19,321	50,200
2000/2001	19,531	50,800
2001/2002	19,657	51,100
2002/2003	19,801	51,500
2003/2004	20,414	53,100
2004/2005	20,849	54,200
2005/2006	21,502	55,900
2006/2007	21,621	56,200
2007/2008	21,721	56,500
2008/2009	21,721	56,500
2009/2010	21,764	56,600

As previously stated, DWA serves the City of Palm Springs, which is a resort destination community, but Palm Springs is also a popular destination for a seasonal "snow bird" population and annual visitors as reported by the City of Palm Springs. The "snow bird" population consists mainly of people from the northeastern and midwestern United States, or from Canada, who spend a large portion of the winter in warmer locales such as California.

"Snow birds" are drawn to the Palm Springs area by the weather, which includes around 350 days of sunshine (City of Palm Springs). This seasonal population nearly doubles the permanent population in the winter months (November - April), and increases the annual water consumption by roughly 50% over that of the permanent residents.

In addition to the "snow bird" population, the City of Palm Springs also reports receiving approximately 1,000,000 visitors annually (City of Palm Springs). As a resort destination community, the Palm Springs area draws visitors to its local amenities, such as golf courses and spas. Based on the assumption that each visitor stays in a hotel or other accommodation for 7 days of the year, the 1,000,000 annual visitors would consume an equivalent quantity of water as approximately 19,000 permanent residents within DWA's Service Area.

For the purposes of this UWMP, the "snow bird" and visitor population estimates were not included in determining DWA's base daily per capita water use, urban water use target, or interim urban water use target, but it should be noted that the transient population has a significant impact on the total water use within DWA's Service Area, and if included, DWA's daily per capita water use would be significantly lower.

D. BASE DAILY PER CAPITA WATER USE

Law 10608.12(b). "Base daily per capita water use" means any of the following:

> (1) The urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous 10-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.
>
> (2) For an urban retail water supplier that meets at least 10 percent of its 2008 measured retail water demand through recycled water that is delivered within the service area of an urban retail water supplier or its urban wholesale water supplier, the urban retail water supplier may extend the calculation described in paragraph (1) up to an additional five years to a maximum of a continuous 15-year period ending no earlier than December 31, 2004, and no later than December 31, 2010.

The base daily per capita water use (also referred to herein as "baseline water use" or "baseline") is the urban retail water supplier's average gross water use, reported in gallons per capita per day, and calculated over a continuous 10-year base period ending no earlier than December 31, 2004 and no later than December 31, 2010. The base period may be extended up to a continuous 15-year period if at least 10 percent of an urban retail water supplier's measured retail water demand was met through recycled water use in 2008.

DWA's baseline water use has been calculated in accordance with Methodology 3 (Base Daily Per Capita Water Use) of CDWR's Methodologies. In 2008, DWA satisfied at least 10 percent of

its measured retail water demand with recycled water; therefore, in accordance with Water Code Section 10608.12(b)(2), DWA may select up to a 15-year continuous period to calculate its baseline using the gross water use and service area population data set forth in **Tables 47** and **48** herein. For purposes of this UMWP, DWA selected a 10-year base period of 1995/1996 through 2004/2005 to determine its baseline. DWA's baseline water use calculation is set forth in **Table 49** below.

Table 49
Gross per Capita Water Use

Fiscal Year	Gross Water Use		Permanent Population		Per Capita Water Use (GPCD)
	Total Production (AF/Yr)	Total Production (GPD)	Total Connections Served	Total Estimated Population	
1995/1996	42,192	37,664,024	18,864	49,000	769
1996/1997	40,389	36,054,519	18,881	49,100	734
1997/1998	37,869	33,804,961	18,884	49,100	688
1998/1999	42,401	37,850,594	19,103	49,700	762
1999/2000	42,481	37,922,009	19,321	50,200	755
2000/2001	41,659	37,188,225	19,531	50,800	732
2001/2002	42,962	38,351,389	19,657	51,100	751
2002/2003	42,261	37,725,619	19,801	51,500	733
2003/2004	43,882	39,172,656	20,414	53,100	738
2004/2005	42,479	37,920,224	20,849	54,200	700
DWA Base Daily per Capita Water Use [1]					**736**

[1] Average of gross per capita water use (in GPCD) over the base period of 1995/1996 through 2004/2005.

E. URBAN WATER USE TARGET

Law 10608.12(q). "Urban water use target" means the urban retail water supplier's targeted future daily per capita water use.

10608.20(a)(1). Each urban retail water supplier shall develop urban water use targets and an interim urban water use target by July 1, 2011. Urban retail water suppliers may elect to determine and report progress toward achieving these targets on a regional basis...and may determine the targets on a fiscal year or calendar year basis.

(2) It is the intent of the Legislature that the urban water use targets described in subdivision (a) cumulatively result in a 20-percent reduction from the baseline daily per capita water use by December 31, 2020.

SB x7 7 sets forth four methods available to an urban retail water supplier to determine its urban water use target. For the purposes of meeting the requirements of SB x7 7, DWA has selected Method 1 to determine its target, which sets its 2020 water use target to 80 percent of its baseline per capita daily water use.

In accordance with Method 1 of the SB x7 7, DWA's urban water use target is 80 percent of its baseline water use. DWA's baseline is 736 GPCD; therefore, its urban water use target is 589 GPCD.

F. INTERIM URBAN WATER USE TARGET AND TARGET SUMMARY

Law 10608.12(j). "Interim urban water use target" means the midpoint between the urban retail water supplier's base daily per capita water use and the urban retail water supplier's urban water use target for 2020.

In accordance with the definition cited above, DWA's interim urban water use target is 663 GPCD, which constitutes 90 percent of its baseline.

DWA's baseline water use, urban water use target, and interim urban water use target are summarized in **Table 50** below.

Table 50
Baseline and Targets

Item	Date	GPCD	% Reduction
Baseline Water Use	2010	736	0
Interim Water Use Target	2015	663	10
Water Use Target	2020	589	20

G. FIVE-YEAR BASELINE WATER USE

Law 10608.22 Notwithstanding the method adopted by an urban retail water supplier pursuant to Section 10608.20, an urban retail water supplier's per capita daily water use reduction shall be no less than 5 percent of base daily per capita water use as defined in paragraph (3) of subdivision (b) of Section 10608.12. This section does not apply to an urban retail water supplier with a base daily per capita water use at or below 100 gallons per capita per day.

10608.12(b). "Base daily per capita water use" means:

(3) For the purposes of Section 10608.22, the urban retail water supplier's estimate of its average gross water use, reported in gallons per capita per day and calculated over a continuous five-year period ending no earlier than December 31, 2007, and no later than December 31, 2010.

In accordance with Water Code Sections 10608.12(b)(3) and 10608.22, an urban water supplier shall determine its base daily per capita water use using a continuous five-year period (herein, five-year baseline water use). The five-year baseline is used to determine whether the water supplier's urban water use target meets the legislation's minimum water use reduction requirements.

The five-year baseline per capita water use is calculated using DWA's annual gross water use and service area data set forth in **Tables 47** and **48** herein.

DWA selected the five-year base period of July 1, 2003 through June 30, 2008. DWA's five-year baseline water use calculation is set forth in **Table 51** below.

Table 51
Five-Year Gross per Capita Water Use

Fiscal Year	Gross Water Use		Permanent Population		Per Capita Water Use (GPCD)
	Total Production (AF/Yr)	Total Production (GPD)	Total Connections Served	Total Estimated Population	
2003/2004	43,882	39,172,656	20,414	53,100	738
2004/2005	42,479	37,920,224	20,849	54,200	700
2005/2006	43,390	38,733,457	21,502	55,900	693
2006/2007	46,373	41,396,326	21,621	56,200	737
2007/2008	42,957	38,346,925	21,721	56,500	679
DWA Five-Year Baseline per Capita Water Use [1]					**709**

[1] Average of gross per capita water use (in GPCD) over the base period of 2003/2004 through 2007/2008.

In accordance with Methodology 3 of CDWR's Methodologies, the five-year baseline water use is to be multiplied by 0.95. If DWA's urban water use target for 2020 is greater than this value, then said target must be reduced to 95 percent of the five-year baseline water use. DWA's five-year baseline water use of 709 GPCD multiplied by 0.95 is equal to 678 GPCD, which is greater than

DWA's urban water use target of 589 GPCD. Therefore, DWA's urban water use target of 589 GPCD meets the minimum reduction requirements per SB x7 7.

H. IMPLEMENTATION PLAN TO MEET URBAN WATER USE TARGET

Law 10643. An urban water supplier shall implement its plan pursuant to this chapter in accordance with the schedule set forth in its plan.

Due, in part, to its recycled water program and substantial historic water conservation efforts, DWA's current gross per capita water use is approximately 604 GPCD, which represents a reduction of approximately 17 % from its calculated baseline water use. A further reduction in per capita water use of approximately 15 GPCD will be required to meet the Urban Water Use Target by the year 2020. DWA plans to achieve that reduction, at a minimum, by implementing the measures described below.

As mentioned in **Section VII** - ***Water Recycling*** - of this UWMP, DWA has identified six large irrigated areas (golf courses and parks) within its Service Area that are potential recycled water customers. One of the potential customers is scheduled to begin using recycled water for irrigation, in place of potable water, in mid to late 2011. All six potential recycled water customers are currently served with potable water. As these customers convert to recycled water for irrigation, the demand for potable water will decrease and further assist DWA in meeting its urban water use target by 2020.

DWA has also introduced water saving programs, such as the use of Smart Irrigation Controllers, Xeriscape, and the "Desert Water - Worth Saving" campaign. The Smart Irrigation Controllers and xeriscape programs promote outdoor water use conservation through efficient irrigation. Due to the success of the Smart Irrigation Controllers pilot study and DWA's own implementation of xeriscaping at its Operations Center, DWA plans to expand both of these programs throughout its Service Area, which will further reduce demand on the potable water supply.

DWA will also expand its "Desert Water - Worth Saving" campaign, which focuses on reducing hotel water use. Some hotels within DWA's Service Area are already participating in the program, and DWA will continue to promote water conservation to the many other hotels and resorts in the vicinity.

Also, to help achieve the required reductions set forth in this section, DWA proposes continued implementation and expansion of the Best Management Practices described in **Section V - *Water Demand Management Measures***. DWA's commitment to educating the public on the water supply and water conservation, and its ability to provide recycled water to customers for irrigation, have already had an impact on conservation throughout its Service Area. Therefore, DWA also proposes to continue and expand these measures as more opportunities arise.

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REFERENCES

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APPENDIX A

DOCUMENTATION OF THE ADOPTION OF THE URBAN WATER MANAGEMENT PLAN

Patricia G. Oygar
President
F. Thomas Kieley, III
Vice President
es Cioffi
retary/Treasurer
Ronald E. Starrs
Craig A. Ewing

David K. Luker
General Manager
Chief Engineer
Best, Best & Krieger
General Counsel
Krieger & Stewart
Consulting Engineers

DESERT WATER

Desert Water Agency
1200 Gene Autry Trail South
P.O. Box 1710
Palm Springs, CA 92263-1710
Telephone 760 323-4971
Fax 760 325-6505
www.dwa.org

NOTICE OF PUBLIC HEARING
ON PROPOSED URBAN WATER MANAGEMENT PLAN UPDATE
DESERT WATER AGENCY

Notice is hereby given that the Desert Water Agency is revising its Urban Water Management Plan to comply with the current requirements of the Urban Water Management Planning Act.

The public hearing will take place a minimum of 60 days from the date of this notice at 1200 Gene Autry Trail South, Palm Springs, during a meeting of the Agency's Board of Directors. An additional public notice will be issued 30 days prior stating the specific date and time of the public hearing.

All interested parties are invited to attend the public hearing, and be heard in support of or in opposition to, the proposed plan, or may submit written comments to the Agency.

A draft copy of Desert Water Agency's "2010 Urban Water Management Plan" will be made available at least 30 days prior to the public hearing at the office of Desert Water Agency, 1200 Gene Autry Trail South, Palm Springs, California.

Dated: December 30, 2010

David K. Luker
General Manager - Chief Engineer
Desert Water Agency

MINUTES
OF THE REGULAR MEETING
OF THE
DESERT WATER AGENCY
BOARD OF DIRECTORS

March 15, 2011

Attendance

DWA Board:	Patricia G. Oygar, President	)
	F. Thomas Kieley III, Vice President	)
	James Cioffi, Secretary-Treasurer	)
	Ronald E. Starrs, Director	)
	Craig A. Ewing, Director	)
DWA Staff:	David K. Luker, General Manager-Chief Engineer	)
	Martin S. Krieger, Finance Director	)
	Irene Gaudinez, Human Resources Manager	)
	Janis Tefteller, Asst. Secretary to Board	)
	Katie Ruark, Public Information Associate	)
Consultant:	Michael T. Riddell, Best Best & Krieger	)
	Robert Reeb, Reeb Government Relations	)
Public:	Joe Stuart, Palm Springs	)

Pledge of Allegiance

15828. President Oygar opened the meeting at 8:00 a.m. and asked everyone to join Director Ewing in the Pledge of Allegiance.

M-O Approval of the 03/01/11 Regular Board Mtg. Minutes

15829. President Oygar called for approval of the March 1, 2011 regular Board meeting minutes. Director Starrs moved for approval. After a second by Secretary-Treasurer Cioffi, the minutes were approved as written. Director Ewing abstained from the vote.

General Manager's Report

15830. President Oygar asked General Manager Luker to present an update on Agency operations.

Chain Link Fence Damage on Sunrise Way

Mr. Luker reported that, in late February, Desert Water Agency's chain link fence securing its property at the north end of Sunrise Way was damaged by a vehicle; the Agency plans to repair the fence and install K-rail to reduce the likelihood of further damage.

Pool A Water Allocations

Mr. Luker advised that of the 14,296 acre-feet of Pool A water which recently became available, Desert Water Agency has been allocated 240 acre-feet, and Coachella Valley Water District will receive 596 acre feet.

General Manager's Report (Cont.)

Snow Creek Equalization Reservoir Cleaning

Desert Water Agency's Snow Creek Equalization Reservoir was cleaned during the week of March 7, and the original coal tar interior coating remains in good condition. Mr. Luker noted the cooler Snow Creek temperatures are partly responsible for the longevity of the coating.

Fire Hydrant Struck

Mr. Luker reported that on March 11, a driver struck the fire hydrant located at the corner of Kieley Road and Cathedral Canyon. The accident destroyed the fire hydrant and subsequently flooded the adjacent building. Secretary-Treasurer Cioffi noted that he arrived at the location just after the incident.

Committee Reports

Executive Committee 03/08/11

15831. President Oygar noted the agenda and minutes for the March 8, 2011 Executive Committee meeting were provided in the Board's packets. She asked if members of the Board had any questions regarding that meeting. There were none.

15832. President Oygar asked Secretary-Treasurer Cioffi to provide a summary of February 2011 financial activities.

Operating Fund

Reporting on the Operating Fund, Secretary-Treasurer Cioffi pointed out the Net Operating Income for February 2011 was $77,081. Receipts included $1.1 million in Water Sales Revenue, $52,100 in Work Order Deposits (Morrison Project at Caballeros and Alejo), $62,000 from SCE's C-Power Rebate Program, and $81,400 in premium refunds from ACWA/JPIA. He stated year-to-date Water Sales were 10% under budget, Total Revenues were 7% under budget, and Total Expenses were 9% under budget.

General Fund

Secretary-Treasurer Cioffi noted the General Fund also had positive net income for February, and advised that receipts included $743,000 in Property Tax Revenue (including $372,000 from the City of Palm Springs for redevelopment pass-through), $727,000 in Groundwater Assessment Revenue ($682,000 from the Operating Fund and $45,000 from private pumpers), and $300,400 from Coachella Valley Water District for September and October 2010 State Water Project reimbursements per the terms of the Water Management Agreement. State Water Project charges amounting to $910,300 were paid.

Wastewater Fund

Wastewater Fund activity included receipts of $12,891 in Sewer Capacity Charges from the Cathedral City Cove and Dream Homes areas.

Director Ewing noted the Water Sales for February 2011 exceeded the budget for the month.

Public Input

15833. President Oygar opened the meeting for public input; no one wished to address the Board.

Items for Action:

Request Adoption of 2010 DWA Urban Water Management Plan

15834. President Oygar asked Mr. Luker to present Staff's request for Board action on Desert Water Agency's 2010 Urban Water Management Plan.

Mr. Luker recalled that at the Board's meeting of February 15, 2011, copies of the draft Urban Water Management Plan were presented to the Board for review. Following that review, the Board set a Public Hearing for March 15, 2011, as required by State law, for the purpose of allowing anyone from the public to be heard in support of, or in opposition to, the proposed Plan and its adoption. He reported that Staff posted notices of the Public Hearing and ensured the notice was published in The Public Record on February 22 and March 1, 2011, and indicated Staff recently met with local water agencies to assure consistency amongst local Plans.

Mr. Luker advised that Staff has not received any comments from the public on the proposed Plan. Director Ewing and Staff recommended some minor changes to the document and, if the Board approves the Plan, Krieger and Stewart (consulting engineers) will prepare the final version. Mr. Luker reported that the California Urban Water Conservation Council just made revised Best Management Practices for Water Conservation reports available; those revisions will be incorporated into the final version of the Agency's 2010 Urban Water Management Plan. He stated that nothing contained in the Best Management Practices will affect the other components or conclusions of the 2010 Plan. He recommended the Board open the Public Hearing on the matter, and consider adoption thereafter.

At 8:11 a.m., President Oygar opened the Public Hearing on Desert Water Agency's 2010 Urban Water Management Plan. As no one wished to address the Board, the Public Hearing was closed at 8:12 a.m.

Director Ewing asked if his inquiry concerning the Agency's response to the Best Management Practices question (Question No. 3, Section V-4, regarding whether a leak detection system was employed) had been resolved. Mr. Luker stated the Agency's answer to the question will be amended to "yes" in order to be in agreement with additional comments found in the "Explanation" section.

Secretary-Treasurer Cioffi moved for adoption of the Desert Water Agency 2010 Urban Water Management Plan with the condition that the 2009/2010 Best Management Practices be incorporated into the final version before it is filed with the State. Vice President Kieley seconded the motion, which thereafter passed upon a unanimous vote.

Items for Action: (Cont.)

Reduction of Fees for Water Service

15835. President Oygar asked Mr. Luker to present Staff's request for the Board's recommendation of a reduction in water service fees for two metered services. Directors Kieley and Cioffi recused themselves from this matter, both stating conflicts of interest due to business relationships.

Mr. Luker explained that the Agua Caliente Band of Cahuilla Indians (Tribe) owns and operates two golf courses in the southern portion of the City of Palm Springs. The Tribe recently took over operations of the North Course when a lease was not renewed for the former operator, Palm Springs National. He stated that the Tribe recently realized the restroom facilities on the North Course have, for many years, been served through illegal connections to residences on the front and back nine holes of this golf course. The Tribe is prepared to end the illegal connections to residential plumbing which currently supply water to these golf course restrooms.

Mr. Luker explained that the water services required for the restrooms are the smallest services the Agency provides. A 1" service with a 5/8" x 3/4" meter, including a backflow device, will be necessary since the North Course is irrigated by an alternative source of water (groundwater pumped from lakes), and will hopefully be supplied with recycled water before the end of 2011. In accordance with the Agency's fee resolution, the cost for a 1" service with a 5/8" x 3/4" meter and backflow would be $8,090 each.

Mr. Luker indicated the Tribe has requested that the Agency consider waiving the Imported Water Charge of $1,250 each. Staff recommend the Imported Water Charge be waived for each of the two services required (total of $2,500), inasmuch as: (1) the restroom situation was brought to the Agency's attention by the Tribe; (2) they are attempting to correct the existing illegal connections; and, (3) the services will not provide any water for irrigation of the golf course.

Director Ewing moved to approve the reduction of fees for two 5/8" x 3/4" metered services for the Agua Caliente Band of Cahuilla Indians, with the understanding that this action is based on the merits presented and is not precedent-setting. Director Starrs seconded the motion, which was passed unanimously.

M-O
Resolution No. 1034
Concurring Nomination
David T. Hodgin to Executive Committee ACWA/JPIA

15836. President Oygar explained that the Agency received a letter from the Scotts Valley Water District's Board President asking for concurrence in their nomination of David T. Hodgin to the ACWA/JPIA Executive Committee. She indicated she telephoned Jerry Gladbach (President of that Executive Committee) to seek his recommendation with respect to Mr. Hodgin's re-election; Mr. Gladbach reported Mr. Hodgin has been an active and effective member of the Executive Committee.

Items for Action: (Cont.)

M-O
Resolution No. 1034
Concurring
Nomination
David T. Hodgin to
Executive Committee
ACWA/JPIA

Secretary-Treasurer Cioffi made a motion to adopt Resolution No. 1034, concurring in the nomination of David T. Hodgin to the ACWA/JPIA Executive Committee. After a second by Vice President Kieley, the motion passed unanimously.

RESOLUTION NO. 1034
CONCURRING IN THE NOMINATION OF DAVID T. HODGIN TO THE EXECUTIVE COMMITTEE OF ACWA/JPIA

Items for Discussion:

Report on ACWA Conference March 1-3, 2011

15837. President Oygar asked Director Ewing to report on his attendance at the Association of California Water Agencies' conference March 1-3, 2011 in Washington, D.C.

Director Ewing reported that attendees heard presentations on (1) the California Delta, levy re-vegetation efforts, and Delta island restoration feasibility; (2) "budget madness" in the Capitol and the similar budget difficulties California and D.C. share; (3) costs associated with entitlements, the lack of earmarks on the proposed budget, and projected spending cuts; (4) full life-cycle costs of infrastructure; and (5) Standards for Perchlorate, Chromium 6, and the possibility of grouping standards.

Director Ewing reported there was support from Senator Feinstein and Senator Boxer's staffs for Desert Water Agency's request to re-establishing boundaries for the proposed Sand to Snow National Monument. He indicated members of Congress addressed conference attendees, and noted that Congressmen Bass and Costa opined the State should place the proposed Water Bond on the November ballot without any changes.

Sacramento Legislative Report

15838. Noting that the Board's packets included a summary of proposed water-related legislation, President Oygar asked legislative lobbyist Bob Reeb to review his legislative recommendations to the Board.

Mr. Reeb's written report included information and suggested positions on Assembly Bills 19 (not favor), 54 (watch), 83 (favor), 148 (favor if amended), 157 (oppose), 246 (oppose), 392 (oppose), 403 (oppose), 457 (oppose), 527 (oppose), 531 (watch), 550 (oppose), 576 (oppose), 582 (oppose), 627 (watch), 646 (oppose), 685 (oppose), 741 (favor), 779 (oppose), 849 (watch), 938 (oppose unless amended), 977 (watch), 1048 (favor), 1354 (oppose), ACAX1 1 (oppose), and Senate Bills 34 (oppose), 46 (watch), 115 (watch), 186 (oppose unless amended), 200 (oppose), 224 (watch), 496 (watch), 571 (not favor unless amended) 710 (watch), 725 (watch), 834 (oppose unless amended), and 843 (favor).

Mr. Reeb commented that there were 2,438 bills introduced thus far in the 2011/2012 legislative year; he indicated elected officials were

Items for Discussion: (Cont.)

still focused on California's budget, and were at an impasse regarding extension of three tax increases (representing over $50 billion) for another five years.

Sacramento Legislative Report

The Board discussed: (1) the cumbersome impact of AB 392, which would amend the Ralph M. Brown Act's posting requirements for agendas; (2) AB 403 would permit the legislature to establish a technical standard for Hexavalent Chromium without scientific support; (3) AB 582's requirement that proposed compensation increases for unrepresented employees be publicly noticed; (4) AB 938, which would require that written (and non-written) public notices for water quality violations be published in English, Spanish and possibly in other languages as determined by ethnic percentage; and, (5) SB 115, which deals with amendment of existing law requiring any elected public officer who is convicted to any specified felony to forfeit all rights and benefits in the public retirement system in which he participates.

Director Ewing made a motion to approve Mr. Reeb's recommended positions on all of the bills reviewed. Secretary-Treasurer Cioffi seconded the motion which passed upon a unanimous vote.

On behalf of the entire Board, President Oygar thanked Mr. Reeb for his informative report.

Correspondence

15839. Acknowledging correspondence received, President Oygar noted a letter of thanks from the Cielo Vista school for use of the Agency's water truck at their Walk-for-Words event recently.

Cielo Vista School Thank-you

ACWA/JPIA Open House

Director Starrs reported receiving an invitation to the Association of California Water Agency Joint Powers Insurance Authority's open house in honor of their new building in Roseville, California.

Misc. Announcements

15840. President Oygar asked if there were any miscellaneous announcements to be made.

Assistant to Japan

Vice President Kieley noted he received a call from Palm Springs Mayor Steve Pougnet concerning Riverside County Supervisor Marion Ashley's request to organize local water agencies in order to procure bottled water for Japan's citizens affected by the recent tsunami. President Oygar opined that while the intention is admirable, Japan's needs are yet unclear; she volunteered to respond to Supervisor Ashley on behalf of the Agency's Board.

Invitation to Inland Empire Water Agencies' Legislative Reception

Vice President Kieley noted he also received an invitation to a 2011 Legislative Reception in Sacramento hosted by the Water Agencies of the Inland Empire. Mr. Luker indicated this organization has sponsored this

Misc. Announcements (Cont.)

type of reception in the past as a way of facilitating communication between local water purveyors and their legislative representatives.

Sand to Snow Monument Follow-up

Director Ewing stated he is interested in a follow-up meeting with Senator Feinstein's staff in San Diego regarding the proposed Sand to Snow National Monument. He expressed concern that efforts to promote exclusion of the Agency's rights of way within the Monument's boundaries be actively pursued. Vice President Kieley suggested that the Legislative Committee consider scheduling a meeting with Senator Feinstein's staff during the second week of April, while Federal lobbyist Kris Polly is in the desert.

Closed Session
- Conf Real Prop. Negotiator/Lease
- Conf w/Legal Counsel regarding litigation
- Conf w/Legal Counsel regarding Admin. Proceeding

15841. President Oygar adjourned the meeting at 9:15 a.m. to Closed Session for the purpose of: (A) Conference with real property negotiator regarding property lease at 9500 Worsley Road, Desert Hot Springs; (B) Conference with legal counsel regarding existing litigation between O'Donnell Golf Club, and the City of Palm Springs and Desert Water Agency; and (C) Conference with legal counsel regarding an administrative proceeding before the State Water Resources Control Board to change Water Right License Nos. 174, 659, and 660.

Director Ewing recused himself from Closed Session discussion item (B), as his employer (City of Palm Springs) is also involved in the litigation with O'Donnell Golf Club.

Reconvene

15842. When the meeting reconvened at 10:25 a.m., President Oygar stated there were no reportable decisions from Closed Session discussion.

Adjournment

15843. In the absence of any further business, President Oygar adjourned the meeting at 10:26 a.m.

ATTEST:

_____
Patricia G. Oygar, President
Board of Directors – Desert Water Agency

_____
James Cioffi, Secretary-Treasurer
Board of Directors – Desert Water Agency

APPENDIX B

- **DWA/CVWD 1976 WATER MANAGEMENT AGREEMENT**
- **DWA/CVWD 1992 WATER MANAGEMENT AGREEMENT AMENDMENT**

COPY

WATER MANAGEMENT AGREEMENT

AGREEMENT made this 1st day of July, 1976, between the Coachella Valley County Water District, a public agency, hereinafter called "Coachella," and the Desert Water Agency, a public agency, hereinafter called "Desert."

RECITALS

1. The Whitewater River Subbasin is a ground water basin located in the Upper Coachella Valley in Riverside County. The primary natural sources of water supply to such basin come from surface and underground flows of the Whitewater River and its tributaries, runoff from the surrounding mountains, and from underflow. The native supply to the basin is currently being overdrawn, although large amounts of ground water remain in storage. The portion of the basin contained within the Management Area, as hereinafter defined, constitutes a common source of water supply for both Coachella and Desert, as well as for others producing water therefrom.

2. The Management Area is entirely contained within the boundaries of Coachella and Desert. Each of these public agencies owns and operates a water production and distribution system, and together they constitute the major suppliers of water within the Management Area. Their

principal sources of supply come from wells within the Management Area, although Desert also diverts surface water from Snow, Falls and Chino Creeks.

3. On October 17, 1962 Desert entered into a Water Supply Contract with the State of California for a supply of water imported from the State Water Resources Development System. Desert's maximum annual entitlement under such contract, as amended, is 38,100 acre feet. On March 29, 1963 Coachella entered into a similar Water Supply Contract, providing for a maximum annual entitlement, as amended, of 23,100 acre feet.

4. The point of delivery for such imported water as provided under these Water Supply Contracts is located along the California Aqueduct near Hesperia. No facilities yet exist for the transportation of such water from the California Aqueduct to the Management Area, although the State of California is now conducting a study of the costs and alternate routes for construction of such facilities. In order to make additional water available to the Management Area without waiting for construction of facilities from the California Aqueduct, Desert entered into a contract with The Metropolitan Water District of Southern California, hereinafter called "Metropolitan," dated January 17, 1967 and amended March 14, 1972. Coachella entered into a substantially

identical contract, except as to quantities of water involved, dated October 13, 1967 and amended March 14, 1972. These contracts provide for the exchange of Colorado River water delivered from Metropolitan's Colorado River Aqueduct to Desert and Coachella, respectively, in return for equivalent amounts of water delivered to Metropolitan from the California Aqueduct under the State Water Contract entitlements of Desert and Coachella.

5. Beginning in 1973, and each year since, Coachella and Desert have taken water from Metropolitan under these Exchange Contracts. Such water has been transported in the channel of the Whitewater River to Coachella's spreading grounds, as shown upon the plat attached hereto as Exhibit "B", where it has been percolated underground and thus stored within the Management Area.

6. It is the purpose of this Agreement to establish principles which will control the continuation of the parties' imported water program and the allocation of costs therefor, and to provide further for the collection and analyses of data which will serve as the basis for sound, integrated management of the natural and imported water supplies of the Management Area.

BASED UPON THE FOREGOING FACTS, AND IN CONSIDERATION OF THE MUTUAL COVENANTS OF THE PARTIES, IT IS HEREBY AGREED AS FOLLOWS:

7. Definitions. As used in this Agreement these terms, including any grammatical variations thereof, shall have the following meanings:

(a) Annual or Year - a calendar year, unless the context indicates a contrary meaning.

(b) Exchange Contracts - the contract between Metropolitan and Desert dated January 17, 1967, as amended, and the contract between Metropolitan and Coachella, dated October 13, 1967, as amended, providing for the delivery by Metropolitan of Colorado River water in exchange for equivalent amounts of State Project Water taken from the California Aqueduct pursuant to the entitlements of Desert and Coachella; such contracts expire on January 1, 1990.

(c) Exchange Water - water delivered by Metropolitan from its Colorado River Aqueduct into the channel of the Whitewater River, pursuant to the Exchange Contracts.

(d) Management Area - that portion of the Whitewater River Subbasin of the Upper Coachella Valley, extending generally from Fingal Point to Point Happy, as more particularly shown on the plat attached hereto as Exhibit "A".

(e) Minimal Pumper - anyone who produces less than 25 acre feet of water per year.

(f) MWD Connection - a 125 cfs connection to Metropolitan's Colorado River Aqueduct by which Exchange Water is delivered.

(g) Overdraft - a condition wherein the total annual extractions of water from a ground water basin exceed the native safe yield thereof.

(h) Production - the quantity of water, stated in acre feet, extracted by pumping or other means from the Management Area, or diverted from surface streams tributary to the Management Area and used therein.

(i) State Project Water - water imported through the State Water Resources Development System, pursuant to the respective State Water Contracts of Desert and Coachella.

(j) State Water Contract - the contract between Desert and the State of California, dated October 17, 1962, as amended, for an imported water supply from the State Water Resources Development System, and the contract between Coachella and the State of California, dated March 29, 1963, as amended, for an imported water supply from the State Water Resources Development System. The term shall also include any contracts which the parties may hereafter make in order to finance revenue bonds on the Pyramid and Cottonwood power projects.

8. Continuation of the Imported Water Program. As long as a current overdraft exists within the Management Area, and subject to Paragraph 17 and the remaining provisions of this Agreement, Coachella and Desert shall each order their present full Table A annual entitlements under their respective State Water Contracts. Such amounts of water shall be delivered to Metropolitan under the Exchange Contracts, and equivalent amounts shall be delivered to Coachella and Desert at their MWD Connection. Such Exchange Water shall be percolated underground in the spreading grounds shown on Exhibit "B".

9. Operation of Spreading Grounds. Coachella shall operate and maintain these spreading grounds in cooperation with Desert. Spreading operations shall not be carried on during those times of the year when excessive losses would occur. No expenditures for other than operation, maintenance or replacement purposes shall be made without the approval of both parties. Any future permit or other form of permission which may be required from any governmental authority having jurisdiction over these spreading operations shall be the joint responsibility of Coachella and Desert.

10. Payment of Fixed Transportation Charges. Coachella and Desert shall each continue to pay, without contribution from the other, the fixed Transportation Charges

due under their respective State Water Contracts. These payments shall include both the capital and the minimum operation, maintenance, power and replacement components of such Transportation Charges.

11. Payment of Variable Transportation and Delta Water Charges. Commencing with the year 1976, the variable operation, maintenance, power and replacement components of the Transportation Charges, and the Delta Water Charges, due annually under the State Water Contracts of Coachella and Desert shall each year be added together, and responsibility for payment of such total amounts due under both Contracts shall be allocated between the two parties in proportion to the total water production for such year within their respective portions of the Management Area. Minimal pumpers shall be excluded from these production calculations. The required water production determinations for each year shall be made jointly by the parties within three months after the end of the year. The first determinations shall be made by March 31, 1977 for the year 1976, and the payments made by Coachella and Desert to the State of California during 1976 shall thereupon be adjusted between the parties as required under this paragraph. The parties shall each continue to make their own timely payments to the State of California as they become due for the variable Transportation and Delta Water Charges under their respective State Water Contracts.

However, as soon as practical after each State payment, commencing with the first payment due after March 31, 1977, Coachella and Desert shall make a tentative adjustment as between themselves based upon the allocations of the prior year. Final allocations of payment responsibilities for each year, and consequent payment adjustments between the parties, shall be made when water production for the year has been determined.

12. Payment of Operation and Maintenance Costs of Spreading Operations. Commencing with the year 1976, and for each year during the operation of this Agreement, the annual costs of operating and maintaining the spreading grounds and of spreading the Exchange Water shall be borne by Coachella and Desert in the same proportions required by Paragraph 11. Such costs shall be paid initially by Coachella, and Desert shall reimburse Coachella for its required share on a quarterly basis upon receipt of a statement from Coachella.

13. Retroactive Payment of Costs. Deliveries of State Project Water and the spreading of Exchange Water commenced in 1973. The variable Transportation and Delta Water Charges which Coachella and Desert have each paid to the State of California for deliveries of State Project Water in 1973, 1974 and 1975 shall be added together, and the total costs thereof shall be allocated between the two

parties in proportion to the total water production for the year 1976 within their respective portions of the Management Area. The production of minimal pumpers shall be excluded from the computation of such production. The payment required to adjust these 1973, 1974 and 1975 costs between the parties in accordance with their respective proportions shall be made in three equal annual installments, commencing January 1, 1978. The operation and maintenance costs of the spreading operations for such years shall also be re-allocated between the parties in the same proportion, and whatever payment adjustment is required shall be made by January 1, 1978.

14. Intent to Recapture. The Exchange Water which will be and has been spread and percolated into underground storage within the Management Area shall not be considered part of the native safe yield of the groundwater basis. The parties hereby declare their intent to recapture such imported water, and to maintain their prior right to recapture an amount by which the ground water supply has been augmented through their spreading operations. Such recapture right shall be owned by the parties in the same proportions as the imported water was paid for as provided in Paragraphs 11 and 13. Coachella and Desert shall each own the right to recapture the return flows from its share of such imported water to the maximum extent permitted by law.

15. No Transfer of Permanent Entitlement. Nothing in this Agreement shall be construed as effecting or resulting in any assignment, conveyance or other transfer of permanent entitlement or of any other rights under the State Water Contract of either party, nor the acquisition of any right, title or interest in the State Water Contract of the other party. Coachella and Desert each reserve the right, upon 180 days written notice to the other, to withdraw from the joint spreading operations and to fully utilize their own entitlements under their respective State Water Contracts whenever their own needs, as determined by each such party, may require. In such event, each party shall thereafter be required to pay in full all sums due under its own State Water Contract without contribution from the other.

16. Delivery Amounts. Deliveries under the respective State Water Contracts and Exchange Contracts of the parties shall be in the amounts required by the present Table A annual entitlements thereof, and no changes in such entitlements shall be made which affect the joint spreading operations without the written consent of the other party. Surplus water from the State Water Project shall not be taken under this Agreement without the prior approval of both parties.

17. Review of Spreading Operations. The amounts of water which the parties shall continue to take and spread

under their State Water Contracts and Exchange Contracts shall be subject to review and redetermination in 1982 and each year thereafter. The spreading of Exchange Water, and the financial provisions of this Agreement relating thereto, shall cease upon termination of the Exchange Contracts.

18. Effect of State Water Contracts and Others. This Agreement is subject to the provisions of State Water Contracts, the Exchange Contracts, all provisions of law, and the rules and regulations of any governmental agency having lawful jurisdiction over the performance of this Agreement.

19. Data Collection Program. A joint program of data collection and analyses within the Management Area shall be established by the parties in order to provide the information required for sound management of the water resources of the area. Such program shall include, but not be limited to: (1) an annual determintion of the water production, excluding minimal pumpers, within the portion of the Management Area of each of the parties, including continued metering of their own wells, and efforts to meter the wells of other pumpers in the Management Area; (2) monitoring the effect of the spreading operations, including cooperative efforts with the Regional Water Quality Control Board and the USGS; (3) monitoring inflow and outflow from

the Management Area; (4) regular measurement of ground water levels; (5) regular analyses of ground water quality. Coachella and Desert shall each be responsible for carrying out and paying the costs of such program within their own boundaries. Additional data or work which may be required shall be mutually agreed upon and the costs borne equally by the parties. All data collected under this program, and all the results thereof, shall be equally available to both parties, and shall be exchanged at the end of each year.

20. State Project Water. A study is now being made by the Department of Water Resources concerning the construction of facilities to deliver State Project Water into the Coachella Valley and other areas. At the present time, it is not known when or where such water may be delivered, but it is the intention of the parties to utilize State Project Water for spreading and replenishment when that supply becomes available.

IN WITNESS WHEREOF the parties have executed this Agreement.

DESERT WATER AGENCY

By _____

President

Title

ATTEST:

_____

Secretary-Treas.

COACHELLA VALLEY COUNTY WATER DISTRICT

By _____

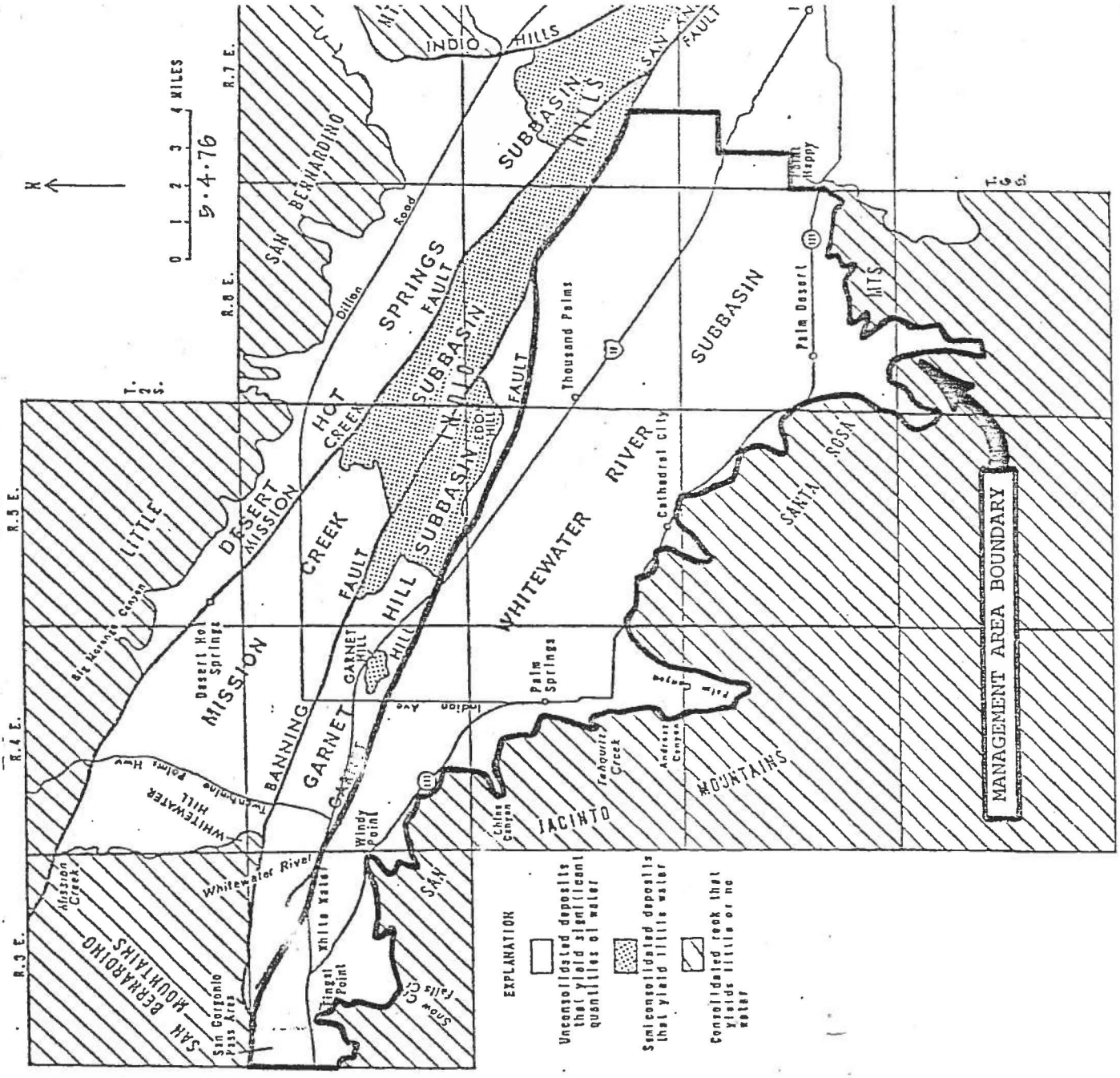
President

Title

ATTEST:

_____

Secretary



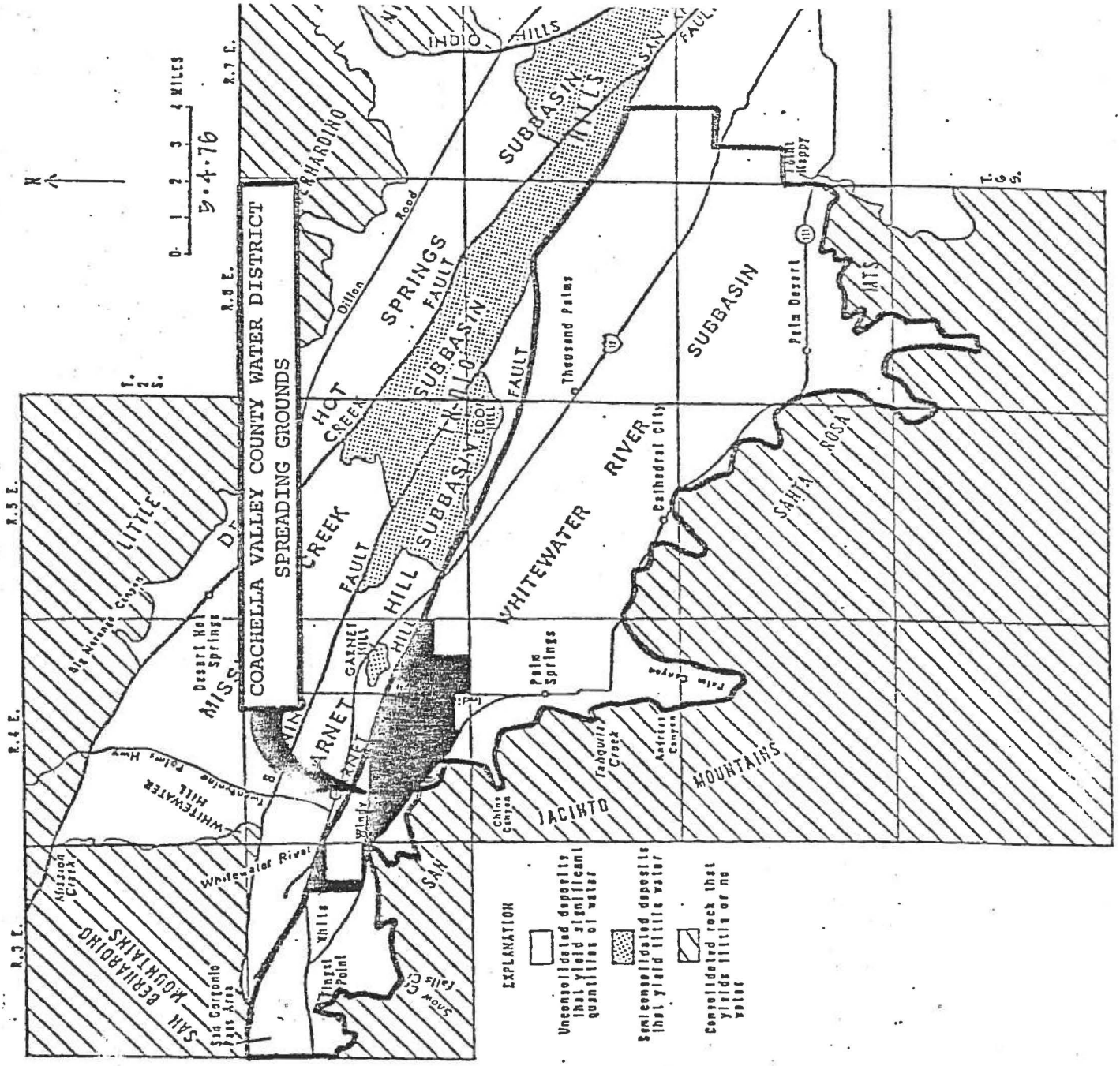
NOTES:

1. The Base Map was Prepared by the United States Department of the Interior, Geological Survey, Water Resources Division, in 1971, to show the Upper Coachella Valley Grounwater Basin and its subbasins.

2. The northwesterly boundary of the Management Area is described as the westerly line of Township 3 South, Range 3 East, San Bernardino Meridian extending from the mountains on the south northerly to the Banning Fault.

3. The southeasterly boundary of the Management Area is described as the westerly lines of Sections 30 and 19, the southerly line of Section 18, the easterly lines of Sections 18 and 7, the southerly line of Section 5, the easterly line of Section 5, all T5S, R7E, SBM and the easterly lines of Sections 32 and 29, T4S, R7E SBM extending from the Santa Rosa Mountains northerly to the Banning Fault in accordance with Coachella letter dated 2/4/74, approved by Desert 2/6/74.

EXHIBIT "A"
MANAGEMENT AREA



NOTES:

1. The Base Map was Prepared by the United States Department of the Interior, Geological Survey, Water Resources Division, in 1971, to show the Upper Coachella Valley Groundwater Basin and its subbasins.

2. Only the Spreading Grounds which are situated within the Whitewater River Subbasin and which are under the jurisdiction of the Coachella Valley County Water District are shown.

EXHIBIT "B"
SPREADING GROUNDS

WATER MANAGEMENT AGREEMENT

THIS WATER MANAGEMENT AGREEMENT ("Agreement"), made this 15th day of December, 1992, between the COACHELLA VALLEY WATER DISTRICT, a public agency, hereinafter called "Coachella," and the DESERT WATER AGENCY, a public agency, hereinafter called "Desert," amends the Water Management Agreement, made the 1st of day of July 1976, between the same parties.

RECITAL

A. On July 1, 1976, Desert and Coachella entered into a Water Management Agreement to jointly import and spread water utilizing water from the State Water Resources Development System directly or by means of Exchange Agreements with The Metropolitan Water District of Southern California.

B. Since that Agreement was executed, both agencies have entered into amendments with the State of California to modify their respective State Water Project Contracts to pay for Off Aqueduct Power Facilities, and have made further agreements with The Metropolitan Water District of Southern California for the advance delivery of entitlement water.

C. In addition, both agencies recognize the need to import additional supplies of water including reclaimed water into the upper Coachella Valley. Therefore, both agencies requested that the State Legislature and Governor authorize amendments to the Replenishment Assessment Programs authorized by Section 15.4 of the Desert Water Agency Law and Section 31633 of the Water Code. During the 1991-1992 session of the legislature, AB1070 (Chapter 198) was passed, authorizing changes to the Replenishment Assessment Programs

D. These amendmen to the July 1, 1976 Water Mana_ment Agreement allow the two agencies to implement these changes.

E. Replace Recital No. 4 with the following:

4. Delivery for such imported water as provided under these Water Supply Contracts is from the California Aqueduct at Devil Canyon (Devil Canyon Afterbay). No facilities yet exist for the transportation of such water from the California Aqueduct to the Management Area, although the State of California is now conducting a study of the costs for construction of such facilities. In order to make additional water available to the Management Area without waiting for construction of facilities from the California Aqueduct, Desert entered into contracts with the The Metropolitan Water District of Southern California, hereinafter called "Metropolitan," dated January 17, 1967, and March 14, 1972, and these contracts were superseded by contracts dated July 7, 1983, and June 28, 1984. Coachella entered into substantially identical contracts, except as to quantities of water involved, dated October 13, 1967, and March 14, 1972, and these contracts were superseded by contracts dated July 7, 1983, and June 28, 1984. These contracts provide for the exchange and advance delivery of Colorado River water delivered from Metropolitan's Colorado River Aqueduct to Coachella and Desert, respectively, in return for equivalent quantities of water delivered to Metropolitan from the California Aqueduct under the State Water Contract entitlements of Coachella and Desert.

F. Replace Recital No. 5 with the following:

5. Since 1973, Coachella and Desert have taken water from Metropolitan under these Exchange and Advance Delivery Contracts. Such water has been transported in the channel of the Whitewater River to Coachella's spreading grounds, as shown upon the plat attached hereto as Exhibit "B," where it has been infiltrated and percolated underground and thus stored within the Subbasin.

G. Replace definitions 7(b), 7(c), 7(f) and 7(j) with the following:

7(b). Exchange and Advance Delivery Contracts. The contracts between Metropolitan and Coachella, and Metropolitan and Desert, dated July 7, 1983, and June 28, 1984, providing for the exchange and advance delivery of Colorado River water by Metropolitan for equivalent quantities of State Project Water pursuant to the entitlements of Coachella and Desert; such contracts expire on December 31, 2035.

7(c). Exchange and Advance Delivery Water. Water delivered by Metropolitan from its Colorado River Aqueduct into the channel of the Whitewater River, pursuant to the Exchange and Advance Delivery Contracts.

7(f). Metropolitan Connections. Connections to Metropolitan's Colorado River Aqueduct by which Exchange and Advance Delivery Water is delivered.

7(j). State Water Contract. The contract between Desert and the State of California, dated October 17, 1962, as amended, for an imported water supply from the State Water Resources Development System, and the contract between Coachella and the State of California, dated March 29, 1963, as amended, for an imported water supply from the State Water Resources Development System.

H. Replace "8. Continuation of the Imported Water Program" with the following:

8. Continuation of the Imported Water Program. As long as a current overdraft exists within the Management Area, and subject to Paragraph 17 and the remaining provisions of this Agreement, Coachella and Desert shall each order their present full Table A annual entitlements under their respective State Water Contracts. Such quantities of water shall be delivered to Metropolitan under the Exchange and Advance Delivery Contracts, and equivalent quantities shall be delivered to Coachella and

Desert at their Met politan Connection(s). Such Exchange and Advance Delivery Water shall be infiltrated and percolated underground in the spreading grounds as shown on Exhibit "B."

I. Replace "10. Payment of Fixed Transportation Charges" with the following:

10. Payment of Capital and Minimum Transportation Charges. Coachella and Desert shall each continue to pay, without contribution from the other, the Capital Cost and Minimum Operation, Maintenance, Power, and Replacement Components, excluding Off Aqueduct Power Component, of the Transportation Charges due under their respective State Water Contracts.

J. Replace "11. Payment of Variable Transportation and Delta Water Charges" with the following:

11. Payment of Variable Transportation, Off Aqueduct Power, and Delta Water Charges. Commencing with the year 1992, the Variable Operation, Maintenance, Power, and Replacement Component and the Off Aqueduct Power Component of the Transportation Charges and the Delta Water Charges due annually under the State Water Contracts of Coachella and Desert shall each year be added together, and responsibility for payment of such total amounts due under both Contracts shall be allocated between the two parties in proportion to the total water production for such year within their respective portions of the Management Area. Minimal pumpers shall be excluded from these production calculations. The required water production determinations for each year shall be made jointly by the parties within three months after the end of the year. The parties shall each continue to make their own timely payments to the State of California as they become due for the variable Transportation, Off Aqueduct Power, and Delta Water Charges under their respective State Water Contracts. However, as soon as practical after each State payment, Coachella and Desert shall make a tentative adjustment as between themselves based upon the allocations of

the prior year. Final allocations of payment responsibilities for each year, and consequent payment adjustments between the parties, shall be made when the water production for the year has been determined.

K. Replace "12. Payment of Operation and Maintenance Costs of Spreading Operations" with the following:

12. Payment of Spreading Costs. Commencing with the year 1992, all costs of maintaining the existing spreading grounds and their operation, as required to spread all Exchange and Advance Delivery Water pursuant to this agreement, shall be borne by Coachella.

L. Replace "13. Retroactive Payment of Costs" with the following:

13. Retroactive Payment of Costs. Deliveries of State Project Water and the spreading of Exchange Water commenced in 1973. The Variable Transportation and Delta Water Charges which Coachella and Desert have each paid to the State of California for deliveries of State Project Water in 1973, 1974 and 1975 shall be added together, and the total costs thereof shall be allocated between the two parties in proportion to the total water production for the year 1976 within their respective portions of the Management Area. The production of minimal pumpers shall be excluded from the computation of such production. The payment required to adjust these 1973, 1974 and 1975 costs between the parties in accordance with their respective proportions shall be made in three equal annual installments, commencing January 1, 1978. The operation and maintenance costs of the spreading operations for such years shall also be reallocated between the parties in the same proportion, and whatever payment adjustment is required shall be made by January 1, 1978.

The Off Aqueduct Power Component of the Transportation Charges which Coachella and Desert have each paid to the State of California prior to 1992 shall not be allocated between the two parties.

M. Replace "14. Intent to Recapture" with the following:

14. Intent to Recapture. The Exchange and Advance Delivery Water which will be and has been infiltrated and percolated into underground storage within the Management Area shall not be considered part of the native safe yield of the Subbasin. The parties hereby declare their intent to recapture such imported water, and to maintain their prior rights to recapture quantities by which the ground water supply has been augmented through their spreading operations. Such recapture rights shall be owned by the parties in the same proportions as imported water payments as provided in Paragraphs 11 and 13. Coachella and Desert shall each own the right to recapture the return flows from its share of such imported water to the maximum extent permitted by law.

N. Replace "16. Delivery Quantities" with the following:

16. Delivery Quantities. Deliveries under the respective State Water Contracts and Exchange and Advance Delivery Contracts of the parties shall be in the quantities required by the present Table A annual entitlements thereof, and no changes in such entitlements shall be made which affect the joint spreading operations without the written consent of the other party. Surplus water from the State Water Project shall not be taken under this Agreement without the prior approval of both parties.

O. Replace "17. Review of Spreading Operations" with the following:

17. Review of Spreading Operations. The quantities of water which the parties shall continue to take and spread under their State Water Contracts and Exchange and Advance Delivery Contracts shall be subject to review and redetermination in 2002 and each year thereafter. The spreading of Exchange and Advance Delivery Water, and the financial provisions of this Agreement relating thereto, shall cease upon termination of the Exchange and Advance Delivery Contracts.

P. Replace "18. Effect of State Water Contracts and Others" with the following:

18. Effect of State Water Contracts and Others. This Agreement is subject to the provisions of State Water Contracts, the Exchange and Advance Delivery Contracts, all provisions of law, and the rules and regulations of any governmental agency having lawful jurisdiction over the performance of this Agreement.

IN WITHNESS WHEREOF the parties have executed this Agreement.

DESERT WATER AGENCY

By: _____

Title: President

ATTEST:

_____

COACHELLA VALLEY WATER DISTRICT

By: _____

Title: President

ATTEST:

_____

TEL:lg/a3d

APPENDIX C

- **ORDINANCE NO. 31 - PROHIBITING THE WASTE OF WATER**
- **ORDINANCE NO. 45 - RESTRICTING WATER USE DURING WATER SUPPLY EMERGENCIES**

ORDINANCE NO. 31

AN ORDINANCE OF THE BOARD OF DIRECTORS OF DESERT WATER AGENCY PROHIBITING THE WASTE OF WATER

WHEREAS, Desert Water Agency (hereinafter "Agency"), is a public agency organized under the Desert Water Agency Law, Water Code Appendix 100-1, et seq., to provide water service among other purposes to the water users within the boundaries of the Agency; and

WHEREAS, the Agency's chief water sources are stream diversions, groundwater extractions within the Whitewater River Subbasin of the Upper Coachella Valley groundwater basin, and water obtained under its State Water Contract through an exchange agreement with The Metropolitan Water District; and

WHEREAS, during the past four years, total water production within the Whitewater River Subbasin, including surface diversions and pumped groundwater, has averaged slightly more than 104,000 acre feet per year. Production within the Desert Water Agency area has approximated one-third of such production, with the balance being produced for use within the Coachella Valley Water District. Such production, together with that pumped or diverted by other water producers in the basin, would have resulted without groundwater replenishment in an annual overdraft of approximately 36,000 acre feet per year within the basin; and

WHEREAS, since 1973, the Agency and Coachella Valley Water District have replenished the Whitewater River Subbasin with approximately 116,000 acre feet of imported Colorado River water, and as a result annual groundwater overdraft has been reduced though not eliminated; and

WHEREAS, while it is anticipated that imported water may eventually and for a limited period of time offset groundwater overdraft on an annual basis, continued growth in population will create water requirements which are likely to place further demands on groundwater in storage. The extent of annual overdraft in the future will depend on consumer demands and uses, and on the availability of local and imported supplies; and

WHEREAS, cumulative groundwater overdraft within the Whitewater River Subbasin has been estimated to be at least 400,000 acre feet. Although groundwater replenishment will reduce annual groundwater overdraft, it will have little effect on cumulative groundwater overdraft which has been occurring for more than 30 years within the basin. The Upper Coachella Valley groundwater basin is overdrawn and will remain so even with importation of water from outside the basin. Continued groundwater overdraft will increase pump lifts and could possibly cause aquifer subsidence. It could also adversely affect water quality by altering basin conditions, such as groundwater gradients and groundwater flow lines; and

WHEREAS, energy costs for pumping groundwater have increased 200% over the past 10 years, and are likely to continue to increase in the future; and

WHEREAS, pursuant to the directive of Article X, Section 2 of the California Constitution establishing the State's policy of water conservation and prohibition against waste, and pursuant to the statutory authority granted by Sections 375-377 and Section 1009 of the California Water Code, and by Section 100 15(13) of the Appendix to the California Water Code, the Agency has engaged in a vigorous and ongoing program of water conservation, and this Ordinance is part of the Agency's Water Conservation Program; and

WHEREAS, the Agency finds that it is necessary and in the public interest to prohibit the waste of Agency water in order to conserve water supplies for the greatest public benefit, to protect and conserve the natural groundwater resources, to prevent or reduce future shortages of water, and

WHEREAS, the Agency further finds that the specific rules, regulations and restrictions established herein are necessary in order to prevent the waste of Agency water supplies, and are in addition to any voluntary conservation programs undertaken by water users within the service area of the Agency;

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE DESERT WATER AGENCY AS FOLLOWS:

SECTION 1: DEFINITIONS.

1.1 "Agency" -- Desert Water Agency.

1.2 "Board" -- The Board of Directors of the Desert Water Agency.

1.3 "General Manager: -- The General Manager of the Desert Water Agency.

1.4 "Water users" -- Any person, firm, partnership, association, corporation or political entity using water obtained from the water system of the Desert Water Agency.

1.5 "Waste" -- Any unreasonable or non-beneficial use of water, or any unreasonable method of use of water, including, but not limited to, the specific uses prohibited and restricted by this Ordinance as hereinafter set forth.

1.6 "Water" -- Water supplied by the Desert Water Agency.

SECTION 2: PROHIBITIONS ON WASTE.

2.1 No water user shall waste any water supplied through the distribution facilities of the Agency. The following uses of water are specifically found and determined to constitute waste:

(a) The use of water for any purpose, including landscape irrigation, which consumes or for which

there is applied substantial amounts of excess water beyond the reasonable amount required by such use, whether such excess water remains on the site, evaporates, percolates underground, goes into the sewer system, or is allowed to run off the property. Every water user is deemed to have under his control at all times the water distribution lines and facilities, other than Agency facilities, through which water is being supplied and used, and to know the manner and extent of his water use and excess run-off.

(b) The excessive use, loss, or escape of water through breaks, leaks or malfunctions in the water user's plumbing or distribution facilities for any period of time after such escape of water should reasonably have been discovered and corrected.

(c) The use of spray-type sprinklers or other irrigation devices in such a manner, or under such weather conditions, as to permit or cause overspray into the street, gutter or other hard surface, or the escape or flow of water into the street or gutter, in such amounts or frequencies as to create a hazardous condition for pedestrians or vehicular traffic, or to impede vehicular or pedestrian traffic, or to cause damage to the public streets, curbs or gutters. Because prolonged periods of windy weather may cause the loss of landscaping materials unless spraying or other irrigation methods are used, the occasional overspray which necessarily occurs during such weather conditions shall be an exception to this section.

SECTION 3: APPEALS AND EXCEPTIONS.

3.1 Application for Exception Permit. The General Manager of the Agency may grant permits for uses of water otherwise prohibited hereby if he finds and determines that special circumstances make compliance not reasonably possible, or that the restrictions herein would either:

(a) Cause an unnecessary and undue hardship to the water user or to the public; or

(b) Cause an emergency condition affecting the health, sanitation, fire protection or safety of the water user or of the public; or

(c) Prohibit operation of an efficient automatic or drip irrigation system which would use less water than alternative methods or irrigation.

(d) Require extensive construction, reconstruction, redesign, or equipment changes to an existing system or systems at a cost which is unreasonable in relation to the water and energy savings intended to be achieved by such changes.

Such exceptions may be granted only upon application in writing therefor. Upon granting any such exception permit, the General Manager may impose any conditions he determines to be just and proper, including a condition that such exceptional use be brought into compliance within a reasonable period of time.

SECTION 4: CONCURRENT AUTHORITY.

4.1 The Desert Water Agency, its manager and designated employees, have the duty and are authorized to enforce all provisions of this Ordinance, with the qualification that the City of Palm Springs through enforcement of Sections 14.24.020-14.24.060 of the Palm Springs Municipal Code, the City of Cathedral City, and the County of Riverside as to unincorporated territory within the Agency, are recognized to have concurrent authority for, and shall have the primary responsibility for the control of water flowing in the streets where such occurs within their respective jurisdictions.

SECTION 5: ENFORCEMENT.

5.1 First Violation. For a first violation, the Agency shall issue a written notice of violation to the water user violating the provisions of this Ordinance.

5.2 Second Violation; 25% Surcharge. For a second violation of this Ordinance within a 12-month period, a one-month surcharge is hereby imposed in an amount equal to 25% of the previous month's water bill for the meter through which the wasted water was supplied.

5.3 Third Violation; 50% Surcharge; Installation of Flow Restrictor. For a third violation of this Ordinance within a 12-month period, a one-month penalty

surcharge is hereby imposed in an amount equal to 50% of the previous month's water bill for the meter through which the wasted water was supplied. In addition to the surcharge, the Agency may at its discretion install a flow-restricting device at such meter with a one-eighth inch orifice for services up to one and one-half inch size, and comparatively sized restrictors for larger services, on the service of the customer at the premises at which the violation occurred for a period of not less than 48 hours. The charge for installing a flow-restricting device shall be based upon the size of the meter and the cost of installation but shall not be less than $25. The charge for removal of the flow-restricting device and restoration of normal service shall be $25 if restoration of normal service is performed during the hours of 8:00 a.m. to 4:00 p.m. on regular working days. If the removal of the flow-restricting device and restoration of normal service is made after regular working hours, on holidays or weekends, the restoration service charge shall be $40.

5.4 Subsequent Violations; Discontinuance of Service. For any subsequent violation of this Ordinance within the 24 calendar months after a first violation as provided in Section 5.1 hereof, the penalty surcharge provided in Section 5.3 hereof shall be imposed and the Agency shall discontinue water service to that customer at the premises or to the meter where the violation occurred. The charge for reconnection and restoration of normal service

shall be $25. Such restoration of service shall not be made until the General Manager of the Agency has determined that the water user has provided reasonable assurances that future violations of this Ordinance by such user will not occur.

SECTION 6: NOTICE.

6.1 For a first violation, written notice thereof may be given to the customer personally or by regular mail.

6.2 If the penalty assessed is a surcharge for a second or third violation, notice may be given by regular mail.

6.3 If the penalty assessed is, or includes, the installation of a flow restrictor or the discontinuance of water service to the customer for any period of time whatever, notice of the violation shall be given in the following manner:

(a) By giving written notice thereof to the customer personally; or

(b) If he be absent from his place of residence and from his assumed place of business, by leaving a copy with some person of suitable age and discretion at either place, and sending a copy through the United States mail addressed to the customer at either his place of business or residence; or

(c) If such place of residence and business cannot be ascertained, or a person of suitable age or discretion there cannot be found, then by affixing a copy in a conspicuous place on the property where the failure to comply is occurring and also by delivering a copy to a person there residing, if such person can be found, and also sending a copy through the United States mail addressed to the customer at the place where the property is situated.

Said notice shall contain, in addition to the facts of the violation, a statement of the possible penalties for each violation and a statement informing the customer of his right to a hearing on the violation.

SECTION 7: HEARING.

Any customer against whom a penalty is levied pursuant to this section shall have a right to a hearing, in the first instance by the General Manager, with the right of appeal to the Board of Directors, on the merits of the alleged violation upon the written request of that customer within 15 days of the date of notification of the violation.

SECTION 8: RESERVATION OF RIGHTS.

The rights of the Agency hereunder shall be cumulative to any other right of the Agency to discontinue service. All monies collected by the Department pursuant to

any of the penalty provisions of this Chapter shall be deposited in the Operating Fund as reimbursement for the Agency's costs and expenses of administering and enforcing this Ordinance.

SECTION 9: SEVERABILITY.

If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of this Ordinance.

SECTION 10: The Clerk of the Desert Water Agency shall attest to the passage of this Ordinance and shall cause the same to be published in a newspaper of general circulation, in the City of Palm Springs.

ADOPTED this 16th day of February, 1982

_____
Walter H. Hutchinson
President

ATTEST:

_____
Robert E. Hird
Secretary

ORDINANCE NO. 45

ORDINANCE OF THE BOARD OF DIRECTORS OF DESERT WATER AGENCY RESTRICTING WATER USE DURING WATER SUPPLY EMERGENCIES

WHEREAS, Desert Water Agency (hereinafter "Agency") is a public agency organized under the Desert Water Agency Law, Water Code Appendix Section 100-1, et seq., to provide water service among other purposes to the water users within the boundaries of the Agency; and

WHEREAS, the Agency is authorized by Water Code Appendix Section 100-15 (13) to restrict the use of Agency water during a threatened or existing water shortage, and to prohibit the waste or the use of Agency water during such periods for any purpose other than domestic uses or such other uses as may be determined by the Agency to be necessary; and,

WHEREAS, the Agency is further authorized by Water Code §350 et seq. to declare a water shortage emergency and by Water Code §375-377 to adopt water conservation programs; and

WHEREAS, the Agency finds and determines that the adoption of water conservation rules and regulations is necessary to (1) protect the health, safety and welfare of the inhabitants of the district, (2) assure the maximum beneficial use of the water supplies of the Agency, and (3) ensure that there will be sufficient water supplies to meet

the basic needs of human consumption, sanitation and fire protection; and

WHEREAS, the Agency further finds that the specific rules, regulations and restrictions established herein are necessary in the event of an emergency which is the cause of a water supply shortage;

NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF DIRECTORS OF THE DESERT WATER AGENCY AS FOLLOWS:

SECTION 1: DEFINITIONS.

1.1 "Agency" -- Desert Water Agency.

1.2 "Board" -- The Board of Directors of the Desert Water Agency.

1.3 "Emergency Supply Shortage" -- Any water shortage caused by an earthquake, loss of electrical power, pipe line breakage, or any other threatened or existing water shortage caused by a disaster or facility failure which results in Agency inability to meet the water demands of its customers.

1.4 "General Manager" -- The General Manager of the Desert Water Agency.

1.5 "Waste" -- Any unreasonable or nonbeneficial use of water, or any unreasonable method of use of water, including, but not limited to, the specific uses prohibited and restricted by this Ordinance as hereinafter set forth.

1.6 "Water users" -- Any person, firm, partnership, association, corporation or political entity using water obtained from the water system of the Desert Water Agency.

1.7 "Water" -- Water supplied by the Desert Water Agency.

SECTION 2: NOTICED PUBLIC HEARING PRIOR TO MANDATORY CONSERVATION.

Except when an emergency is caused by the breakage or failure of a dam, pump, pipe line or conduit, a noticed public hearing shall be held prior to the adoption of stages 2, 3, or 4 of the Water Supply Plan for Emergency Supply Shortage as set forth in Sections 3.2, 3.3, and 3.4 below. Notice of the time and place of hearing shall be published at least seven days prior to the date of hearing in a newspaper printed, published, and circulated within the area in which the water supply is distributed, or if there is no such newspaper, in any newspaper printed, published, and circulated in the County in which the area is located.

SECTION 3: WATER SUPPLY PLAN FOR EMERGENCY SUPPLY SHORTAGE.

3.1 Stage No. 1. Normal Conditions: Voluntary Conservation Measures.

Normal conditions shall be in effect when the Agency is able to meet all the water demands of its customers in the immediate future. During normal conditions, all

water users should continue to use water wisely, to prevent the waste or unreasonable use of water, and to reduce water consumption to that necessary for ordinary domestic and commercial purposes.

3.2 Stage No. 2. Water Shortage Alert: Mandatory Conservation Measures.

In the event of a sudden and unexpected water supply shortage which could prevent the Agency from meeting the water demands of its customers, the Board of Directors shall immediately hold a public hearing at which consumers of the water supply shall have the opportunity to protest and to present their respective needs to the Board. No public hearing shall be required in the event of a breakage or failure of a dam, pump, pipe line or conduit causing an immediate emergency. The Board may then declare a water shortage emergency condition to prevail, and the following rules and regulations shall be in effect immediately following such declaration.

(1) washing driveways, parking lots, or other hard surfaced area, or building exteriors at any time, except to alleviate immediate fire hazards is prohibited;

(2) parks, golf courses and school grounds are to be irrigated during nighttime hours only, between sunset and sunrise;

(3) lawn watering and landscape irrigation, including construction meter use, is prohibited between the hours of 10:00 a.m. to 5:00 p.m.;

(4) running water shall not be used for washing privately owned vehicles. A bucket may be used for the washing of vehicles and only hoses equipped with shut-off nozzles may be used for rinsing;

(5) restaurants are requested not to provide drinking water to patrons except by request;

(6) commercial nurseries shall use water only during the hours from midnight to 6:00 a.m. Irrigation of propagation beds and watering of livestock is permitted as necessary during any hours.

(7) Golf courses using reclaimed water are exempted from these restrictions.

3.3 Stage No. 3. Water Shortage Warning. The Board of Directors may, following a public hearing as set forth in Section 2.2, declare that an emergency water supply shortage exists, and that the Agency is unable to meet all the water demands of its customers. Immediately thereafter, the following water conservation measures shall apply:

(1) parks and schools shall be watered on alternate days during the hours between sunset to sunrise; The schedule of which shall be set following the public hearing.

(2) golfcourses which utilize domestic water from Desert Water Agency's domestic system may irrigate greens only during the hours between sunset to sunrise. Golf courses utilizing reclaimed water are exempted from this restriction;

(3) other lawn watering and landscape irrigation, including construction meter use are restricted as follows: customers with even numbered street addresses may water only on even numbered days, customers with odd numbered street addresses may water only on odd numbered days, and no watering or irrigation shall be done between the hours of 10:00 a.m. and 5:00 p.m. on any day;

(4) washing down of driveways, parking lots, or other paved surfaces is prohibited;

(5) washing of vehicles is restricted to commercial car wash establishments which recycle their water;

(6) filling or adding water to swimming pools, wading pools, spas, ornamental ponds, fountains and artificial lakes is prohibited;

(7) restaurants shall not serve drinking water to patrons except by request;

(8) no new construction meter permits shall be issued by the Agency;

(9) construction metered water shall not be used for earth work or road construction purposes;

(10) watering of livestock is permitted as necessary during any hours;

(11) commercial nurseries may use water only between the hours of 6:00 p.m. and 6:00 a.m. Irrigation of propagation beds is permitted as necessary during any

hours. Commercial nurseries utilizing reclaimed water are exempted from this restriction.

3.4 Stage No. 4. Mandatory Compliance. Water Shortage Emergency.

Following a declaration by the Board of Directors that an emergency water supply shortage due to a major failure in a supply or distribution facility exists, the following water conservation measures shall apply:

(1) watering of parks, school grounds and golfcourses is prohibited, except for reclaimed water;

(2) lawn watering and landscape irrigation is prohibited;

(3) washing down of driveways, parking lots, or other paved surfaces is prohibited;

(4) washing of vehicles is prohibited, except when done by commercial car wash establishments using recycled or reclaimed water;

(5) filling or adding water to swimming pools, wading pools, spas, ornamental ponds, fountains and artificial lakes is prohibited;

(6) restaurants shall not serve drinking water to patrons except by request;

(7) no new construction meter permits shall be issued by the Agency;

(8) all existing construction meters shall be turned off and locked;

(9) commercial nurseries shall discontinue all watering and irrigation. Those utilizing reclaimed water are exempted from this restriction. Watering of livestock is permitted as necessary.

SECTION 4. BOARD DISCRETION TO MODIFY CONSERVATION MEASURES UPON A SHOWING OF NECESSITY THEREFOR.

The specific requirements of each mandatory conservation stage shall be effective upon adoption by the Board following a public hearing, except that the Board may modify or amend such requirements at the time of adoption upon a showing of the need for such modification or amendment.

SECTION 5. IMPLEMENTATION AND TERMINATION OF MANDATORY COMPLIANCE STAGES.

5.1 The General Manager of the Agency shall monitor the supply and demand for water on a daily basis to determine the level of conservation required by the implementation or termination of the Water Conservation Stages, and shall notify the Board of the necessity for the implementation or termination of each stage. Each declaration of the Board implementing or terminating a water conservation stage shall be published at least once in a newspaper of general circulation, and shall remain in effect until the Board of Directors otherwise declares, as provided herein.

SECTION 6. EXCEPTIONS.

6.1 Application for Exception Permit. The General Manager of the Agency may grant permits for uses of water otherwise prohibited thereby if he/she finds and determines that special circumstances make compliance not reasonably possible, or that restrictions herein would either:

(a) Cause an unnecessary and undue hardship to the water user or the public; or

(b) Cause an emergency condition affecting the health, sanitation, fire protection or safety of the water user or of the public.

Such exceptions may be granted only upon application therefor. Upon granting any such exception permit, the General Manager may impose any conditions he/she determines to be just and proper.

SECTION 7. CRIMINAL PROCEEDINGS FOR VIOLATION.

7.1 The Board of Directors hereby declares that, pursuant to Water Code Section 377, it shall be a misdemeanor for any person to use or apply water contrary to or in violation of any mandatory restriction or requirement established by this ordinance and, upon conviction thereof, that person, firm or corporation shall be punished by imprisonment in the county jail for not more than thirty (30) days or a fine of not more than one thousand dollars ($1000) or by both such fine and imprisonment.

SECTION 8. CIVIL PROCEEDINGS FOR VIOLATION.

In addition to criminal penalties, violators of the mandatory provisions of this Ordinance shall be subject to civil action initiated by the Agency.

8.1 First Violation. For a first violation, the Agency shall issue a written notice of violation to the water user violating the provisions of this Ordinance.

8.2 Second Violation: 25% Surcharge. For a second violation of this Ordinance within a 12-month period, a one-month surcharge is hereby imposed in an amount equal to 25% of the previous month's water bill for the meter through which the wasted water was supplied.

8.3 Third Violation: 50% Surcharge; Installation of Flow Restrictor. For a third violation of this Ordinance within a 12-month period, a one-month penalty surcharge is hereby imposed in an amount equal to 50% of the previous month's water bill for the meter through which the wasted water was supplied. In addition to the surcharge, the Agency may at its discretion install a flow-restricting device at such meter with a one-eighth inch orifice for services up to one and one-half inch size, and comparatively sized restrictors for larger services, on the service of the customer at the premises at which the violation occurred for a period of not less than 48 hours. The charge for installing a flow-restricting device shall be based upon the size of the meter and the cost of installation but shall not

be less than $25. The charge for removal of the flow-restricting device and restoration of normal service shall be $25 if restoration of normal service is performed during the hours of 8:00 a.m. to 4:00 p.m. on regular working days. If the removal of the flow-restricting device and restoration of normal service is made after regular working hours, on holidays or weekends, the restoration service charge shall be $40.

8.4 Subsequent Violations; Discontinuance of Service. For any subsequent violation of this Ordinance within the 24 calendar months after a first violation as provided in Section 6.1 hereof, the penalty surcharge provided in Section 6.3 hereof shall be imposed and the Agency shall discontinue water service to that customer at the premises or to the meter where the violation occurred. The charge for reconnection and restoration of normal service shall be $25. Such restoration of service shall not be made until the General Manager of the Agency has determined that the water user has provided reasonable assurances that future violations of this Ordinance by such user will not occur.

8.5 Notice. For a first violation, written notice may be given to the customer personally or by regular mail.

If the penalty assessed is a surcharge for a second or third violation, notice may be given by regular mail.

If the penalty assessed is, or includes, the installation of a flow restrictor or the discontinuance of water service to the customer for any period of time whatever, notice of the violation shall be given in the following manner:

(a) By giving written notice thereof to the customer personally; or

(b) If he/she is absent from his/her place of residence and from his/her assumed place of business, by leaving a copy with some person of suitable age and discretion at either place, and sending a copy through the United States mail addressed to the customer at either his/her place of business or residence; or

(c) If such place of residence and business cannot be ascertained, or a person of suitable age or discretion there cannot be found, then by affixing a copy in a conspicuous place on the property where the failure to comply is occurring and also by delivering a copy to a person there residing, if such person can be found, and also sending a copy through the United States mail addressed to the customer at the place where the property is situated.

Said notice shall contain, in addition to the facts of the violation, a statement of the possible penalties for each violation and a statement informing the customer of his right to a hearing on the violation.

SECTION 9. HEARING.

9.1 Any customer against whom a penalty is levied pursuant to Section 5 and 6 shall have a right to a hearing, in the first instance by the General Manager, with the right of appeal to the Board of Directors, on the merits of the alleged violation upon the written request of that customer within fifteen (15) days of the date of infraction of the violation.

SECTION 10. RESERVATION OF RIGHTS. The rights of the Agency hereunder shall be cumulative to any other right of the Agency to discontinue service. All monies collected by the Department pursuant to any of the penalty provisions of this Chapter shall be deposited in the Operating Fund as reimbursement for the Agency's costs and expenses of administering and enforcing this Ordinance.

SECTION 11. CONCURRENT AUTHORITY.

11.1 The Desert Water Agency, its manager and designated employees, have the duty and are authorized to enforce all provisions of this Ordinance, with the qualification that the City of Palm Springs through enforcement of Sections 14.24.020-14.24.060 of the Palm Springs Municipal Code, the City of Cathedral City, and the County of Riverside as to unincorporated territory within the Agency, are recognized to have concurrent authority for, and shall have the primary responsibility for the control of water flowing in the streets where such occurs within their respective jurisdictions.

SECTION 12. NO REPEAL OR AMENDMENT OF ORDINANCE 31. This ordinance shall be in addition to Ordinance 31 (prohibiting the waste of water). In the event of conflicting provisions, this ordinance shall prevail.

SECTION 13. SEVERABILITY.

13.1 If any section, subsection, sentence, clause or phrase of this Ordinance is for any reason held to be unconstitutional or invalid, such decisions shall not affect the validity of the remaining portions of this Ordinance.

SECTION 14. The Clerk of the Desert Water Agency shall attest to the passage of this Ordinance and shall cause the same to be published in a newspaper of general circulation, which is printed, published and circulated in the district within 10 days after its adoption.

ADOPTED this 18th day of October, 1988

F. Gillar Boyd, Jr.
President

Attest:

Secretary

ATT0023

APPENDIX D

WATER CONSERVATION PROGRAM OF THE DESERT WATER AGENCY JANUARY, 1977

WATER CONSERVATION PROGRAM

of the

DESERT WATER AGENCY

January, 1977
Palm Springs, California

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OVERVIEW

The Desert Water Agency's water conservation efforts have been in two directions:

1. Since 1974, working on a one-to-one basis with large volume users teaching conservation techniques.
2. Since 1975, a Residential Pilot Program conceived to measure the effectiveness of a water conservation program based on a general public information approach.

The large-volume user program has been conducted by Mr. William Scarlott of the Agency's staff and is covered in the second section of this report.

The Residential Pilot Program has been conducted by Mr. Ron Baetz, also of the Agency's staff.

The arid desert climate and tourist orientation of the Palm Springs area provide extreme challenges in approaching water conservation.

As every water distribution system faces different challenges, Staff realized that every effort must be made to truly know our consumers. By selecting eight widely-varied cross sections of the community to work with, We feel that the Agency can now pursue a Public Information Water Conservation Program intelligently and at a reasonable cost. We know that we would have made very costly errors, had we plunged blindly into an expensive, uncontrolled program a year ago.

The "Grass-Roots" approach of working directly with 160 consumers is undeniably the best method to understand consumptive use patterns and people's response to water conservation information. One of the "Test" information releases concerned water use in the bathroom. When asked 'How has the water conservation program affected your water use?", one man answered ... "I feel guilty when I brush my teeth!"

We're very pleased with the consumers interest and attitude toward water conservation. Some people made terrific efforts to reduce water consumption during a month's period, only to find that someone left a hose running overnight, which wiped out the prior savings. Learning can be painful.

The Residential Pilot Program aimed at making water conservation a topic of discussion in the home, affecting all members. This was accomplished.

We learn in steps. By this report, the research phase is concluded and we now begin the Public Awareness Phase with a General Information Program covering the entire service area of the Agency.

We are dealing with changing basic social values among our consumers. This will require patience and untiring effort for a long time.

RONALD L. BAETZ

Project Supervisor
Residential Pilot Program

CONCLUSIONS

The concept of measuring the effectiveness of a water conservation program by the use of "Test" and "Control" groups has proven successful during the Residential Pilot Program. We will be unable to continue effectiveness measurements once a full scale program is begun as all consumers will then be exposed to water conservation information.

Per capita water consumption within the Desert Water Agency varies widely depending upon household population, socio-economic statis, the employment of gardeners, whether served by sewer system or spetic tank and service pressure.

Differing sections of the community are responsive to different approaches. Some are motivated with the thought of saving money. Others respond to the moral values of conserving a valuable natural resource. A few don't respond to any approach.

Conclusive reductions in water consumption cannot be expected on a short-term basis except under crisis conditions.

With a voluntary water conservation program, the Desert Water Agency's initial goal to reduce water use by 5% will be easily reached in a relatively short period of time with a general public information program using local radio and newspaper media. A higher goal, 10% or 15% could be established.

Twenty-five percent to thirty percent reductions in water use can be expected in the long term in some socio-economic sections of the community.

Irrigation consumption should be the primary target of future water conservation programs of the Desert Water Agency as 60% to 80% of the total water use at the average home is for irrigation.

Retro-Fit should be encouraged, but future program direction should be coordinated with the results of the State Department of Water Resources' San Diego test.

The greatest impact is probably made on youngsters attending school at the grade level. Reaching the impressionable youngster will often result in multiplication of the message when the youngster takes the message home and shares it with other members of his household.

The large volume user program has proven very successful with condominiums, city parks and other users who can be easily reached on a one-to-one basis. This program should be continued and expanded upon.

Residential and other lower-volume users cannot effectively or economically be reached on a one-to-one basis. Therefore, a Public Information Water Conservation Program should be pursued to reach all sections of the community.

The current drought conditions in the state add impetus to the implementation of an agressive water conservation program.

STATEMENT OF POLICY

THE DESERT WATER AGENCY

REGARDING: WATER CONSERVATION

SEPTEMBER, 1975

The Directors of the Desert Water Agency are concerned by the past increases in the cost of supplying water to the greater Palm Springs area, the anticipated future increase in this cost, and that water pumping requirements have exceeded available and replenishable supplies.

Therefore, the Directors wish to have the Desert Water Agency staff undertake a study to determine the consumption patterns of the consumers in the Desert Water Agency area. This study would determine the consumption in typical households and businesses throughout the community. Hopefully, the study would identify ways in which consumption can be effectively reduced. This study should take into consideration the types and number of plumbing facilities within the household or business, the amount of yard area and the type of landscaping involved, the use of automatic devices for the control of irrigation, and any other items which might seem pertinent to the study.

Should this study conclude that there are proven ways of conserving water, the Directors would further request that staff suggest a reasonable goal as to the overall average reduction that could be anticipated in a given period of time.

In order to achieve this goal, the staff should outline a plan to educate consumers as to how to best achieve same.

PRELIMINARY PLANNING

Program Goals

1. Investigate water consumption patterns within the Desert Water Agency's boundaries.
2. Analyze indoor and outdoor water consumption patterns.
3. Determine the most effective ways to reduce water consumption
4. Set a reasonable goal for reduction of water consumption in the average home.
5. Formulate a plan to educate consumers on how they can conserve water in their home and garden.

Information Solicitation

To assist with the development of our program, information was gathered and reviewed from every known source.

Most notable are the following publications:

"Residential Water Conservation", published by University of California, Davis.

"Water Conservation in California", published by The State of California, Department of Water Resources.

"North Marin's Little Compendium of Water Saving Ideas", published by North Marin County Water District.

Plant and Irrigation Analysis

At the Agency's request, a local landscape architect prepared a list of plant material generally utilized in landscape design in the Palm Springs area, categorized to irrigation demand.

This information has been incorporated in the forms used for the Consumptive Use Survey.

It has been observed that in the desert area, most people water trees and shrubs the same as they water lawns, even though trees and shrubs require considerably less water.

No specific studies on water requirements for ornamental landscaping have been conducted by any of the universities or trade organizations.

CONSUMPTIVE USE SURVEY

Questionnaire Preparation

Questionnaire was prepared by Staff with input by Agency's Consulting Engineer, as well as a local landscape architect.

In its final form, the questionnaire provided raw data covering household occupancy, inventory of water-using appliances, lot size, house size, outside use (inventory of plant material and irrigation systems).

Establish Zones

We established eight different zones that are assumed to represent different water use areas.

Zone 1 - Desert Highlands Estates - Low Assessed Value Area

Zone 2 - Las Palmas (Original Area) - High Assessed Value Area

Zone 3 - Las Palmas (New Area) - High Assessed Value Area

Zone 4 - Desert Palms Estates - Average Assessed Value Area

Zone 5 - Vista Del Cielo - Low Assessed Value Area

Zone 6 - Canyon Country Club - High Assessed Value Area

Zone 7 - Dream Homes - Low Assessed Value Area

Zone 8 - Cathedral City - Average Assessed Value Area

Field Survey

In each of the eight survey zones, a block of 100 accounts was selected that were geographically together and would seem to be representative of homes in the area. Out of each of the 100 account blocks, 20 questionnaires were completed. The procedure was to start at one geographic end of the block and speak with the first 20 individuals that responded to a knock on the door. In many areas, less than one-half of the residents were home.

The total number of consumptive use questionnaires completed was 160, which is 1.2% of our total present active consumers. This survey, however, was limited to residential consumers and represents 1.5% of them. This small sampling number was selected because without prior available history on this type of survey, a sampling could reveal data that would indicate the need of change in the survey procedure.

The surveyors noted that the majority of the people contacted were cooperative in supplying data and indicated some interest in the survey and water conservation. Only one resident contacted refused to cooperate in the survey, several showed a strong interest in the survey and conservation, and a few were concerned that the survey would increase their water rates. One responded with "stop these silly surveys and reduce the rates."

Data Analysis

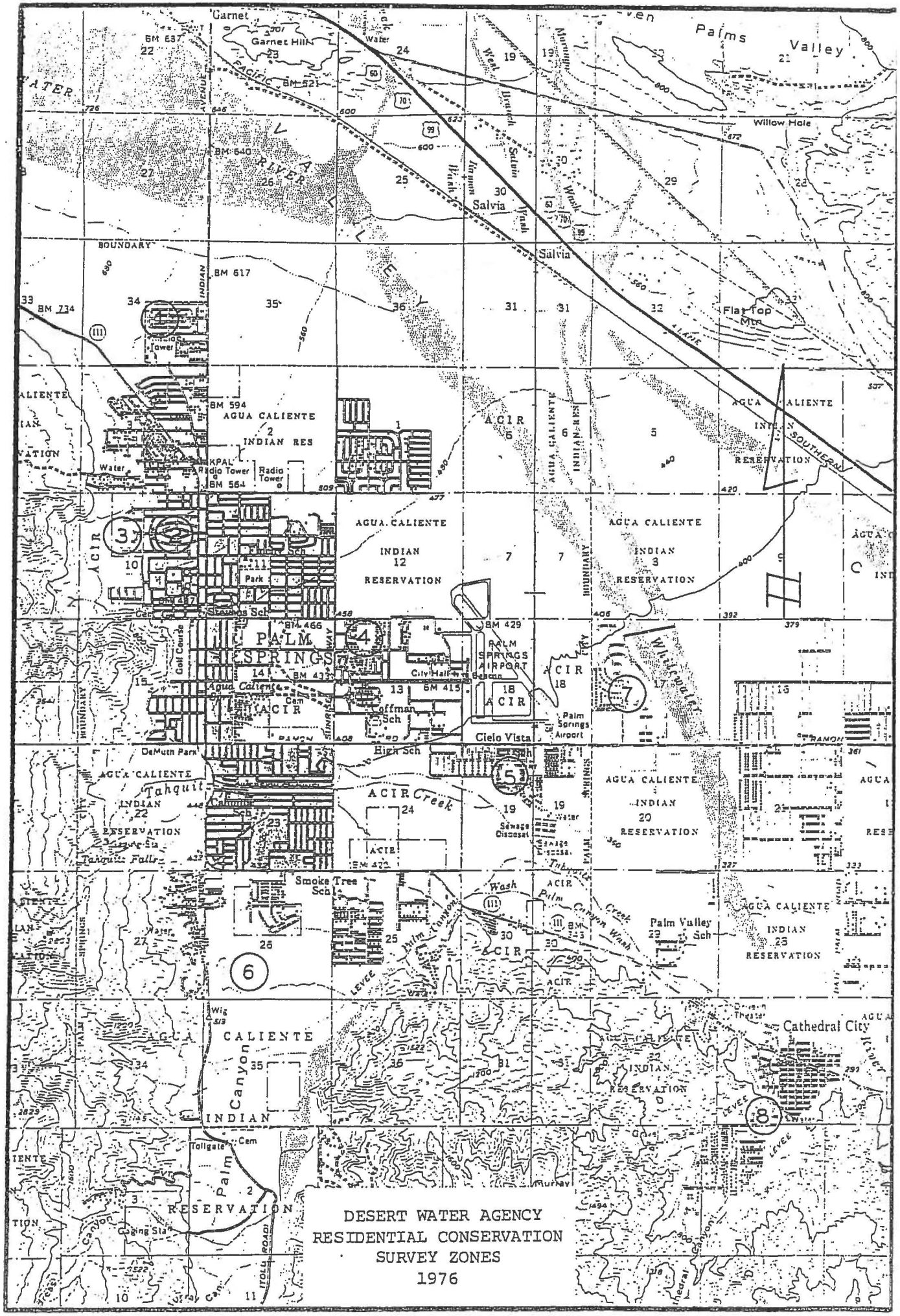
1. Water use by customer varied from between 54% and 138% of the average in one area to between 11% and 399% of the average in another area.
2. House sizes within separate geographic areas varied from a minimum of 67% of the average for one area to a maximum of 185% of the average for another area.
3. House sizes averaged 16% of their lot sizes and ranged between 10% and 23% with Dream Homes (Zone 7) having small houses relative to lot sizes and Canyon Country Club (Zone 6) having large houses relative to lot sizes.
4. House sizes approximated lawn sizes and ranges within 20 percent of the area's average except for Desert Highlands (Zone 1) and new Las Palmas (Zone 3) areas where house sizes were two-thirds and twice lawn sizes, respectively.

5. Larger lots with larger houses had the most medium-high demand shrubs and trees while smaller houses on smaller lots had the most medium-low demand shrubs and trees. Few houses, regardless of size, had majorities of low natural shrubs and trees.

The above results represent conclusions based on averages developed from the survey data. Wide variations were found within and between the various separate geographic areas.

WATER USE RELATIONSHIPS BETWEEN THE STUDY ZONES
FOR CALENDAR YEAR 1975

ZONE	AREA	GENERAL ASSESSED VALUE	AVERAGE WATER CONSUMPTION PER ACCOUNT
1	Desert Highlands Estates	Low	0.58 Acre Feet
2	Las Palmas (Original Area)	High	1.95 Acre Feet
3	Las Palmas (New Area)	High	1.21 Acre Feet
4	Desert Palms Estates	Average	0.78 Acre Feet
5	Vista Del Cielo	Low	0.67 Acre Feet
6	Canyon Country Club	High	2.03 Acre Feet
7	Dream Homes	Low	0.85 Acre Feet
8	Cathedral City	Average	0.44 Acre Feet



DESERT WATER AGENCY
RESIDENTIAL CONSERVATION
SURVEY ZONES
1976

SCHEDULE OF WATER CONSERVATION ACTIVITIE
PILOT PROGRAM - RESIDENTIAL

JULY 1976

SUN	MON	TUES	WEDS	THUR	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13 Establish Test & Control Groups from Return Cards	14	15	16	17
18	19 Compile Water Use Records on All 160 Accounts	20	21	22	23	24
25	26	27	28 Initial "Test" Contacts	29	30	31

AUGUST 1976

SUN	MON	TUES	WEDS	THUR	FRI	SAT
1	2	3	4 Prepare Introduction Contact Materials	5	6	7
8	9 Introduction Contacts	10	11	12 1st Mailing	13	14
15	16 Retro-Fit Contacts	17	18	19 2nd Mailing	20	21
22	23	24	25 3rd Mailing	26	27	28
29	30 4th Mailing					

SEPTEMBER 1976

SUN	MON	TUES	WEDS	THUR	FRI	SAT
			1	2	3	4
5	6	7 Water Use Analysis Contact	8	9	10	11
12	13 5th Mailing	14	15	16	17	18
19	20	21 6th Mailing	22	23	24	25
26	27 Leak Survey Contact & Poll No. 1	28	29	30		

OCTOBER 1976

SUN	MON	TUES	WEDS	THUR	FRI	SAT
					1	2
3	4 7th Mailing	5	6	7	8	9
10	11	12	13	14	15	16
		Water Use Analysis Phone Contact				
17	18	19	20 8th Mailing	21	22	23
24 31	25	26	27	28	29	30
		Yard Survey Contact				

NOVEMBER 1976

SUN	MON	TUES	WEDS	THUR	FRI	SAT
	1	2	3 9th Mailing	4	5	6
7	8	9	10	11	12	13
	Water Use Analysis Phone Contact					
14	15 10th Mailing	16	17	18	19	20
21	22	23	24	25	26	27
	Poll No. 2 Contact					
28	29	30				

DECEMBER 1976

SUN	MON	TUES	WEDS	THUR	FRI	SAT
			1	2	3	4
			In-House Pilot Program Eval.			
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

PILOT PROGRAM - RESIDENTIAL

Establish Test and Control Groups

The eight consumptive use "Zones" were divided into:

"Test Groups - Consumers with whom we worked.

"Control" Groups - Consumers whose water use was compared with "Test" Group's. No contact was made with these groups.

Letters requesting participation of ten consumers in each zone were mailed out to establish the "Test" Groups. Of the 85 letters mailed, 34% responded. The majority of the responses were from the zones with the highest per-account use; Zones 2 and 6. Additional contacts completed the establishment of the "Test" Groups; ten consumers in each of the eight zones.

The remaining ten consumers in each zone from the "Consumptive Use Survey" became the "Control" Groups.

Field Contacts

Implementation of the Residential Pilot Program was designed to determine what quantity of water savings can actually be accomplished, and to determine to what extent our consumers will cooperate in participating in a voluntary program.

Contacts were made with each participant at least weekly, either personally, by mail or by telephone. It was always stressed that this is a "voluntary" program.

The various approaches used during the field contacts are outlined below:

A. Program Introduction

A personal "at-the-home" contact explained to the resident the purpose of the Pilot Program and how it works. (See "Introduction Contact - Information To Resident")

The surveyor confirmed resident's name, correct address and phone number.

B. Retro-Fit

A personal "at-the-home" contact explained Retro-Fit devices. (See "Retro-Fit Contact - Information to Resident")

Various water-saving devices were offered to the residents for use in the home. Some used everything; others used only one or two items. In general, the devices and their potential savings were enthusiastically received.

The devices were supplied at no cost to the resident and installed by Agency personnel.

The devices distributed included:

Low-flow plastic shower heads

Three types of flow controllers for showers and sinks

Plastic bottles for toilet tanks

A dye tablet test was conducted for all toilets to indicate small hidden leaks. Several were discovered and the residents were advised to make necessary repairs.

C. Water Use Analysis

Water use records covering the months of August, September and October, 1976, were analyzed each month and discussed with each resident.

The "Water Use Analysis" form (see example) showed each consumer his water use comparing the past month's use "This Year" with "Last Year". Most important, the form compared the last six month's trend in water use.

The first "Water Use Analysis" contact was a personal "At-the-door" discussion. The two following contacts were via telephone with a follow-up mailing.

D. Leak and Yard Survey

This "At-the-home" contact required the resident's attention during an inspection of all indoor and outdoor plumbing fixtures for obvious leaks. The resident was instructed on how to read the water meter and use it to help determine leakage. The significance of "small" leaks was stressed.

"Over-watering" of the yard was discussed. Irrigation systems were checked, time clocks' timing accuracy, adjustment of sprinkler emitters, and length of water application timing were noted.

The resident was encouraged to maintain proper soil mulch to retain moisture and to experiment by reducing the time clock application cycles a little bit at a time to reduce water consumption.

E. Mailings and Information Releases

At each "At-the-home" contact, water conservation literature (information releases) of various forms were left with the resident. Between contacts, information releases were mailed to the home, thus the resident was supplied with printed educational material at least once a week.

The information releases (see examples) included printed material published by the American Water Works Association and the State of California, Department of Water Resources, as well as single page items, each describing a different water conservation practice.

F. POLLS

The purpose of the two polls, was to determine:

1. Which portions of the program have the most meaning to the test group.
2. If people are relating to the program.
3. How much they have learned from the program.
4. Reaction to Retro-fit devices.

The number of questions used for each poll was kept to a maximum of seven. The questions often stimulated the resident to talk at great length about water conservation. A large majority of the test group residents responded favorably to the pilot program activities.

Printed material had the most effect according to 73% of those polled. The Water Use Analysis had the next highest score with a 16% response. The remaining 11% responded to the "Personal Explanations" and yard and leak surveys. Retro-fit received the lowest response with less than 1%.

The polls indicated that the residents did become more aware of where their greatest water use is. The percent that indicated "yard use" as highest rose between the polls from 43% to 57%.

Eighty-four percent said that they would participate in future programs, indicating that they had enjoyed and gained from the experience.

Program Evaluation

The time involved in conducting this type of a program must not be underestimated. Detailed planning of the program paid high dividends in the validity of the program's achievements.

The detailed "Instructions to the Surveyor" outlining each step of each contact allowed flexibility of available personnel. All efforts were made to have the same surveyor visit the accounts each time to maintain continuity.

Timing was equally important. The schedule provided the participants with a year's "information exposure" during four months.

The concept of the "Grass-Roots" approach of dealing on a one-to-one basis with the participants is a sound one. The rapport which developed gave us the understanding of how our consumers feel about water conservation and how they will react to a water conservation program.

FINDINGS

Potential Savings

The initial goal to reduce water use by 5% is very conservative. A review of the "Consumptive Use Comparisons" chart reveals that water reductions between 10% to 20% can be expected from some sections of the community.

Percentage wise, the Test Groups in Zone 3 (Las Palmas, New Area), Zone 5 (Vista Del Cielo) and Zone 8 (Cathedral City) demonstrated the largest reductions in use compared to the control groups in the same zones. It is important to note that these three zones represent a cross-section of the entire community.

Overall, the "All Zones" comparison shows the Test Groups reducing water consumption by 18% during the five-month Pilot Program, while the Control Groups increased use by 9%, a difference of 27%.

Actual water use reduction will be related to the intensity of the conservation program.

Consumer Education

As revealed during the polls, the participants favored printed material over any other approach to water conservation education. This supports the concept of using printed advertising in the local media as the foundation of the water conservation program.

The printed "Information Releases" were prepared in various formats. Some were designed simply with an extremely short, to-the-point message. Others were more sophisticated and lengthly. From the participants comments, future material should be prepared as simply and to-the-point as possible. Most of the participants said that they already knew most of the material presented.

The key then, is motivation. Revolve future program material around the concept of "Reminders". Avoid under-estimating what the consumer already knows.

Domestic Consumption

Estensive studies conducted prior to our investigation have analyzed domestic (indoor) water consumption in the average home as follows:

45% - Toilet flushing

30% - Bathing

20% - Laundry and Dishwashing

5% - Drinking and Cooking

Seventy-five percent of all household use occurs within the confines of the bathroom, namely the toilet and shower.

New legislation, which requires low-use toilets in all new construction, will have a considerable impact in the future by reducing the amount of water used for toilet flushing.

Our results with Retro-Fit devices were mixed. Displacement bottles inserted in toilet tanks were eagerly received by the participants. By the end of the Pilot Program, approximately 10% of the Test Group had removed the bottles because the toilets were not flushing adequately, sometimes requiring two or more flushes to remove solids, thus defeating the idea of reducing water consumption.

Low-flow shower heads and inserts had more success. No negative comments were expressed.

Retro-Fit should be encouraged as the consumer is not required to change any of his social habits to use the devices and the amount of savings is fairly predictable.

Irrigation Consumption

Between 60% and 80% of the total water use at the average home is for irrigation.

The fact that water in our desert has been plentiful and relatively cheap, the tendency to overwater has grown to become a fact of life. This is true of the homeowners as well as the professional gardeners.

Poor irrigation system maintenance also contributes to water waste. In most of the systems we checked, many spray heads were overspraying into the street and small leaks were abundant.

Soil condition takes it's toll. The prevalence of sand in our area absorbs water faster than a sponge. Proper mulching, which helps the soil retain moisture, is seldom practiced.

Direct consumer participation will be involved to change the existing habit patterns and affect a voluntary water use reduction in irrigation use.

Low water use and native plant materials are seldom used in landscaping designs. Its incongruous that tropical and sub-tropical plant material, which require large amounts of water, continue to be used in our arid climate.

Whitewater Mutual Water Company, which serves irrigation water to portions of the northern section of Palm Springs, influences total consumption to a limited degree. Much of Whitewater's service is provided through a non-pressurized gravity system so that the consumer is restricted to flood irrigation and the water is available only on certain days of the week. We noted no significant difference in water use patterns between properties with and without Whitewater service in the same neighborhood.

Conservation Benefits

Water is a non-replenishable resource, which will become more difficult to replace as time goes on. Present supplies must be used carefully.

Water conservation will result in energy conservation in that it will reduce the Agency's pumping energy requirements as well as customers' heating energy requirements for hot water.

Water Conservation will permit some deferral of source of supply plant (well pumping plant) development.

Rapidly rising energy costs, which are expected to continue to increase over future decades, will undoubtedly create the need for periodic increases in water rates; reduced water use should offset some of the increasing costs.

Wastewater treatment plants will benefit from reduced volumes as a by-product of water conservation in the home. This will reduce the power required to operate the plant.

Coordination With Other Conservation Programs

The energy utilities, (gas and electric) are presently conducting conservation programs. Our efforts should be designed to take advantage of the water conservation spin-off from their programs. They stress water conservation related to hot water use.

The State of California, Department of Water Resourses (D.W.R.) is presently conducting a Retro-Fit test program in San Diego. This is a large-scale test of ways to reduce residential water use, sewage flows and related energy consumption.

Any program directed towards Retro-Fit should be coordinated with the results of the D.W.R.'s San Diego test.

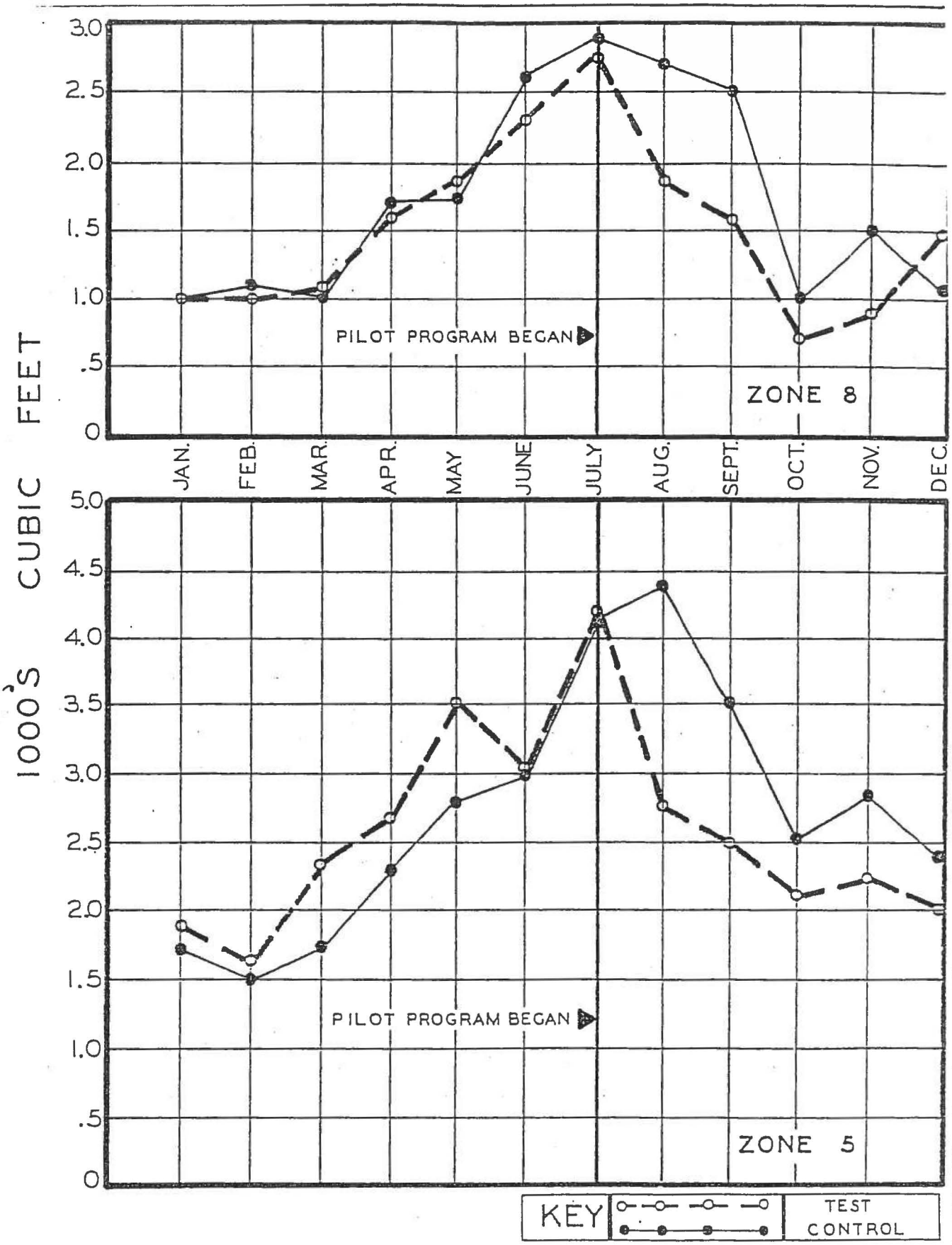
Continuous monitoring and evaluation of any and all water conservation programs should continue.

DESERT WATER AGENCY

Residential Pilot
Water Conservation

CONSUMPTIVE USE COMPARISONS

ZONE	AREA	PERCENT CHANGE IN CONSUMPTION 1976 to 1975			
		FULL 12 MONTHS		PILOT PROGRAM 5 MONTHS	
		TEST GROUP	CONTROL GROUP	TEST GROUP	CONTROL GROUP
1	Desert Highland Estates	-6%	-7%	-17%	-12%
2	Las Palmas (Original Area)	+17%	+13%	+8%	+5%
3	Las Palmas (New Area)	-5%	+18%	-12%	+33%
4	Desert Palms Estates	-11%	-4%	-23%	-23%
5	Vista Del Cielo	-2%	+20%	-20%	+21%
6	Canyon Country Club	+5%	+3%	-1%	-5%
7	Dream Homes	-0-	-4%	-13%	-19%
8	Cathedral City	-5%	+4%	-33%	+4%
	ALL ZONES	+2%	+6%	-18%	+9%



COMPARITIVE WATER USE 1976
TEST AND CONTROL GROUPS
RESIDENTIAL WATER CONSERVATION
PILOT PROGRAM

DESERT WATER AGENCY

CONTINUING PROGRAM RECOMMENDATION

Periodic Review

The Pilot Program "Test" and "Control" groups water use records should be monitored for the remainder of 1977 to determine the residual influences of the "Pilot Program".

Water use trends should be analyzed annually by type of account, (residential, multiple unit, commercial, etc) to identify changes in use patterns. This would help to direct the emphasis of the Agency's water conservation efforts.

In-House Program

The Agency should lead by example. Maintaining diligence in locating and repair all leaks; in the distribution system, the offices and the irrigation systems maintained by the Agency.

Encourage Agency employees to implement water conservation programs in their own homes. Develop landscape plans for all Agency properties (well sites, reservoir sites, offices and storage yards), utilizing the maximum amount of native and low water use plant material as is practical to individual site conditions. (Soil conditions, wind and sun patterns and blow-sand conditions must be considered in plant material selection).

General Consumer Education

The "Pilot Program" has confirmed the idea that consumer education is a practical, but long term program with the emphasis on repetition. Much time, effort and repetition will be necessary if the introduction of water conservation into our community is to be successfully adopted.

The power of advertising in making and shaping public attitudes and opinions is undeniable. It is inevitable that in the future the nation will see more and more money spent on public relations on behalf of water conservation.

It is recommended that a public information water conservation program be immediately implemented to include at least the following activities:

1. Prepare and provide news releases to the local media on the Agency's water conservation activities.
2. Prepare and publish "Water Conservation Techniques" in the local newspaper.
3. Prepare and broadcast "Water Conservation Techniques" on local radio stations.
4. Continue the Agency's existing program of consulting with and explaining water conservation to consumers such as condominiums, the City of Palm Springs, Department of Parks and Golf Course, hotels, and other multi-unit complexes and large volume water users. This would be a continuation and expansion of our existing program dealing with condominium users.

It is further recommended that the Agency develop a long range program to additionally include the following activities:

5. Prepare and broadcast "Water Conservation Techniques" on local television stations.
6. Revise the water bill format to include a comparative water use analysis.
7. Prepare and present slide shows and movies to interested groups, such as landlord associations, condominium associations, schools, environmental groups, service organizations, and commercial establishments.
8. Prepare water conservation handbooks for home landscape and garden use, oriented to our desert climate and soils. Native plants should be stressed together with several typical low-water-use landscape plans.
9. Develop a school program aimed at integrating the concept of water conservation into every area of study (mathematics, reading, and science) of school children in the district.

Special Programs

Timed to stimulate and renew interest in water conservation; special programs can become the key element to success in the long term.

These special programs should be supported by advance publicity and news releases to insure community participation and support.

Imagination is the only limiting factor in the planning of special programs. The following ideas are submitted for future consideration:

- Contests - (Slogans - Posters - Essays)
- Facility tours
- Lectures to civic organizations
- Programs oriented to trades:
  - Poolmen
  - Gardeners
  - Plumbers
  - Nursery men
  - Plumbing suppliers
  - Multiple unit managers
  - Commercial consumers
  - Community Planners
- "Save Water" public forums
- Displays in public buildings, banks, etc.
- Billboard advertisements

In the schools, programs oriented to contests (slogans, posters, essays) are very effective.

Time Table

A specific time table would be inappropriate for a long range water conservation program.

Program timing should be based on a continual review of water consumption patterns by type of account (residential, multiple unit, commercial, etc.). This information will show where the program is working and where more emphasis is needed

CONDOMINIUM

AND

LARGE USER

WATER CONSERVATION PROGRAM

WATER CONSERVATION STUDY FOR LANDSCAPE SPRINKLER SYSTEMS

The Desert Water Agency began a water conservation program in 1974. The program started in conjunction with investigation of cross connections between meters serving domestic water to irrigation sprinkler systems for landscaping.

The Agency serves domestic water to over 60 condominium developments in their service area. The average condominium will have 6 separate meters serving their common open landscaped areas. The need for an educational program on water conservation to the gardeners and homeowners became apparent when a pattern of defects, mis-use and over-watering developed in our investigations.

In the Palm Springs desert area, a combination of dry climatic conditions plus an absorbant sandy soil creates a ratio of almost 3 to 1 for domestic water use for irrigation over domestic interior water use. This ratio is typical of residential property and is even higher for a condominium with open landscaped area.

A mutual benefit program was explained to the condominium owners in that a substantial savings was possible to them in their water billing. The Agency would save in power pumping costs through a reduction in pumped well water.

With permission from the condominium owners, a study was made with their full-time gardener or with a gardening service representative. As the owners are responsible for the water billing, it was found direction from this level down was necessary to initiate a program.

Exhibit "A" is a typical condominium study and report mailed to the owners from the Agency. Exhibit "B" & "C" are typical sprinkler study forms. The Agency monitors monthly water use and reports patterns to the owners. In investigation of all sprinkler systems for large water users, it was found that maintenance of the system was the basic cause for wasted water. Wasted

water is the term given to sprinkler heads that are improperly turned spraying water on sidewalks, into the street and running down the gutter. The Agency was surprised to find the number of sprinkler heads either completely or partially broken off with waster water flowing freely from the pipe.

Over-watering was found to be due to either a supposition on required watering time, improper design of the sprinkler system or defects in the sprinkler system time clock control.

Other large domestic water use for irrigation was found at hotels and some commercial malls; investigation found typical defects as noted in Exhibit "A". A study was made for estimated water savings potential and a typical report was mailed to hotels and malls. Monitoring of water use patterns is also under way for these large irrigation water users.

The Desert Water Agency is a special independent State of California water utility, as such, they are independent of the city minicipality. In this area, the Agency is working with the City of Palm Springs parks department on a water conservation program. The Palm Springs Unified School District entered into a comprehensive water conservation program at all their schools after a study by the Agency. Each school maintains an extensive sprinkler system for grass playing fields and landscaping.

To make people aware of the need for water conservation, the Agency maintains a slide program, which is adjusted for all age groups. This program was presented to all the maintenance personnel from each school in the district. The slide program covers the history of water in the unique desert area of Palm Springs. With a better understanding of water in our area, and in general, a real interest is created to conserve water. This interest by the school maintenance personnel was given as an important factor in the outstanding results the school district is experiencing in their conservation program.

Educational programs on water conservation, proper watering and maintenance of sprinkler systems were presented to the Association of the Desert Condominiums representing 26 owner associations. Individual condominium boards and owner meetings have also been presented programs.

In a conservative estimate from a study of 6 key condominiums, it is estimated an annual savings of 5,597,000 cubic feet of water will be realized.

"EXHIBIT A"

TYPICAL 20-ACRE CONDOMINIUM DEVELOPMENT

The City of Palm Springs Policy Resolution limits development of condominiums to 8,500 square feet of building coverage per net acre and a maximum of 6 units per net acre.

EXHIBIT A condominium development has the following statistical breakdown:

Gross Acreage	20 acres
Net Acreage	17.3 acres
Building Coverage (100 Units)	21.8%
Streets	6.9%
Drives	3.5%
Total Building Coverage with Private Enclosed Patios	32.2%
Total Open Area for Landscaping	67.8%

A study of the sprinkler system found the following:

Total 2" Irrigation Water Meters	6
Total Sprinkler Time Clocks	8
Total stations on Clocks	65
Average Station per Clock	8
Average Length of Watering Time Per Station	12-1/2 minutes
(Assumed Time per Gardner)	10 minutes)

Irrigation Watering Cycle - Winter: Once Daily, Three Times a Week.

Irrigation Watering Cycle - Summer: Twice Daily, Seven Days a Week.

Two irrigation time clocks were selected at random and the combined 16 stations were inspected through their complete cycle.

Total sprinkler heads inspected - 547
Total bubbler heads inspected - 128
Total rainbird heads inspected - 18

It was found there was no regular maintenance program to the sprinkler system. Two hundred and thirty six sprinkler heads were below level of grass so that spray was deflected and heads became submerged causing insufficient coverage and extra watering time required.

Twelve heads were found broken with water running freely. Seventy eight bubbler heads were found to be adjusted too far open for time clock setting, overflowing plant wells.

Calculations were made on water savings from a reduction of watering time from the average 12-1/2 minutes to the assumed 10 minutes. This time has been set by the gardners as minimum through their experience. The annual savings for this condominium are estimated at 1,181,400 cubic feet.

Water saved from reduction of bubbler watering time, correction of broken and leaking sprinkler heads and raising sprinkler heads or installation of pop-ups will also effect the annual water savings figure to a large amount. This indefinite savings figure was not included in the above calculated cubic footage.

Other common defects found in the six key study condominium sprinkler systems were as follows:

Poor design of sprinkler head coverage and/or improper adjustment so that the water spray overlapped to excess causing an over-watering condition.

Many bubblers were found too far from shrub or plant causing an overwatering condition for water to reach plant area.

Many sprinkler heads in need of direction adjustment, 1/2-heads spraying sidewalk, 1/4-heads spraying walls, etc.

Rainbird sprinkler heads and sprinkler spray heads on same station. Water time adjusted for rainbirds, overwatering condition on spray head area.

Readjustment of watering time on one station for entire area due to one dry lawn area, causing overwatering rather than correction to lawn or earth problem.

Control and setting of time clock watering time was recommended to be under one supervisor. Adjustments were found to be as far off as five minutes. No set pattern of watering time or length was found on one condominium due to any gardner helper setting his own estimated watering need.

EXHIBIT "B"

Project: _____ Date: _____

Address: _____ Index No. _____

Met With: _____ _____

Phone: _____ _____

_____

Total Meters: _____ Domestic _____ Irrigation _____ Both _____

Total Time Clocks: _____

Stations Per Time Clock: _____

Winter Irrigation Cycle: _____

Summer Irrigation Cycle: _____

Selenoid Valves: Brass _____ Plastic _____ Other _____

Sprinkler Heads: Brass _____ Plastic _____ Other _____

Washing of: Patio _____ Driveways _____

Inspection of System: _____

Accessibility to Clocks: _____

Excessive Run-off: _____

Accuracy of Clocks: _____

Total Sprinklers Inspected: _____

Total Bubblers Inspected: _____

Total Sprinkler Heads Low: _____

Total Heads Broken: _____

Average Length of Running Times per Station: _____

Special Conditions: _____

_____

_____

_____

_____

_____

EXHIBIT "C"

CONSUMPTION - (SEE #5)	CUBIC FEET	COST=BASED ON $.30/100 C.F.
1 Station per minute (See #3 & #4)	_____	$_____
__ Station(s) per min.(See #3 & #4)	_____	$_____
__ Stations/Month (Est. Average Irrig. 20 Day/Month)(See 1 & 2)	_____	$_____
__ Stations 20 Day/Month 12 Months/Year (See #1 & #2)	_____	$_____

By reducing or turning back each station by ____ minutes from ____ minutes to ____ minutes as shown below, this could result in an approximate ____% reduction in consumption on ____ meter(s).

CONSUMPTION	CUBIC FEET	COST=BASED ON $.30/100 C.F.
1 Station per minute (See #3 & #4)	_____	$_____
__ Station(s) per min. (See #3 & #4)	_____	$_____
__ Stations/Month (Est. Average Irrig. 20 Day/Month)(See 1 & 2)	_____	$_____
__ Stations 20 Day/Month 12 Months/Year (See #1 & #2)	_____	$_____

	CU. FT.	GALLONS	COST
Present estimated consumption	_____	_____	_____
Proposed estimated reduction	_____	_____	_____
Annual est. Potential savings	_____	_____	_____

Total time clocks _____

Total Stations _____

Total Irrigation Meters _____

Average Length of Running Time Per Station _____

Formula Used:

1. Total C.F. used per year ÷ 12 gives you total of C.F. per month.
2. Total C.F. per month ÷ 20 days per month (Est. total watering days per month/annually) = total C.F. used per day.
3. Total C.F. used per day ÷ # of stations = C.F. used per station per day.
4. Total C.F. per station per day ÷ by average length of running time per station per cycle = total C.F. used per station per minute.
5. Based on an annual average of billing of _____ irrigation meters.

APPENDIX E

2007 AND 2008 CUWCC BMP REPORTS

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

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

A. Implementation

1. Based on your signed MOU date, 10/15/1991, your Agency STRATEGY DUE DATE is:	10/14/1993
2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	
3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	0	0
2. Number of surveys completed:	0	0
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 neccesary; replace leaking toilet flapper, as necessary	no	no
Outdoor Survey:		
6. Check irrigation system and timers	no	no
7. Review or develop customer irrigation schedule	no	no
8. Measure landscaped area (Recommended but not required for surveys)	no	no
9. Measure total irrigable area (Recommended but not required for surveys)	no	no
10. Which measurement method is typically used (Recommended but not required for surveys)		None
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?	no	no
a. If yes, in what form are surveys tracked?		None
b. Describe how your agency tracks this information.		

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."

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape. We, therefore, have chosen to direct our resources into performing BMP #5. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

D. Comments

BMP 02: Residential Plumbing Retrofit

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

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: %

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: %

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? no

   a. If YES, when did your agency begin implementing this strategy?

   b. Describe your targeting/ marketing strategy.

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? no

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

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

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes

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

In January 1977, Desert Water Agency published the results of a residential pilot program to analyze the Agency's customer water use habits, and to establish the focus of a water conservation program (copy on file with the CUWCC). From the study, it was determined that in our service area, 60 to 80% of all residential water use is for landscape irrigation. This is due to our arid desert environment where temperatures reach as high as 123F. The study did involve the installation of devices such as low flow showerheads and toilet displacement devices by Agency personnel. Public acceptance of the showerheads was favorable; however, the toilet devices did not operate as well. Since such a large percentage of water was found to be used for landscape irrigation, it was felt that future programs should be directed toward customers reducing water use in the landscape as it has the highest potential for savings and is the most cost effective.

D. Comments

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

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?	no
3. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:	
a. Determine metered sales (AF)	
b. Determine other system verifiable uses (AF)	
c. Determine total supply into the system (AF)	
d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required.	0.00
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:	

B. Survey Data

1. Total number of miles of distribution system line.	374
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?	yes

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

Desert Water Agency informs all customers of possible on-site leaks when excessive consumption occurs when compared to the prior year's usage. Desert Water Agency performs water audits by metering all customer connections and water used for construction purposes through fire hydrants. Water used for other purposes such as city street washing and fire fighting is also recorded. The combined usage is calculated and the % unaccounted for determined. We do not have a leak detection program as

we feel it is more cost effective to fund an aggressive main replacement program. Additionally, the soils in our area are comprised of coarse sand. This allows water from a leak to surface quickly where it is easily detected. All leaks are repaired as soon as they are discovered to prevent damage and waste of water. All leaks are tracked on maps and on a pipeline inventory computer program. Mains with a history of leaks are budgeted for replacement, as are aging mains.

D. Comments

Voluntary Questions (Not used to calculate compliance)

E. Volumes

	Estimated	Verified
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:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

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	18494	18494	18494	12	0
b. Multi-Family	0	0	0	0	0
c. Commercial	2746	2746	2746	12	0
d. Industrial	0	0	0	0	0
e. Institutional	294	294	294	12	0
f. Landscape Irrigation	0	0	0	0	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:
   Landscape water audits conducted and consumptive use mailings have shown that the majority of applicable developments within DWA's service area were fitted with dedicated irrigation meters at the time of construction.

2. Number of CII accounts with mixed-use meters: 0

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

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

A. Water Use Budgets

1. Number of Dedicated Irrigation Meter Accounts:	0
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? 07/01/1989

   b. Description of marketing / targeting strategy:

   Desert Water Agency targets residential, business, and public authority accounts which irrigate large landscaped areas as potential survey candidates. Customers typically contact us to have surveys performed as the community is aware of this program.

2. Number of Surveys Offered during reporting year. 0
3. Number of Surveys Completed during reporting year. 0
4. Indicate which of the following Landscape Elements are part of your survey:
   - a. Irrigation System Check yes
   - b. Distribution Uniformity Analysis yes
   - c. Review / Develop Irrigation Schedules yes
   - d. Measure Landscape Area yes
   - e. Measure Total Irrigable Area yes
   - f. Provide Customer Report / Information yes
5. Do you track survey offers and results? yes
6. Does your agency provide follow-up surveys for previously completed surveys? yes

   a. If YES, describe below:

   Follow-up surveys are typically performed 5 years after the initial survey

or as requested by the customer.

C. Other BMP 5 Actions

1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. Does your agency provide mixed-use accounts with landscape budgets?	yes
2. Number of CII mixed-use accounts with landscape budgets.	0
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?	no

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

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

Please note that the correct entry in A.1. is NOT DETERMINED. As your system will not accept this, I have utilized a "0" in its place.

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

A. Coverage Goal

	Single Family	Multi-Family
1. Number of **residential** dwelling units in the agency service area.	17,772	0
2. Coverage Goal =	**= 1,365 Points**	

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: Retail Water Agency	Wholesaler/ Grants (if applicable)	Energy Utility (if applicable)	TOTAL	POINTS AWARDED
2. **Greater than 8.5 but not exceeding 9.5** (1 point)	0	$ 0	$ 0	$ 0	$ 0	0
3. **Greater than 6.0 but not exceeding 8.5** (2 points)	0	$ 0	$ 0	$ 0	$ 0	0
4. **Less than or equal to 6.0** (3 points)	0	$ 0	$ 0	$ 0	$ 0	0
TOTALS:	**0**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**0**

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**	**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?

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."

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape. We, therefore, have chosen to direct our resources into performing BMP #5. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

F. Comments

BMP 07: Public Information Programs

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

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:
Public education has played an expanding role in the Agency's formal Water Conservation Program since adoption by its board of directors in 1982. The program utilizes both staff personnel and contract consultants. All aspects of the Agency's functions are communicated to the public utilizing the items checked below.

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	0
b. Public Service Announcement	no	0
c. Bill Inserts / Newsletters / Brochures	yes	2
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	4
f. Special Events, Media Events	yes	1
g. Speaker's Bureau	yes	7
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) 81351

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:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

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	no	0	0	0
Grades 4th-6th	no	0	0	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? 05/01/1989

B. School Education Program Expenditures

1. Annual Expenditures (Excluding Staffing)

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

Please note that the entity Desert Water Agency contracted with to perform its in-classroom school education program (Palm Springs Desert Museum) elected to dissolve its Natural Science Education Program effective July 1, 2004. The Agency is exploring options for a suitable replacement program

BMP 09: Conservation Programs for CII Accounts

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use?	no
2. Has your agency identified and ranked INDUSTRIAL customers according to use?	no
3. Has your agency identified and ranked INSTITUTIONAL customers according to use?	no

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: no

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? yes

6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings? no

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:	0
b. Non-site-verified actions taken by agency*:	0 (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."

Please note that Desert Water chooses to perform neither Option A, nor Option B. The explanation for doing so is contained in the Comments, below. ("Yes" was checked for Option B as CII accounts are tracked for purposes of the mailings listed below, but not specifically for BMP #9).

D. Comments

We do not differentiate between commercial and industrial. All multifamily residential connections are classified as commercial. Since our studies indicate that the highest potential for water savings exists in landscape irrigation practices, the bulk of our conservation efforts have been focused in this direction. We do not, however, discard the potential for water savings in our commercial accounts. Annual consumptive use reports are mailed to many of our large commercial accounts, nearly 200 customers annually. This program continues to receive good response from our customers. For several years, we performed "Water Audits" on large irrigated areas. The cost effectiveness of this practice is under review.

BMP 11: Conservation Pricing

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

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)	$ 11,045,385
c. Total Revenue from Customer Meter/Service (Fixed) Charges	$ 3,460,417

2. Multi-Family Residential

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

3. Commercial

a. Rate Structure	Uniform
b. Total Revenue from Commodity Charges (Volumetric Rates)	$ 4,669,005
c. Total Revenue from Customer Meter/Service (Fixed) Charges	$ 0

4. Industrial

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

5. Institutional / Government

a. Rate Structure	Uniform
b. Total Revenue from Commodity Charges (Volumetric Rates)	$ 708,511
c. Total Revenue from Customer Meter/Service (Fixed) Charges	$ 0

6. Dedicated Irrigation (potable)

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

7. Recycled-Reclaimed

a. Rate Structure	Uniform
b. Total Revenue from Commodity Charges (Volumetric Rates)	$ 826,759

c. Total Revenue from Customer Meter/Service (Fixed) Charges	$ 0

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) >= 70% — Selected

V = Total annual revenue from volumetric rates

M = Total annual revenue from customer meter/service (fixed) charges

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

V/(V+M) >= 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.) — yes

2. Single Family Residential

a. Sewer Rate Structure	Non-volumetric Flat Rate
b. Total Annual Revenue	$ 91,760
c. Total Revenue from Commodity Charges (Volumetric Rates)	$ 0

3. Multi-Family Residential

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

4. Commercial

a. Sewer Rate Structure	Uniform
b. Total Annual Revenue	$ 94,144
c. Total Revenue from Commodity Charges (Volumetric Rates)	$ 0

5. Industrial

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

6. Institutional / Government

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

7. Recycled-reclaimed water

a. Sewer Rate Structure	Service Not Provided
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

BMP 12: Conservation Coordinator

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

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?	38%
b. Coordinator's Name	Michael F. Bergan
c. Coordinator's Title	Facilities & Safety Officer
d. Coordinator's Experience in Number of Years	28
e. Date Coordinator's position was created (mm/dd/yyyy)	01/02/1977
4. Number of conservation staff (FTEs), including Conservation Coordinator.	1

B. Conservation Staff Program Expenditures

1. Staffing Expenditures (In-house Only)	45256
2. BMP Program Implementation Expenditures	550

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:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

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:

Desert Water Agency's Board of Directors adopted Ordinance No. 31, An Ordinance Prohibiting the Waste of Water. It defines "waste," discusses actions to be taken, spells out customers' rights, and states exemptions. In addition, this Agency is now preparing a Landscape and Water Conservation Ordinance. The Ordinance, coupled with a planned water conservation incentive program, will be applicable throughout the Agency's service area.

2. Is a copy of the most current ordinance(s) on file with CUWCC? yes

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

Desert Water Agency	Typically, violators have been cooperative in eliminating waste after being sent a letter informing them of the situation. No citations were issued during reporting period.

B. Implementation

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

a. Gutter flooding yes

b. Single-pass cooling systems for new connections yes

c. Non-recirculating systems in all new conveyor or car wash systems yes

d. Non-recirculating systems in all new commercial laundry systems no

e. Non-recirculating systems in all new decorative fountains no

f. Other, please name no

2. Describe measures that prohibit water uses listed above:

a. In cases such as gutter flooding, written notice is sent to the subject customer, or a blanket mailing is conducted throughout neighborhoods with high incidents of waste. b. In areas where Desert Water Agency is responsible for sewage collection, plans are checked to insure that a recirculating system is used.

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2007**

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
Replacement Method	**SF Accounts**	**MF Units**
2. Rebate	0	0
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	0	0
Total	**0**	**0**

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
Replacement Method	**SF Accounts**	**MF Units**
7. Rebate	0	0
8. Direct Install	0	0
9. CBO Distribution	0	0
10. Other	0	0
Total	**0**	**0**

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
Replacement Method	**SF Accounts**	**MF Units**
12. Rebate	0	0
13. Direct Install	0	0
14. CBO Distribution	0	0
15. Other	0	0

Total	**0**	**0**

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

None.

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

None.

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:

None.	None.

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

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape such as water recyling, and projects involving the use of water efficient landscaping and irrigation systems. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

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

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2008**

A. Implementation

1. Based on your signed MOU date, 10/15/1991, your Agency STRATEGY DUE DATE is:	10/14/1993
2. Has your agency developed and implemented a targeting/ marketing strategy for SINGLE-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	
3. Has your agency developed and implemented a targeting/ marketing strategy for MULTI-FAMILY residential water use surveys?	no
a. If YES, when was it implemented?	

B. Water Survey Data

Survey Counts:	Single Family Accounts	Multi-Family Units
1. Number of surveys offered:	0	0
2. Number of surveys completed:	0	0
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 neccesary; replace leaking toilet flapper, as necessary	no	no
Outdoor Survey:		
6. Check irrigation system and timers	no	no
7. Review or develop customer irrigation schedule	no	no
8. Measure landscaped area (Recommended but not required for surveys)	no	no
9. Measure total irrigable area (Recommended but not required for surveys)	no	no
10. Which measurement method is typically used (Recommended but not required for surveys)		None
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?	no	no
a. If yes, in what form are surveys tracked?		None
b. Describe how your agency tracks this information.		

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."

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape. We, therefore, have chosen to direct our resources into performing BMP #5. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

D. Comments

BMP 02: Residential Plumbing Retrofit

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**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: %

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: %

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? no

   a. If YES, when did your agency begin implementing this strategy?

   b. Describe your targeting/ marketing strategy.

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? no

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

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

C. "At Least As Effective As"

1. Is your AGENCY implementing an "at least as effective as" variant of this BMP? yes

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

In January 1977, Desert Water Agency published the results of a residential pilot program to analyze the Agency's customer water use habits, and to establish the focus of a water conservation program (copy on file with the CUWCC). From the study, it was determined that in our service area, 60 to 80% of all residential water use is for landscape irrigation. This is due to our arid desert environment where temperatures reach as high as 123F. The study did involve the installation of devices such as low flow showerheads and toilet displacement devices by Agency personnel. Public acceptance of the showerheads was favorable; however, the toilet devices did not operate as well. Since such a large percentage of water was found to be used for landscape irrigation, it was felt that future programs should be directed toward customers reducing water use in the landscape as it has the highest potential for savings and is the most cost effective.

D. Comments

BMP 03: System Water Audits, Leak Detection and Repair

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**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?	no
3. If YES, enter the values (AF/Year) used to calculate verifiable use as a percent of total production:	
a. Determine metered sales (AF)	
b. Determine other system verifiable uses (AF)	
c. Determine total supply into the system (AF)	
d. Using the numbers above, if (Metered Sales + Other Verifiable Uses) / Total Supply is < 0.9 then a full-scale system audit is required.	0.00
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:	

B. Survey Data

1. Total number of miles of distribution system line.	375
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?	yes

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

Desert Water Agency informs all customers of possible on-site leaks when excessive consumption occurs when compared to the prior year's usage. Desert Water Agency performs water audits by metering all customer connections and water used for construction purposes through fire hydrants. Water used for other purposes such as city street washing and fire fighting is also recorded. The combined usage is calculated and the % unaccounted for determined. We do not have a leak detection program as

we feel it is more cost effective to fund an aggressive main replacement program. Additionally, the soils in our area are comprised of coarse sand. This allows water from a leak to surface quickly where it is easily detected. All leaks are repaired as soon as they are discovered to prevent damage and waste of water. All leaks are tracked on maps and on a pipeline inventory computer program. Mains with a history of leaks are budgeted for replacement, as are aging mains.

D. Comments

Voluntary Questions (Not used to calculate compliance)

E. Volumes

	Estimated	Verified
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:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**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	18550	18550	18550	12	0
b. Multi-Family	0	0	0	0	0
c. Commercial	2794	2794	2794	12	0
d. Industrial	0	0	0	0	0
e. Institutional	293	293	293	12	0
f. Landscape Irrigation	0	0	0	0	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:
   Landscape water audits conducted and consumptive use mailings have shown that the majority of applicable developments within DWA's service area were fitted with dedicated irrigation meters at the time of construction.

2. Number of CII accounts with mixed-use meters: 0

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

BMP 05: Large Landscape Conservation Programs and Incentives

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2008**

A. Water Use Budgets

1. Number of Dedicated Irrigation Meter Accounts:	0
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?	07/01/1989

b. Description of marketing / targeting strategy:

Desert Water Agency targets residential, business, and public authority accounts which irrigate large landscaped areas as potential survey candidates. Customers typically contact us to have surveys performed as the community is aware of this program.

2. Number of Surveys Offered during reporting year.	0
3. Number of Surveys Completed during reporting year.	0
4. Indicate which of the following Landscape Elements are part of your survey:	
a. Irrigation System Check	yes
b. Distribution Uniformity Analysis	yes
c. Review / Develop Irrigation Schedules	yes
d. Measure Landscape Area	yes
e. Measure Total Irrigable Area	yes
f. Provide Customer Report / Information	yes
5. Do you track survey offers and results?	yes
6. Does your agency provide follow-up surveys for previously completed surveys?	yes

a. If YES, describe below:

Follow-up surveys are typically performed 5 years after the initial survey

or as requested by the customer.

C. Other BMP 5 Actions

1. An agency can provide mixed-use accounts with ETo-based landscape budgets in lieu of a large landscape survey program. Does your agency provide mixed-use accounts with landscape budgets?	yes
2. Number of CII mixed-use accounts with landscape budgets.	0
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?	no

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

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

Please note that the correct entry in A.1. is NOT DETERMINED. As your system will not accept this, I have utilized a "0" in its place.

BMP 06: High-Efficiency Washing Machine Rebate Programs

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2008**

A. Coverage Goal

	Single Family	Multi-Family
1. Number of **residential** dwelling units in the agency service area.	17,772	0
2. Coverage Goal =	**= 1,365 Points**	

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: Retail Water Agency	Wholesaler/ Grants (if applicable)	Energy Utility (if applicable)	TOTAL	POINTS AWARDED
2. **Greater than 8.5 but not exceeding 9.5** (1 point)	0	$ 0	$ 0	$ 0	$ 0	0
3. **Greater than 6.0 but not exceeding 8.5** (2 points)	0	$ 0	$ 0	$ 0	$ 0	0
4. **Less than or equal to 6.0** (3 points)	0	$ 0	$ 0	$ 0	$ 0	0
TOTALS:	**0**	**$ 0**	**$ 0**	**$ 0**	**$ 0**	**0**

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**	**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."

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape. We, therefore, have chosen to direct our resources into performing BMP #5. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

F. Comments

BMP 07: Public Information Programs

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**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:
   Public education has played an expanding role in the Agency's formal Water Conservation Program since adoption by its board of directors in 1982. The program utilizes both staff personnel and contract consultants. All aspects of the Agency's functions are communicated to the public utilizing the items checked below.

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	yes	15
b. Public Service Announcement	no	0
c. Bill Inserts / Newsletters / Brochures	yes	2
d. Bill showing water usage in comparison to previous year's usage	yes	
e. Demonstration Gardens	yes	4
f. Special Events, Media Events	yes	10
g. Speaker's Bureau	yes	7
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) 155815

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:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**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	2	60	0
Grades 7th-8th	yes	2	60	0
High School	yes	1	30	0

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

5. When did your Agency begin implementing this program? 05/01/1989

B. School Education Program Expenditures

1. Annual Expenditures (Excluding Staffing) 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

Following a brief absence, DWA's has reinstated its formal school education program. It falls under the Public Information Associate's responsibilities. The program consists of classroom presentations at all grade levels, facility tours, science fair participation, and career day involvement. Please note that the annual expenditures for program materials are included in the Public Information Progams section, BMP 07.

BMP 09: Conservation Programs for CII Accounts

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**2008**

A. Implementation

1. Has your agency identified and ranked COMMERCIAL customers according to use?	no
2. Has your agency identified and ranked INDUSTRIAL customers according to use?	no
3. Has your agency identified and ranked INSTITUTIONAL customers according to use?	no

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:	no

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?	yes
6. Does your agency document and maintain records on how savings were realized and the method of calculation for estimated savings?	no

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:	0
b. Non-site-verified actions taken by agency*:	0 (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."

Please note that Desert Water chooses to perform neither Option A, nor Option B. The explanation for doing so is contained in the Comments, below. ("Yes" was checked for Option B as CII accounts are tracked for purposes of the mailings listed below, but not specifically for BMP #9).

D. Comments

We do not differentiate between commercial and industrial. All multifamily residential connections are classified as commercial. Since our studies indicate that the highest potential for water savings exists in landscape irrigation practices, the bulk of our conservation efforts have been focused in this direction. We do not, however, discard the potential for water savings in our commercial accounts. Annual consumptive use reports are mailed to many of our large commercial accounts, nearly 200 customers annually. This program continues to receive good response from our customers. For several years, we performed "Water Audits" on large irrigated areas. The cost effectiveness of this practice is under review.

BMP 11: Conservation Pricing

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**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)	$ 10,560,800
c. Total Revenue from Customer Meter/Service (Fixed) Charges	$ 1,221,242

2. Multi-Family Residential

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

3. Commercial

a. Rate Structure	Uniform
b. Total Revenue from Commodity Charges (Volumetric Rates)	$ 4,300,017
c. Total Revenue from Customer Meter/Service (Fixed) Charges	$ 0

4. Industrial

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

5. Institutional / Government

a. Rate Structure	Uniform
b. Total Revenue from Commodity Charges (Volumetric Rates)	$ 661,279
c. Total Revenue from Customer Meter/Service (Fixed) Charges	$ 0

6. Dedicated Irrigation (potable)

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

7. Recycled-Reclaimed

a. Rate Structure	Uniform
b. Total Revenue from Commodity Charges (Volumetric Rates)	$ 851,295

c. Total Revenue from Customer Meter/Service (Fixed) Charges	$ 0

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) >= 70% — Selected

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

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

V/(V+M) >= 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.)	yes

2. Single Family Residential

a. Sewer Rate Structure	Non-volumetric Flat Rate
b. Total Annual Revenue	$ 141,805
c. Total Revenue from Commodity Charges (Volumetric Rates)	$ 0

3. Multi-Family Residential

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

4. Commercial

a. Sewer Rate Structure	Uniform
b. Total Annual Revenue	$ 90,363
c. Total Revenue from Commodity Charges (Volumetric Rates)	$ 0

5. Industrial

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

6. Institutional / Government

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

7. Recycled-reclaimed water

a. Sewer Rate Structure	Service Not Provided
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

BMP 12: Conservation Coordinator

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**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	Katie Ruark
c. Coordinator's Title	Public Information Associate
d. Coordinator's Experience in Number of Years	01
e. Date Coordinator's position was created (mm/dd/yyyy)	01/02/1977
4. Number of conservation staff (FTEs), including Conservation Coordinator.	2

B. Conservation Staff Program Expenditures

1. Staffing Expenditures (In-house Only)	49352
2. BMP Program Implementation Expenditures	56049

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:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**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:

Desert Water Agency's Board of Directors adopted Ordinance No. 31, An Ordinance Prohibiting the Waste of Water. It defines "waste," discusses actions to be taken, spells out customers' rights, and states exemptions. In addition, this Agency is now preparing a Landscape and Water Conservation Ordinance. The Ordinance, coupled with a planned water conservation incentive program, will be applicable throughout the Agency's service area.

2. Is a copy of the most current ordinance(s) on file with CUWCC? yes

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

Desert Water Agency	Typically, violators have been cooperative in eliminating waste after being sent a letter informing them of the situation. No citations were issued during reporting period.

B. Implementation

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

a. Gutter flooding yes

b. Single-pass cooling systems for new connections yes

c. Non-recirculating systems in all new conveyor or car wash systems yes

d. Non-recirculating systems in all new commercial laundry systems no

e. Non-recirculating systems in all new decorative fountains no

f. Other, please name no

2. Describe measures that prohibit water uses listed above:

Desert Water Agency's Board of Directors adopted Ordinance No. 31, An Ordinance Prohibiting the Waste of Water. It defines "waste," discusses actions to be taken, spells out customers' rights, and states exemptions. In addition, this Agency is now preparing a Landscape and Water Conservation Ordinance. The Ordinance, coupled with a planned water

conservation incentive program, will be applicable throughout the Agency's service area.

Water Softeners:

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

a. Allow the sale of more efficient, demand-initiated regenerating DIR models. no

b. Develop minimum appliance efficiency standards that:

i.) Increase the regeneration efficiency standard to at least 3,350 grains of hardness removed per pound of common salt used. no

ii.) Implement an identified maximum number of gallons discharged per gallon of soft water produced. no

c. Allow local agencies, including municipalities and special districts, to set more stringent standards and/or to ban on-site regeneration of water softeners if it is demonstrated and found by the agency governing board that there is an adverse effect on the reclaimed water or groundwater supply. no

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

Please note that Water Waste Prohibition Program costs are included in the Conservation Staff Program Expenditures, BMP 12.

BMP 14: Residential ULFT Replacement Programs

Reporting Unit:	BMP Form Status:	Year:
Desert Water Agency	**100% Complete**	**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
Replacement Method	**SF Accounts**	**MF Units**
2. Rebate	0	0
3. Direct Install	0	0
4. CBO Distribution	0	0
5. Other	0	0
Total	**0**	**0**

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
Replacement Method	**SF Accounts**	**MF Units**
7. Rebate	0	0
8. Direct Install	0	0
9. CBO Distribution	0	0
10. Other	0	0
Total	**0**	**0**

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
Replacement Method	**SF Accounts**	**MF Units**
12. Rebate	0	0
13. Direct Install	0	0
14. CBO Distribution	0	0
15. Other	0	0

Total	**0**	**0**

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

None.

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

None.

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:

None.	None.

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

Desert Water Agency studies have realized that as much as 80% of all residential water use is for landscape irrigation. Therefore, we have concluded that it is more cost effective for us to concentrate the bulk of our efforts on reducing water consumption in the landscape such as water recyling, and projects involving the use of water efficient landscaping and irrigation systems. (See Water Conservation Program of the Desert Water Agency on file with the CUWCC).

APPENDIX F

2009 AND 2010 CUWCC BMP REPORTS

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Base Year Data

Link to FAQs

Reporting Unit Base Year

Base Year: 2008

What is your reporting period? Fiscal

BMP 1.3 Metering

Number of unmetered accounts in Base Year: 0

BMP 3.1 & BMP 3.2 & BMP 3.3 Residential Programs

Number of Single Family Customers in Base Year: 18,550

Number of Multi Family Units in Base Year:

BMP 3.4 WaterSense Specification (WSS) Toilets

Number of Single Family Housing Units constructed prior to 1992: Not applicable

Number of Multi Family Units prior to 1992: Not applicable

Average number of toilets per single family household: Not applicable

Average number of toilets per multi family household: Not applicable

Five year average resale rate of single family households: Not applicable

Five-year average resale rate of multi family households: Not applicable

Average number of persons per single family household: Not applicable

Average number of persons per multi family household: Not applicable

BMP 4.0 & BMP 5.0 CII & Landscape

Total water use (in Acre Feet) by CII accounts: Not applicable

Number of accounts with dedicated irrigation meters: 251

Number of CII accounts without meters or with Mixed Use Meters: 0

Number of CII accounts:

Comments: DWA was not involved in a WSS Toliet program in 2008

The fields in red are required.

Agency name: Desert Water Agency

Division name (Reporting unit): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

WATER SOURCES

2009

Service Area Population: 56500

Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Snow Creek, Falls Creek, Chino Cre	1,127.69	Surface	
Groundwater pumping	37,244.31	Groundwater	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
Colorado River Water	63,360.00	Surface	Delivered via Exchange Agreement
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	
		Other	

Exported Water Name	AF/YEAR	Where Exported?

The fields in red are required.

Agency name: Desert Water Agency

Division name (Reporting unit): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

2009

Service Area Population: 56500

Non- Potable Water

Own Supply Source Name	AF/YEAR	Water Supply Type	If you select Other for type, enter Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,

The fields in red are required.

Agency name: Desert Waer Agency

Division name (Reporting unit): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

Water Uses

2009

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	18,514.00	25,369.25	0.00	0.00	
Commercial	2,811.00	11,014.72	0.00	0.00	
Institutional	219.00	1,686.52	0.00	0.00	
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Desert Water Agency

Division name (Reporting unit): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

Water Uses 2009

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Dedicated Irrigation	11.00	3,714.00			Recycled Water
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2009

BMP 1.1 Operations Practices

Comments:

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	Katie
Last Name	Ruark
Title	Public Information Associate
Phone	760-323-4971
Email	kruark@dwa.org

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org: Ord. 31, Ord. 45, Water Conservation Program of DWA (1977)

Web address(s) URL: comma-separated list:

Enter a description:

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

View MOU

2009 BMP 1.2 Water Loss Control

Did your agency complete a pre-screening system audit in 2009? Yes ○ No ◉

If yes, answer the following:

Determine metered sales in AF:

Determine system verifiable uses AF:

Definition: other accountable uses not included in metered sales, such as unbilled water use, fire suppression, etc.

Determine total supply into the system in AF:

Does your agency keep necessary data on file to verify the answers above? Yes ◉ No ○

Did your agency complete a full-scale system water audit during 2009? Yes ○ No ◉

Does your agency maintain in-house records of audit results or the completed AWWA worksheet for the completed audit which could be forwarded to CUWCC? Yes ○ No ◉

Did your agency operate a system leak detection program? Yes ◉ No ○

Comments:

The fields in red are required.

Primary contact:

Agency name: Desert Water Agency

First name: Katie

Reporting unit name (District name): Retail

Last name: Ruark

Reporting unit number: 110

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2009 BMP 1.2 Water Loss Control

View MOU

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ○ Yes ◉ No

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

Water Audit Validity Score from AWWA spreadsheet

Agency Completed Training In The AWWA Water Audit Method ○ Yes ◉ No

Agency Completed Training In The Component Analysis Process ○ Yes ◉ No

Completed/Updated the Component Analysis (at least every 4 years)? ○ Yes ◉ No

Component Analysis Completed/Updated Date

Water Loss Performance

Agency Repaired All Reported Leaks & Breaks To The Extent Cost Effective ◉ Yes ○ No

Recording Keeping Requirements:

Date/Time Leak Reported	Leak Location
Type of Leaking Pipe Segment or Fitting	Leak Running Time From Report to Repair
Leak Volume Estimate	Cost of Repair

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective ◉ Yes ○ No

Type of Program Activities Used to Detect Unreported Leaks

DWA has an successfully aggressive pipeline replacement program to prevent leaking. DWA is also committed to repairing any reported leak as quickly as possible as long as doing so is cost effective.

Annual Summary Information

Complete the following table with annual summary information (required for reporting years 2-5 only)

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments:

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ◉ No

Enter the number of previously unmetered accounts fitted with meters during reporting year: 0

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ○ Yes ◉ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	18,514	18,514	18,514	Monthly	222,168
Commericial	2,811	2,811	2,811	Monthly	33,732
Institutional	291	291	291	Monthly	3,492
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 0

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

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? ○ Yes ◉ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

B. Email or provide a link to the feasibility study (or description of):

File name(s): Email files to natalie@cuwcc.org Enter the file name here e.g. WaterWastePreventionOrdinan

Web address(s) URL: comma-separated list Enter the URL to your documentation.

General Comments about BMP 1.3:

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

2009

BMP 1.4 Retail Conservation Pricing

Link to FAQs

View MOU

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Uniform	Other	17,228,435.00	17,228,435.00
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Implementation Option (Conservation Pricing Option)

- (•) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service (•) Yes ( ) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Uniform	Select a Customer Tv	796,203.00	796,203.00
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

DWA water rates are commodity based rates. DWA sewer rates are based on EDU

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2009

BMP 2.1 Public Outreach - Retail Reporting

View MOU

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ☑

Number of Public Contacts	Public Information Programs
30,000	General water conservation information
30,000	Landscape water conservation media campaigns
10,000	Website
	Select a public contact
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

OR Retail Agency (Contacts with the Media)

Media Contacts List

Did at least one contact take place during each quarter of the reporting year? ☐

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
5		Articles or stories resulting from outreach
15		News releases
10		Radio contacts
20		Newspaper contacts
		Select a type of media contact
		Select a type of media contact

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○Yes ⊙No

Enter the name(s) of the wholesale agency (comma delimited)

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): dwa.org

Describe a minimum of four water conservation related updates to your agency's website that took place during the year: Conservation materials, irrigation controller information, links to other water savings resources, press releases encouraging conservation.

Did at least one Website Update take place during each quarter of the reporting year? ⊙Yes ○No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
	$163,000			Includes conservation campaign	

Comments:

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2009

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?
Media Ads	$99,000	
Sponsorships	$6,350	
Field Trips	$3,000	
Printing	$19,000	

If yes, check the check box.

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ⊙ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance
Hotel Conservation Program	
Condo Workshops	
Aqua Star Program	

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ⊙ Yes ○ No

Describe the brand, theme or mascot. DWA Logo plus "Worth Saving" slogan

Market Research

Have you sponsored or participated in market research to refine your message? ⊙ Yes ○ No

Market Research Topic	Consumer Survey
Brand Message	
Brand Mission Statement	

Community Committees

Do you have a community conservation committee? ○ Yes ⊙ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☐ Other	

☐ Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year	

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities	Coachella Valley Water District and Misison Springs Water District joint outreach efforts such as speaking in schools, golf course conservation programs and booths a local events

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new	Map submitted

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency	

Comments:

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2009

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is a wholesale agency implementing school programs which can be counted to help your agency comply with this BMP? ○Yes ⊙No

Enter Wholesaler Names, separated by commas:

☑ Materials meet state education framework requirements?

Description of Materials: Project Wet, Internal DWA materials

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: Giveaways, conservation tools, workbooks, magazines

Number of students reached: 50

☑ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students: Giveaways, conservation tools, workbooks, magazines

Number of Distribution: 150

Annual budget for school education program:

Description of all other water supplier education programs:

School Program Activities

Classroom presentations:

Number of presentations: 12 Number of attendees: 200

Large group assemblies:

Number of presentations: 1 Number of attendees: 100

Children's water festivals or other events:

Number of presentations: 2 Number of attendees: 700

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations: 2 Number of attendees: 750

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description: Distribution of conservation materials through the public libraries

Number distributed: 1000

Staffing children's booths at events & festivals:

Number of booths: 2 Number of attendees: 700

Water conservation contests such as poster and photo:

Description: Judge and drop off point for the CREEC Art Projects annually

Number distributed:

Offer monetary awards/funding or scholarships to students:

Number Offered: Total Funding:

Teacher training workshops:

Number of presentations: Number of attendees:

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips: 4 Number of participants: 80

College internships in water conservation offered:

Number of internships: Total funding:

Career fairs/workshops:

Number of presentations: 1 Number of attendees: 60

Additional program(s) supported by agency but not mentioned above:

Description:

Number of events (if applicable): Number of participants:

Total reporting period budget expenditures for school education programs (include all agency costs): 6/30/2008-7/1/2009

Comments

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

View MOU

2009 BMP 3 Residential

⦿ **Traditional (Sections A - D)** ○ **Flex Track (All Sections)**

For Traditional Track please answer the fields within the traditional boxes.
For Flex Track option, please answer the fileds within the flex track boxes.
You must enter all measured water savings manually. For each measure entered, upload a spreadsheet with sufficient information to show the way that water savings were measured and that the measure was adequately tracked (i.e., all relevant data was collected) - in some cases there are specific data points also requested in form which are necessary to show that the measure was implemented as described.

A) Residential Assistance / Leak Detection

Flex Track / Traditional

	Single Family	Multi Family	Total Water Savings AF/YR	Measured Water Savings AF/YR
Total Number of Accounts	0.00	0.00		
Total Number of Participants Overall	0.00	0.00		
Total Number of Leak Det Surveys	0.00	0.00		
Total Number of Showerheads	0.00	0.00		
Total Number of Faucet Aerators	0.00	0.00		
Total Number of Landscape Water Survey	0.00	25.00		

Number of Other Components: 30.00

Description of Other Components Distributed: Smart Irrigation Controllers

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

B) High Efficiency Clothes Washers (HECWs)

Flex Track / Traditional

Number of incentives for HECWs with an AVERAGE Water Factor of 5.0: 0.00

Are Financial incentives provided for HECWs ? ○ Yes ⦿ No

Has your Agency completed a HECW Market Penetration Study (this question does not impack your coverage report, purely informational) ○ Yes ⦿ No

HECW Market Penetration Study Documents (Enter the file name and Email file to Natalie@cuwcc.org)

Measured water savings (AF/Year)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

C) WaterSense Specification (WSS) Toilets

(Agency must complete information for at least one coverage option (For Traditional 1, 2, or 3; For Flex Tarck 1, 2, 3, or 4).
You are encouraged to include information on other coverage options, as available.
If seeking credit for additional water savings, you must select Flex Track option)

Traditional

1. Retrofiton Resale Ordinance is in Place ○ Yes ⊙ No

If Yes, Choose A File (Enter the file name and Email file to Natalie@cuwcc.org)

2. A 75% Market Saturation Achieved ○ Yes ⊙ No

If yes, Choose A File (Enter the file name and Email file to Natalie@cuwcc.org)

3. WSS Toilets Installed

	Single Family	Multi Family
Number of WSS Toilets Installed	0.00	0.00
Measured Water Savings AF/YR		

Flex Track

4. Non-WSS Toilets

	Single Family		Multi Family	
Type of Toilets	Number of Toilets	Water Savings	Number of Toilets	Water Savings
Select an Option				

Description of Other Non-WSS Type of Toilets

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

D) WSS for New Residential Development

(Agency must complete information for at least one coverage option.You are encouraged to include information on other coverageoptions, as available. If seeking credit for additional water savings you must select the Flex Track option)

Flex Track

Traditional

	Single Family	Multi Family
Residential development Rebates	Yes ○ No ◉	Yes ○ No ◉
Recognition Programs	Yes ○ No ◉	Yes ○ No ◉
Reduced connection Fees	Yes ○ No ◉	Yes ○ No ◉
Ordinances	Yes ○ No ◉	Yes ○ No ◉

New Development Ordinance
(Enter the file name and Email file to Natalie@cuwcc.org)

Ordinances and permitting handled by city planning departments

Number of new Single Family Units built in Service Area: 11.00

Number of new Multi Family Units built in Service Area: 0.00

In the following table, enter one row for each incentive typr program you offer

List of Incentive Amount

Incentive Type	Incentive Amount	Number of WSS fixtures installed	Number of Participating Single Family	Number of Participating Multi Family	Measured Water Savings Single Family	Measured Water Savings Multi Family
Smart irrigation	180.00	13.00				

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

For Traditional Option, Stop Here, do not go further.
For Flex Track Option, please continue...

Flex Track Menu Options

In addition to the measures on the BMP List, the Flex Track menu options may be implemented to meet the savings goal for this BMP. Fill in the water savings measures that your agency has implemented.

E) High bill contact with single-family and multi-family customers

Measured water savings (AF/Year)

Select the Types of Contact:

☐ Email ☐ Phone ☐ Letter ☐ Others (describe)

Upload sample of contact contents (email, letter, etc.)
– if applicable; enter the file name and email file to Natalie@cuwcc.org

Who initiated the contact: (Please Specify customer, agencies, or both)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)

(Enter the file name and Email file to Natalie@cuwcc.org)

F) Educate residential customers about the behavioral aspects of water conservation

Measured water savings (AF/Year)

Select types of educational methods used:	**# Events**	**# Customers Reached**
☐ Workshop		
☐ Community Event		
☐ Letter		
☐ On-Site Visit		
☐ Phone Call		
☐ Water Survey		
☐ Website Hit		
☐ Door Hanger		
☐ Other (Describe)		

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

G) Notify residential customers of leaks on the customer's side of the meter

Type of Notification (Describe)

How many were sent out?

Measured water savings (AF/Year)

Upload sample notification method(email, letter, etc.) – if applicable

(Enter the file name and Email file to Natalie@cuwcc.org

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

H) Provide bill or surcharge refunds for customers to repair leaks on the customer's side of the meter.

Measured water savings (AF/Year)

Number of Leaks Repaired

Number of bill adjustments/credits/refunds provided

Describe here or upload a document with a policy description below:

Upload file describing Policy (Enter the file name and Email file to Natalie@cuwcc.org)

If you are using your own water-savings measure, send your supporting spreadsheet

Enter the file name and Email to Natalie@cuwcc.org

I) Provide unique water savings fixtures that are not included in the BMP list above

Fixture or Device	Description	Quantity Installes	Measured water savings (AF/YR)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

J) Install residence water use monitors.

Type of Monitor	Brand	Number Installed
☐ Dashboard		
☐ Leak Detector		
☐ Data Logger		

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

K) Participate in programs that provide residences with school water conservation kits.

Number of Kits Distributed

Kit contents (including model of fixtures)

List of what was actually installed in the homes (number of showerheads, aerators etc.).

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

L) Implement an automatic meter reading program for residential customers.

AMR or AMI Select an Option Type of Network Select an Option

Number of connections installed

☐ Is your agency using these to contact high water-use customers?

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

OTHER Types of Measures.

Type of Program	Sample / Description	Measured Water Savings (AF/YR)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

Comments

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

2009

Link to FAQs

View MOU

BMP 4 CII

Traditional ⊙ (Section A - L) Flex Track ○ (All Sections)

For Traditional Track please answer the fields within the traditional boxes.

For Flex Track option, please answer the fileds within the flex track boxes.

You must enter all measured water savings manually in the summary cells on the right. For each measure entered, upload a spreadsheet with sufficient information to show the way that water savings was measured and that the measure was adequately tracked (i.e., all relevant data was collected) - in some cases there are specific data points also requested in the flex track data entry form which are necessary to show that the measure was implemented as described.

CII Type of measure implemented

Traditional

A) High - Efficiency Toilets.

Measured water savings (AF/Year)

Number: 0

Type of program: Select an Option

Other type of program: Not Applicable

Flex Track

Do you accept the Council's default savings number for this measure? ○Yes○No

Council's Annual Water Savings 0.041748 AF per device

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet

Enter the file name and Email to Natalie@cuwcc.org

B) High - Efficiency Urinals (0.5 gpf)

Traditional

Number	0
Type of program	
Other type of program	Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure? ○Yes○No

Council's Annual Water Savings 0.069086 AF per device

If not, Please provide the following

Total Measured Water Savings(AF/Year)	
Measure life (years)	
Lifetime water savings (years)	

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

C) Ultra Low Volume Urinals (0.125 gpf)

Traditional

Number	0
Type of program	Select an Option
Other type of program	Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure? ○Yes○No

Council's Annual Water Savings 0.080603 AF per device

If not, Please provide the following

Total Measured Water Savings(AF/Year)	
Measure life (years)	
Lifetime water savings (years)	

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

D) Zero Consumption Urinals (0.0 gpf)

Traditional

Number	0
Type of program	Select an Option
Other type of program	Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure? ○Yes ○ No

Flex Track

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

Council's Annual Water Savings 0.0921146 AF per device

If you are using your own water-savings measure, send your supporting spreadsheet

Enter the file name and Email to Natalie@cuwcc.org

E) Commercial High - Efficiency Single Load Clothes Washers

Traditional

Number 0

Type of program

Other type of program: Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Counsil's default savings number for this measure ? ○Yes○No

Council's Annual Water Savings 0.116618 AF per device

If not , Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet

Enter the file name and Email to Natalie@cuwcc.org

F) Cooling Tower Conductivity Controllers.

Traditional

Number 0

Type of program: Select an Option

Other type of program: Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure ? ○Yes○No

Council's Annual Water Savings 1.032250 AF per device

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet

Enter the file name and Email to Natalie@cuwcc.org

G) Cooling Tower pH Controllers

Traditional

Number	0	**Measured water savings (AF/Year)**
Type of program	Select an Option	
Other type of program	Not Applicable	

Flex Track

Do you accept the Council's default savings number for this measure ? ○Yes○No

Council's Annual Water Savings 3.981543 AF per device

If not, Please provide the following:

Total Measured Water Savings(AF/Year)	
Measure life (years)	
Lifetime water savings (years)	

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

H) Connectionless Food Steamers.

Traditional

Number	0	**Measured water savings (AF/Year)**
Type of program		
Other type of program	Not Applicable	

Flex Track

Do you accept the Council's default savings number for this measure ? ○Yes○No

Council's Annual Water Savings 0.25 AF per Steamer Compartment

mIf not, Please provide the following:

Total Measured Water Savings(AF/Year)	
Measure life (years)	
Lifetime water savings (years)	

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

I) Medical Equipment Steam Sterilizers

Flax Track

Traditional

Number	0	**Measured water savings (AF/Year)**
Type of program		
Other type of program	Not Applicable	

Flex Track

Do you accept the Council's default savings number for this measure? ○Yes○No

Council's Annual Water Savings 1.538 AF per device

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

J) Water - Efficient Ice Machines.

Traditional

Number 0

Type of program Select an Option

Other type of program Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure ? ○Yes○No

If not, Please provide the following:

Council's Annual Water Savings 0.0834507 AF per device

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

K) Pressurized Water Brooms.

Traditional

Number 0

Type of program Select an Option

Other type of program Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure? ○Yes○No

Council's Annual Water Savings 0.1534 AF per device

Flex Track

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

L) Dry Vacuum Pumps.

Traditional

Number 0

Type of program Select an Option

Other type of program Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure ? ○Yes○No

Council's Annual Water Savings 0.064 AF per device

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

Traditional Reporting Stop Here, Do not continue

Flex Track Reporing Please Continue...

M) Industrial Process Water Use Reduction.

Number

Type of program Select an Option

Other type of program

Measured water savings (AF/Year)

Type of Process Water Reduced

If re-using water, what was the secondary use of the water? (such as pre-rince cycle or landscaping)

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

N) Commercial Laundry Retrofits.

Number of customers

Measured water savings (AF/Year)

Type of customer
- ☐ hotels
- ☐ campuses
- ☐ prisons
- ☐ laundromats

Lease / own machines: ○ Lease ○ Own Machines ○ Both

Type of program: Select an Option

Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

O) Industrial Laundry Retrofits.

Measured water savings (AF/Year)

Total Number of customers

Total Volume of laundry processed annually: Select an Option

Type of program: Select an Option

Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

P) Filter Upgrades (for pools, spas, and fountains).

Number of pools upgraded

Number of spas upgraded

Number of fountains upgraded

Measured water savings (AF/Year)

Type of program — Select an Option

Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

Q) Car Wash Reclamation Systems

Measured water savings (AF/Year)

	Conveyor	In-bay
Total Number of program participants (accounts)		
Total Number of vehicles washed annually		

Do you accept the Council's default savings number for this measure? ○Yes○No

Council's Annual Water Savings 0.00004607 (or 15 gals) per vehicle

If not, Please provide the following:

Total Measured Water Savings(AF/Year)	
Measure life (years)	
Lifetime water savings (years)	

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

R) Wet Cleaning.

		Measured water savings (AF/Year)
Brief description of program		

Total Measured Water Savings(AF/Year)	
Measure life (years)	
Lifetime water savings (years)	

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

S) Water Audits (To avoid double counting, do not include device/replacement water savings.)

Number of water audits by type of business

Measured water savings (AF/Year)

Auto	
Food	
Health	
Hotels	

Manufacturing	
Membership	
Multi-use	
Office	
Religious	
Restaurant	
Retail/ Wholesale	
School	
Other (with description)	
Description of Other	

Total Measured Water Savings(AF/Year)	
Measure life (years)	
Lifetime water savings (years)	

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

T) Clean In Place (CIP) Technology
(such as bottle sterilization in a beverage processing plant)

		Measured water savings (AF/Year)
Number of customers		
Type of program	Select an Option	
Other type of program		

Total Measured Water Savings(AF/Year)	
Measure life (years)	

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

U) Waterless Wok

Number

Type of program Select an Option

Measured water savings (AF/Year)

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

V) Alternative On-site Water Sources (For Rain Water Harvesting, commercial rain barrels are excluded. For Foundation Drain Water, exclude permeable paving.)

Measured water savings (AF/Year)

Select type	Number	Description
☐ Cooling Condensate		
☐ Foundation Drain Water		
☐ Gray Water		
☐ Storm Water		
☐ Rain Water		
☐ Pond and Water Feature Recycling		

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

W) Sub - metering

Measured water savings (AF/Year)

Select type	Number	Description
☐ Condominiums		
☐ Apartments		
☐ Mobile Homes		

Do you accept the Council's default savings numbers for this measure? ○Yes○No

Council's Annual Water Savings
Appartments & Condos=0.024419 AF/YR
Mobile Home = 0.056774 AF/Yr

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

X) High Efficiency Showerheads

Measured water savings (AF/Year)

Number

Type of program — Select an Option

Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

Y) Faucet Flow Restrictors

Measured water savings (AF/Year)

Number

Type of program Select an Option

Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

Z) Water Efficient Dishwashers

Measured water savings (AF/Year)

Select type Number

☐ Rack

☐ Conveyor

☐ Other

Description of Other

Type of program Select an Option

Other type of program

Total Measured Water Savings(AF/Year)
Measure life (years)
Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

AA) Hot Water on Demand

Measured water savings (AF/Year)

Number
Type of program — Select an Option
Other type of program

Total Measured Water Savings(AF/Year)
Measure life (years)
Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

BB) Pre-rinse Spray Valves of 1.3 gpm (gallons per minute) or less

Measured water savings (AF/Year)

Number
Type of program — Select an Option
Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

CC) Central Flush Systems

Measured water savings (AF/Year)

Number

Type of program — Select an Option

Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

Other Measures chosen by the Agency

Measured water savings (AF/Year)

Description of program

Sample (if applicable)

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

The fields in red are required.

Agency name: Desert Water Agency
Reporting unit name (District name): Retail
Reporting unit number: 110

Primary contact:
First name: Katie
Last name: Ruark
Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

2009

BMP 5 Landscape

Link to FAQs
View MOU

◉ **Traditional** ○ **Flex Track**

For Traditional Track please answer the fields within the traditional boxes.
For Flex Track option, please answer the fileds within the flex track boxes.
You must enter all measured water savings manually. For each measure entered, upload a spreadsheet with sufficient information to show the way that water savings were measured and that the measure was adequately tracked (i.e., all relevant data was collected) - in some cases there are specific data point salso requested in form which are necessary to show that the measure was implemented as described.

Accounts with Dedicated Irrigation Meters

Traditional

Number of dedicated irrigation meter accounts	252.00
Number of dedicated irrigation meter accounts with water budgets	0.00
Aggregate water use for dedicated non-recreational landscape accounts with budgets	0.00
Aggregate acreage assigned water budgets for dedicated non-recreational landscape accounts with budgets	0.00
Preserved water use records and budgets for customers with dedicated landscape irrigation accounts for at least four years	○ Yes ◉ No

Flex Track

Water Savings from Accounts with dedicated irrigation meters with water budgets (Acre Feet)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)

(Enter the file name and Email file to Natalie@cuwcc.org)

Technical Assistance

Traditional

Number of Accounts 20% over-budget	0.00
Number of accounts 20% over-budget offered technical assistance	0.00
Number of accounts 20% over-budget accepting technical assistance	0.00

Measured water savings (AF/Year)

Flex Track

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)

(Enter the file name and Email file to Natalie@cuwcc.org)

Irrigation Water Use Surveys for Mixed-use and Un-metered Accounts

Traditional

Number of mixed use and un-metered accounts	0.00
Number of irrigation water use surveys offered (cumulative, all years)	
Number of irrigation water use surveys accepted (cumulative)	
Can your Agency estimate the amount of landscape acreage for mixed use and Un-metered accounts	○ Yes ○ No
If Yes, Aggregate acreage for mixed use and Un-metered accounts	

Measured water savings (AF/Year)

Flex Track

Esrimated water demand from acreage for mixed use and Un-metered accounts	
Annual water savings by customers receiving irrigation water savings surveys and implementing recomendations	

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

Financial Incentives

Traditional

Have you implemented and maintained an irrigation equipment retrofit incentive program? ⊙ Yes ○ No

Number of incentives	Dollar value of incentives	Incentive Types	Measured Water Savings (AF/YR)
		Recycled water for irrigation	
		Landscape water audits	

Flex Track

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

Traditional Reporting Stop Here, Do not continue
Flex Track Reporing Please Continue...

Landscape Flex Track Measure Types

1. Monitor and report on landscape water use

A) Measure landscapes and develop water budgets for customers with dedicated landscape meters. Provide timely water use reports with comparisons of water use to budget that provide customers the information they need to adjust irrigation schedules (such as faxes, twitter, etc. not included in the previous sections).

Measured water savings (AF/Year)

Enter the Number of sites with:

Dedicated Mixed Meters	
Water Budgets	
Landscape Measurements	
Others (describe)	

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

B) Measure landscapes and develop water budgets for customers with Mixed Use meters. Provide timely water use reports with comparisons of water use to budget that provide customers the information they need to adjust irrigation schedules.

Measured water savings (AF/Year)

Enter the Number of sites with:

Dedicated Mixed Meters	
Water Budgets	
Landscape Measurements	
Others (describe)	

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

C) Establish agency-wide water budget. (Note that: ETo based water budget in the MWELO changed in 2010 from .8ETo to .7ETo.)

Measured water savings (AF/Year)

Agency-wide total irrigated area (Acres)

Amount of Water Used (AF/Acre)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

D) Establish agency-wide, sector-based irrigation goal to reduce water use, based on seasonality.

Measured water savings (AF/Year)

Number of minimum irrigation goal ____ (AF/Acre)

Amount of Water Used per Period ____ (AF/Period)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

2. Provide technical landscape resources and training

A) **Upon customer requests, provide landscape irrigation management and landscape design information and resources: provide assistance, answer customer questions, respond to run-off and high-bill calls.**

Measured water savings (AF/Year)

Enter the Number of:

Contacts In Person

Contacts over the phone

Contacts via Email

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

B) Perform landscape & irrigation audits: including irrigation scheduling, plant information, and landscape area measurement.

Measured water savings (AF/Year)

Enter the Number of:

Audits conducted per year

Measurement of square footage of Turf areas

Measurement of square footage of NON Turf areas

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

C) Sponsor, co-sponsor, promote, or support landscape workshops, training, presentations and other technical educational events for homeowners and professionals: design, installation, maintenance, water management.

Enter the Number of:

Events

Participants

List Type or Title of Events

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

D) Establish Time-of-Day Irrigation Restrictions.

○ Yes ○ No

Describe Restrictions:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

E) Establish Day-of-Week Irrigation Restrictions. ○ Yes ○ No

Describe Restrictions:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

3. Provide incentives

A) Establish Landscape budget-based rates. ○ Yes ○ No

Describe Rates:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

B) Provide incentives for conversions from mixed-use meters to dedicated landscape meters.

Number of Conversions:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

C) Provide incentives for installing sub-meters to separate landscape water use

Number of meters installed:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

D) Provide incentives for irrigation equipment upgrades that improve distribution uniformity, irrigation efficiency, or scheduling capabilities.

Select types of irrigation equipment upgrades:	Number of devices installed	**Measured water savings (AF/Year)**
☐ Controllers		
☐ Emitters		
☐ Soil moisture sensors		
☐ Pressure Regulators		
☐ Rain shut off devices		
☐ Other (describe)		

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

E) Provide incentives for the reduction of water use over an irrigated area, or reduction in the size of the irrigated area due to replacement of turf or other high water-using plants with low water-using plants, artificial turf, or permeable surfaces.

Acreage of live turf converted to low water-using plants, artificial turf, or permeable surfaces: Acres

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

F) Provide incentives for conversions from potable to recycled water.

Number of Conversions:

Number of Incentives:

Funds Invested:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

G) Provide incentives for the use of alternative sources of water in the landscape (i.e. gray water, rainwater, cisterns, etc.)

Number of Conversions:

Number of Incentives:

Funds Invested:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

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4. Participate in local and regional planning and regulatory activities

A) Collaborate with planning agencies at the local and regional level, other water suppliers in the area and stakeholders in response to state or federal requirements such as the State Model Water Efficient Landscape Ordinance and AB 1881. Participate in the development, review, implementation, and enforcement of requirements for new developments. Provide water use data to planning agencies.

Measured water savings (AF/Year)

Public Information Programs List

Agency Type	Describe Involvement	If Ohter: Enter Name	Actions

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

B) Establish or participate in a water conservation advisory committee or other community outreach effort to drive market transformation and exchange information about landscape water conservation with developers, community-based organizations, homeowners associations, residential customers, landscape professionals, educators, other water suppliers in region.

◯ Yes ◯ No

Describe Involvement:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

C) Participate in regional efforts: integrated water resource management, watershed management, NPDES permit agencies, etc.

◯ Yes ◯ No

Describe Involvement:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

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5. Develop a holistic approach to landscape water use efficiency

A) Develop and implement a comprehensive landscape water conservation program for all customers. Target marketing efforts to those most likely to result in benefits to both customer and Agency.

Describe Program:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

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6. Other Measures

A) Other Landscape Measures.

Describe Other Landscape Measures:

Measured water savings (Af/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file Natalie@cuwcc.org)

The fields in red are required.

Agency name: Desert Water Agency

Division name (Reporting unit): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

Water Uses 2010

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	19,890.00	29,600.00			
Commercial	3,050.00	12,800.00			
Institutional	330.00	2,000.00			
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Desert Water Agency

Division name (Reporting unit): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

Water Uses 2010

Non-Potable Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Dedicated Irrigation	13.00	4,148.00			Recycled water customers
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Non-Potable Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Desert Water Agency

Division name (Reporting unit): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

Water Uses 2010

Potable Water Billed

Make sure to enter numbers in AF/Year.

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Single-Family	19,890.00	29,600.00			
Commercial	3,050.00	12,800.00			
Institutional	330.00	2,000.00			
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

Potable Water Un-Billed

Customer Type	Meter Accounts	Metered Water Delivered	Un-metered Accounts	Un-metered Water Delivered	Description
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					
Other					

The fields in red are required.

Agency name: Desert Water Agency

Division name (Reporting unit): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

2010

Service Area Population: 56500

Non- Potable Water

If you select Other for type, enter

Own Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
DWA recycled water	3,951.00	Recycled Non Potable	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Imported Supply Source Name	AF/YEAR	Water Supply Type	Water Supply Description
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	
		Select a water type.	

Exported Water Name	AF/YEAR	Where Exported? such as groundwater recharge, retail,

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Desert Water Agency

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2010

BMP 1.1 Operations Practices

Comments:

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Conservation Coordinator

Conservation Coordinator (•) Yes ( ) No

Contact Information

First Name	Katie
Last Name	Ruark
Title	Public Information Associate
Phone	(760) 323-4971 ext. 184
Email	kruark@dwa.org

Note that the contact information may be the same as the primary contact information at the top of the page. If this is your case, excuse the inconvenience but please enter the information again.

Water Waste Prevention

Water Agency shall do one or more of the following:

a. Enact and enforce an ordinance or establish terms of service that prohibit water waste
b. Enact and enforce an ordinance or establish terms of service for water efficient design in new development
c. Support legislation or regulations that prohibit water waste
d. Enact an ordinance or establish terms of service to facilitate implementation of water shortage response measures
e. Support local ordinances that prohibit water waste
f. Support local ordinances that establish permits requirements for water efficient design in new

To document this BMP, provide the following:

a. A description of, or electronic link to, any ordinances or terms of service
b. A description of, or electronic link to, any ordinances or requirements adopted by local jurisdictions or regulatory agencies with the water agency's service area.
c. A description of any water agency efforts to cooperate with other entities in the adoption or enforcement of local requirement
d. description of agency support positions with respect to adoption of legislation or regulations

You can show your documentation by providing files, links (web addresses), and/or entering a description.

File name(s): Email files to natalie@cuwcc.org Ordinace 31.odf, Ordinace 45.pdf

Web address(s) URL: comma-separated list

Enter a description:

The fields in red are required.

Primary contact:

Agency name: Desert Water Agency

First name: Katie

Reporting unit name (District name): Desert Water Agency

Last name: Ruark

Reporting unit number: 110

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

2010 BMP 1.2 Water Loss Control

View MOU

AWWA Water Audit

Agency to complete a Water Audit & Balance Using The AWWA Software ○ Yes ◉ No

Email to natalie@cuwcc.org - Worksheets (AWWA Water Audit). Enter the name of the file below:

Water Audit Validity Score from AWWA spreadsheet

Agency Completed Training In The AWWA Water Audit Method ○ Yes ○ No

Agency Completed Training In The Component Analysis Process ○ Yes ○ No

Completed/Updated the Component Analysis (at least every 4 years)? ○ Yes ○ No

Component Analysis Completed/Updated Date

Water Loss Performance

Agency Repaired All Reported Leaks & Breaks To The Extent Cost Effective ◉ Yes ○ No

Recording Keeping Requirements:

Date/Time Leak Reported	Leak Location
Type of Leaking Pipe Segment or Fitting	Leak Running Time From Report to Repair
Leak Volume Estimate	Cost of Repair

Agency Located and Repaired Unreported Leaks to the Extent Cost Effective ○ Yes ○ No

Type of Program Activities Used to Detect Unreported Leaks

DWA informs all customers of possible onsite leaks when excessive consumption occurs when compared to the prior year's usage. DWA preforms water audits by metering all cusomter connections and water used for construction purpo

Annual Summary Information

Complete the following table with annual summary information (required for reporting years 2-5 only)

Total Leaks Repaired	Economic Value Of Real Loss	Economic Value Of Apparent Loss	Miles Of System Surveyed For Leaks	Pressure Reduction Undertaken for loss reduction	Cost Of Interventions	Water Saved (AF/Year)

Comments:

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Desert Water Agency

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

BMP 1.3 Metering with Commodity 2010

Link to FAQs

See the complete MOU: View MOU

See the coverage requirements for this BMP:

Implementation

Does your agency have any unmetered service connections? ○ Yes ◉ No

If YES, has your agency completed a meter retrofit plan? ○ Yes ○ No

Enter the number of previously unmetered accounts fitted with meters during reporting year: 0

Are all new service connections being metered? ◉ Yes ○ No

Are all new service connections being billed volumetrically? ◉ Yes ○ No

Has your agency completed and submitted electronically to the Council a written plan, policy or program to test, repair and replace meters? ○ Yes ◉ No

Please Fill Out The Following Matrix

Account Type	# Metered Accounts	# Metered Accounts Read	# Metered Accounts Billed by Volume	Billing Frequency Per Year	# of estimated bills/yr
Single-Family	19,890	19,890	19,890	Monthly	238,680
Commercial	3,050	3,050	3,050	Monthly	36,600
Institutional	330	330	330	Monthly	3,960
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	
Other				Other	

Number of CII Accounts with Mixed-use Meters: 0

Number of CII Accounts with Mixed-use Meters Retrofitted with Dedicated Irrigation Meters during Reporting Period: 0

Feasibility Study

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? ○ Yes ◉ No

If YES, please fill in the following information:

A. When was the Feasiblity Study conducted

B. Describe, upload or provide an electronic link to the Feasibility Study Upload File

File name(s): Email files to natalie@cuwcc.org

Web address(s) URL: comma-separated list

Comments:

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Desert Water Agency

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

2010

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Uniform	Other	16,637,250.00	16,637,250.00
Select a Rate Struc	Select a Customer Tv		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Implementation Option (Conservation Pricing Option)

- (•) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service (•) Yes ( ) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Uniform	Other	884,511.00	884,511.00
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

DWA water rates are commodity based rates. DWA sewer rates are based on E

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Desert Water Agency

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

CUWCC

2010

Link to FAQs

View MOU

BMP 1.4 Retail Conservation Pricing

If you are reporting more rate structures than this form allows, add the structures to a spreadsheet and send the file to natalie@cuwcc.org.

Implementation (Water Rate Structure)

Enter the Water Rate Structures that are assigned to the majority of your customers, by customer class

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Uniform	Other	16,637,250.00	16,637,250.00
Select a Rate Struc	Select a Customer Tv		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Implementation Option (Conservation Pricing Option)

- (•) Use Annual Revenue As Reported
- ( ) Use Canadian Water & Wastewater Association Rate Design Model

If CWWA is select, enter the file name and email the spreadsheet to natalie@cuwcc.org

Retail Waste Water (Sewer) Rate Structure by Customer Class

Agency Provide Sewer Service (•) Yes ( ) No

Select the Retail Waste Water(Sewer) Rate Structure assigned to the majority of your customers within a specific customer class.

Rate Structure	Customer Class	Total Revenue Commodity Charges	Total Revenue Customer Meter/Service (Fixed Charges)
Uniform	Other	884,511.00	884,511.00
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		
Select a Rate Struc	Other		

Comments:

DWA water rates are commodity based rates. DWA sewer rates are based on

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Desert Water Agency

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2010

BMP 2.1 Public Outreach - Retail Reporting

View MOU

Is a Wholesale Agency Performing Public Outreach?

Are there one or more wholesale agencies performing public outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

Is your agency performing public outreach?

Report a minimum of 4 water conservation related contacts your agency had with the public during the year.

Public Information Programs List

Did at least one contact take place during each quarter of the reporting year? ☑

Number of Public Contacts	Public Information Programs
30,000	General water conservation information
30,000	Landscape water conservation media campaigns
10,000	Website
	Select a public contact
	Select a public contact

Contact with the Media

Are there one or more wholesale agencies performing media outreach which can be counted to help your agency comply with the BMP? ○ Yes ◉ No

Enter the name(s) of the wholesale agency (comma delimited)

OR Retail Agency (Contacts with the Media)

Media Contacts List

Did at least one contact take place during each quarter of the reporting year? ☑

Number of Media Contacts	Did at least one contact take place during each quarter of the reporting year?	Media Contact Types
5		Articles or stories resulting from outreach
15		News releases
10		Radio contacts
20		Newspaper contacts
		Select a type of media contact
		Select a type of media contact

Is a Wholesale Agency Performing Website Updates?

Did one or more CUWCC wholesale agencies agree to assume your agency's responsibility for meeting the requirements of and for CUWCC reporting of this BMP? ○Yes ◉No

Enter the name(s) of the wholesale agency (comma delimited)

DWA conducts website updates

Is Your Agency Performing Website Updates?

Enter your agency's URL (website address): www.dwa.org

Describe a minimum of four water conservation related updates to your agency's website that took place during the year:

25 ways to save brochure uploaded, water waste reporting feature added, photos of native landscape added, irrigation controller information added and Home Makeover in the Desert Video displayed, press releases added

Did at least one Website Update take place during each quarter of the reporting year? ◉Yes ○No

Public Outreach Annual Budget

Enter budget for public outreach programs. You may enter total budget in a single line or brake the budget into discrete categories by entering many rows. Please indicate if personnel costs are included in the entry.

Category	Amount		Personnel Costs Included? If yes, check the box.	Comments	
Public Informati	$125,700		✓	Excludes conservation budget	

Comments:

DWA also produced a paid segment on Home Makeover in the Desert to promote the use of Smart Irrigation Controllers.

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Desert Water Agency

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2010

BMP 2.1 Public Outreach Cont'd

View MOU

Public Outreach Expenses

Enter expenses for public outreach programs. Please include the same kind of expenses you included in the question related to your budget (Section 2.1.7, above). For example, if you included personnel costs in the budget entered above, be sure to include them here as well.

Expense Category	Expense Amount	Personnel Costs Included?	
Giveaways, prizes	$27,850	☐	If yes, check the check box.
Sponsorships	$6,325	☐	
Field Trips	$1,000	☐	
Media Ads	$5,300	☐	

Additional Public Information Program

Please report additional public information contacts. List these additional contacts in order of how your agency views their importance / effectiveness with respect to conserving water, with the most important/ effective listed first (where 1 = most important).

Were there additional Public Outreach efforts? ◉ Yes ○ No

Public Outreach Additional Information

Public Information Programs	Importance	
Hospitality Industry Program		
Condominium Program		

Social Marketing Programs

Branding

Does your agency have a water conservation "brand," "theme" or mascot? ◉ Yes ○ No

Describe the brand, theme or mascot. DWA Logo plus "Worth Saving" slogan and "Aqua-Star" brand

Market Research

Have you sponsored or participated in market research to refine your message? ◉ Yes ○ No

Market Research Topic	Survey of public
Brand Message	
Brand Mission Statement	

Community Committees

Do you have a community conservation committee? ○ Yes ◉ No

Enter the names of the community committees:

Training

Training Type	# of Trainings	# of Attendees	Description of Other	

Social Marketing Expenditures

Public Outreach Social Marketing Expenses

Expense Category	Expense Amount	Description	

Partnering Programs - Partners

Name	Type of Program
☐ CLCA?	
☐ Green Building Programs?	
☐ Master Gardeners?	
☐ Cooperative Extension?	
☐ Local Colleges?	
☐ Other	

☐ Retail and wholesale outlet; name(s) and type(s) of programs:

Partnering Programs - Newsletters

Number of newsletters per year

Number of customers per year	

Partnering with Other Utilities

Describe other utilities your agency partners with, including electrical utilities	Coachella Valley Water District, Mission Springs Water District, outreach efforts conducted jointly (speaking in schools, golf course programs, booths at local events)

Conservation Gardens

Describe water conservation gardens at your agency or other high traffic areas or new	Map emailed to CUWCC

Landscape contests or awards

Describe water wise landscape contest or awards program conducted by your agency	Website features native plant conversions--customers can submit photos

Comments:

DWA has a staff member dedicated to public outreach and is in a continual cycle of reaching the public with conservation and aw

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Desert Water Agency

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

Click here to open a table that displays your agency name reporting unit name and reporting unit number. Please ensure that you enter the correct information.

Link to FAQs

2010

BMP 2.2 School Education Programs, Retail Agencies

View MOU

School Programs

Is a wholesale agency implementing school programs which can be counted to help your agency comply with this BMP? ○ Yes ◉ No

Enter Wholesaler Names, separated by commas:

☑ Materials meet state education framework requirements?

Description of Materials: Project Wet materials, Internal DWA materials

☑ Materials distributed to K-6 Students?

Description of materials distributed to K-6 Students: Giveaway conservation tools, workbooks, magazines

Number of students reached: 50

☑ Materials distributed to 7-12 Students?

Description of materials distributed to 7-12 Students: Giveaway conservation tools, workbooks, magazines

Number of Distribution: 150

Annual budget for school education program:

Description of all other water supplier education programs:

School Program Activities

Classroom presentations:

Number of presentations: 12 Number of attendees: 200

Large group assemblies:

Number of presentations: 1 Number of attendees: 100

Children's water festivals or other events:

Number of presentations: 2 Number of attendees: 700

Cooperative efforts with existing science/water education programs (various workshops, science fair awards or judging) and follow-up:

Number of presentations: 2 Number of attendees: 750

Other methods of disseminating information (i.e. themed age-appropriate classroom loaner kits):

Description

Number distributed

Staffing children's booths at events & festivals:

Number of booths: 2 | Number of attendees: 700

Water conservation contests such as poster and photo:

Description: CREEC art projects, Palm Springs Unified Science Fair

Number distributed

Offer monetary awards/funding or scholarships to students:

Number Offered | Total Funding

Teacher training workshops:

Number of presentations | Number of attendees

Fund and/or staff student field trips to treatment facilities, recycling facilities, water conservation gardens, etc.:

Number of tours or field trips: 4 | Number of participants: 80

College internships in water conservation offered:

Number of internships | Total funding

Career fairs/workshops:

Number of presentations: 1 | Number of attendees: 60

Additional program(s) supported by agency but not mentioned above:

Description

Number of events (if applicable) | Number of participants

Total reporting period budget expenditures for school education programs (include all agency costs): 7/1/200-7/31/2010

Comments

Also sponsor Desert Horticultural Society education events.

The fields in red are required.

Agency name: Desert Water Agency

Reporting unit name (District name): Retail

Reporting unit number: 110

Primary contact:

First name: Katie

Last name: Ruark

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

Link to FAQs

View MOU

2010 BMP 3 Residential

◉ **Traditional (Sections A - D)** ○ **Flex Track (All Sections)**

For Traditional Track please answer the fields within the traditional boxes.
For Flex Track option, please answer the fileds within the flex track boxes.
You must enter all measured water savings manually. For each measure entered, upload a spreadsheet with sufficient information to show the way that water savings were measured and that the measure was adequately tracked (i.e., all relevant data was collected) - in some cases there are specific data points also requested in form which are necessary to show that the measure was implemented as described.

A) Residential Assistance / Leak Detection

Flex Track

Traditional

	Single Family	Multi Family	Total Water Savings AF/YR	Measured Water Savings AF/YR
Total Number of Accounts	0.00	0.00		
Total Number of Participants Overall	0.00	0.00		
Total Number of Leak Det Surveys	0.00	0.00		
Total Number of Showerheads	0.00	0.00		
Total Number of Faucet Aerators	0.00	0.00		
Total Number of Landscape Water Survey	0.00	25.00		

Number of Other Components: 30.00

Description of Other Components Distributed: Smart Irrigation Controllers

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)

(Enter the file name and Email file to Natalie@cuwcc.org)

B) High Efficiency Clothes Washers (HECWs)

Flex Track

Traditional

Number of incentives for HECWs with an AVERAGE Water Factor of 5.0: 0.00

Are Financial incentives provided for HECWs ? ○ Yes ◉ No

Has your Agency completed a HECW Market Penetration Study (this question does not impack your coverage report, purely informational) ○ Yes ◉ No

HECW Market Penetration Study Documents (Enter the file name and Email file to Natalie@cuwcc.org)

Measured water savings (AF/Year)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

C) WaterSense Specification (WSS) Toilets

(Agency must complete information for at least one coverage option (For Traditional 1, 2, or 3; For Flex Tarck 1, 2, 3, or 4).
You are encouraged to include information on other coverage options, as available.
If seeking credit for additional water savings, you must select Flex Track option)

Traditional

1. Retrofiton Resale Ordinance is in Place ○ Yes ⊙ No

If Yes, Choose A File (Enter the file name and Email file to Natalie@cuwcc.org)

2. A 75% Market Saturation Achieved ○ Yes ⊙ No

If yes, Choose A File (Enter the file name and Email file to Natalie@cuwcc.org)

3. WSS Toilets Installed

	Single Family	Multi Family
Number of WSS Toilets Installed	0.00	0.00
Measured Water Savings AF/YR		

Flex Track

4. Non-WSS Toilets

	Single Family		Multi Family	
Type of Toilets	Number of Toilets	Water Savings	Number of Toilets	Water Savings
Select an Option				

Description of Other Non-WSS Type of Toilets

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

D) WSS for New Residential Development

(Agency must complete information for at least one coverage option.You are encouraged to include information on other coverageoptions, as available. If seeking credit for additional water savings you must select the Flex Track option)

Traditional

	Single Family	Multi Family
Residential development Rebates	Yes ○ No ⊙	Yes ○ No ⊙
Recognition Programs	Yes ○ No ⊙	Yes ○ No ⊙
Reduced connection Fees	Yes ○ No ⊙	Yes ○ No ⊙
Ordinances	Yes ○ No ⊙	Yes ○ No ⊙

New Development Ordinance
(Enter the file name and Email file to Natalie@cuwcc.org)

Ordinances and permitting handled by city planning departments

Number of new Single Family Units built in Service Area: 32.00

Number of new Multi Family Units built in Service Area: 0.00

In the following table, enter one row for each incentive typr program you offer

List of Incentive Amount

Incentive Type	Incentive Amount	Number of WSS fixtures installed	Number of Participating Single Family	Number of Participating Multi Family	Measured Water Savings Single Family	Measured Water Savings Multi Family
Irrigation	180.00	16.00				

Flex Track

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

For Traditional Option, Stop Here, do not go further.
For Flex Track Option, please continue...

Flex Track Menu Options

In addition to the measures on the BMP List, the Flex Track menu options may be implemented to meet the savings goal for this BMP. Fill in the water savings measures that your agency has implemented.

E) High bill contact with single-family and multi-family customers

Measured water savings (AF/Year)

Select the Types of Contact:

☐ Email ☐ Phone ☐ Letter ☐ Others (describe)

Upload sample of contact contents (email, letter, etc.)
– if applicable; enter the file name and email file to Natalie@cuwcc.org

Who initiated the contact: (Please Specify customer, agencies, or both)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)

(Enter the file name and Email file to Natalie@cuwcc.org)

F) Educate residential customers about the behavioral aspects of water conservation

Measured water savings (AF/Year)

Select types of educational methods used:	**# Events**	**# Customers Reached**
☐ Workshop		
☐ Community Event		
☐ Letter		
☐ On-Site Visit		
☐ Phone Call		
☐ Water Survey		
☐ Website Hit		
☐ Door Hanger		
☐ Other (Describe)		

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

G) Notify residential customers of leaks on the customer's side of the meter

Measured water savings (AF/Year)

Type of Notification (Describe)

How many were sent out?

Upload sample notification method(email, letter, etc.) – if applicable

(Enter the file name and Email file to Natalie@cuwcc.org

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

H) Provide bill or surcharge refunds for customers to repair leaks on the customer's side of the meter.

Measured water savings (AF/Year)

Number of Leaks Repaired

Number of bill adjustments/credits/refunds provided

Describe here or upload a document with a policy description below:

Upload file describing Policy (Enter the file name and Email file to Natalie@cuwcc.org)

If you are using your own water-savings measure, send your supporting spreadsheet

Enter the file name and Email to Natalie@cuwcc.org

I) Provide unique water savings fixtures that are not included in the BMP list above

Fixture or Device	Description	Quantity Installes	Measured water savings (AF/YR)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

J) Install residence water use monitors.

Type of Monitor	Brand	Number Installed	Measured water savings (AF/Year)
☐ Dashboard			
☐ Leak Detector			
☐ Data Logger			

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

K) Participate in programs that provide residences with school water conservation kits.

Number of Kits Distributed

Kit contents (including model of fixtures)

List of what was actually installed in the homes (number of showerheads, aerators etc.).

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

L) Implement an automatic meter reading program for residential customers.

AMR or AMI Select an Option Type of Network Select an Option

Number of connections installed

☐ Is your agency using these to contact high water-use customers?

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

OTHER Types of Measures.

Type of Program	Sample / Description	Measured Water Savings (AF/YR)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

Comments

The fields in red are required.

Primary contact:

Agency name: Desert Water Agency

First name: Katie

Reporting unit name (District name): Retail

Last name: Ruark

Reporting unit number: 110

Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

2010

Link to FAQs

View MOU

BMP 4 CII

Traditional ⊙ (Section A - L)

Flex Track ○ (All Sections)

For Traditional Track please answer the fields within the traditional boxes.

For Flex Track option, please answer the fileds within the flex track boxes.

You must enter all measured water savings manually in the summary cells on the right. For each measure entered, upload a spreadsheet with sufficient information to show the way that water savings was measured and that the measure was adequately tracked (i.e., all relevant data was collected) - in some cases there are specific data points also requested in the flex track data entry form which are necessary to show that the measure was implemented as described.

CII Type of measure implemented

Traditional

A) High - Efficiency Toilets.

Measured water savings (AF/Year)

Number: 0

Type of program: Select an Option

Other type of program: Not Applicable

Flex Track

Do you accept the Council's default savings number for this measure? ○Yes○No

Council's Annual Water Savings 0.041748 AF per device

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet Enter the file name and Email to Natalie@cuwcc.org

B) High - Efficiency Urinals (0.5 gpf)

Traditional

Number	0
Type of program	Select an Option
Other type of program	Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure? ○Yes○No

Council's Annual Water Savings 0.069086 AF per device

If not, Please provide the following

Total Measured Water Savings(AF/Year)	
Measure life (years)	
Lifetime water savings (years)	

If you are using your own water-savings measure, send your supporting spreadsheet Enter the file name and Email to Natalie@cuwcc.org

C) Ultra Low Volume Urinals (0.125 gpf)

Traditional

Number	0
Type of program	Select an Option
Other type of program	Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure? ○Yes○No

Council's Annual Water Savings 0.080603 AF per device

If not, Please provide the following

Total Measured Water Savings(AF/Year)	
Measure life (years)	
Lifetime water savings (years)	

If you are using your own water-savings measure, send your supporting spreadsheet Enter the file name and Email to Natalie@cuwcc.org

D) Zero Consumption Urinals (0.0 gpf)

Traditional

Number	0
Type of program	Select an Option
Other type of program	Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure? ○Yes ○ No

Flex Track

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

Council's Annual Water Savings 0.0921146 AF per device

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

E) Commercial High - Efficiency Single Load Clothes Washers

Traditional

Number 0

Type of program

Other type of program: Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Counsil's default savings number for this measure ? ○Yes○No

Council's Annual Water Savings 0.116618 AF per device

If not , Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

F) Cooling Tower Conductivity Controllers.

Traditional

Number 0

Type of program: Select an Option

Other type of program: Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure ? ○Yes○No

Council's Annual Water Savings 1.032250 AF per device

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

G) Cooling Tower pH Controllers

Traditional

Number: 0

Type of program: Select an Option

Other type of program: Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure ? ○Yes○No

Council's Annual Water Savings 3.981543 AF per device

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet

Enter the file name and Email to Natalie@cuwcc.org

H) Connectionless Food Steamers.

Traditional

Number: 0

Type of program

Other type of program: Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure ? ○Yes○No

Council's Annual Water Savings 0.25 AF per Steamer Compartment

mIf not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet

Enter the file name and Email to Natalie@cuwcc.org

I) Medical Equipment Steam Sterilizers

Flax Track

Traditional

Number: 0

Type of program

Other type of program: Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure? ○Yes○No

Council's Annual Water Savings 1.538 AF per device

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

J) Water - Efficient Ice Machines.

Traditional

Number 0

Type of program Select an Option

Other type of program Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure ? ○Yes○No

If not, Please provide the following:

Council's Annual Water Savings 0.0834507 AF per device

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

K) Pressurized Water Brooms.

Traditional

Number 0

Type of program Select an Option

Other type of program Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure? ○Yes○No

Council's Annual Water Savings 0.1534 AF per device

Flex Track

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

L) Dry Vacuum Pumps.

Traditional

Number 0

Type of program Select an Option

Other type of program Not Applicable

Measured water savings (AF/Year)

Flex Track

Do you accept the Council's default savings number for this measure ? ○Yes○No

Council's Annual Water Savings 0.064 AF per device

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

Traditional Reporting Stop Here, Do not continue

Flex Track Reporing Please Continue...

M) Industrial Process Water Use Reduction.

Number

Type of program Select an Option

Other type of program

Measured water savings (AF/Year)

Type of Process Water Reduced

If re-using water, what was the secondary use of the water? (such as pre-rince cycle or landscaping)

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

N) Commercial Laundry Retrofits.

Number of customers

Measured water savings (AF/Year)

Type of customer
- ☐ hotels
- ☐ campuses
- ☐ prisons
- ☐ laundromats

Lease / own machines: ○ Lease ○ Own Machines ○ Both

Type of program: Select an Option

Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

O) Industrial Laundry Retrofits.

Measured water savings (AF/Year)

Total Number of customers

Total Volume of laundry processed annually: Select an Option

Type of program: Select an Option

Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

P) Filter Upgrades (for pools, spas, and fountains).

Number of pools upgraded

Number of spas upgraded

Number of fountains upgraded

Measured water savings (AF/Year)

Type of program — Select an Option

Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

Q) Car Wash Reclamation Systems

Measured water savings (AF/Year)

	Conveyor	In-bay
Total Number of program participants (accounts)		
Total Number of vehicles washed annually		

Do you accept the Council's default savings number for this measure? ○Yes○No

Council's Annual Water Savings 0.00004607 (or 15 gals) per vehicle

If not, Please provide the following:

Total Measured Water Savings(AF/Year)	
Measure life (years)	
Lifetime water savings (years)	

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

R) Wet Cleaning.

Brief description of program

Measured water savings (AF/Year)

Total Measured Water Savings(AF/Year)	
Measure life (years)	
Lifetime water savings (years)	

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

S) Water Audits (To avoid double counting, do not include device/replacement water savings.)

Number of water audits by type of business

Measured water savings (AF/Year)

Auto	
Food	
Health	
Hotels	

Manufacturing	
Membership	
Multi-use	
Office	
Religious	
Restaurant	
Retail/ Wholesale	
School	
Other (with description)	
Description of Other	

Total Measured Water Savings(AF/Year)	
Measure life (years)	
Lifetime water savings (years)	

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

T) Clean In Place (CIP) Technology
(such as bottle sterilization in a beverage processing plant)

		Measured water savings (AF/Year)
Number of customers		
Type of program	Select an Option	
Other type of program		

Total Measured Water Savings(AF/Year)	
Measure life (years)	

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

U) Waterless Wok

Number

Type of program Select an Option

Measured water savings (AF/Year)

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

V) Alternative On-site Water Sources (For Rain Water Harvesting, commercial rain barrels are excluded. For Foundation Drain Water, exclude permeable paving.)

Measured water savings (AF/Year)

Select type	Number	Description
☐ Cooling Condensate		
☐ Foundation Drain Water		
☐ Gray Water		
☐ Storm Water		
☐ Rain Water		
☐ Pond and Water Feature Recycling		

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

W) Sub - metering

Measured water savings (AF/Year)

Select type	Number	Description
☐ Condominiums		
☐ Apartments		
☐ Mobile Homes		

Do you accept the Council's default savings numbers for this measure? ○Yes○No

Council's Annual Water Savings
Appartments & Condos=0.024419 AF/YR
Mobile Home = 0.056774 AF/Yr

If not, Please provide the following:

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

X) High Efficiency Showerheads

Measured water savings (AF/Year)

Number

Type of program — Select an Option

Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

Y) Faucet Flow Restrictors

Measured water savings (AF/Year)

Number

Type of program — Select an Option

Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

Z) Water Efficient Dishwashers

Measured water savings (AF/Year)

Select type — Number

☐ Rack

☐ Conveyor

☐ Other

Description of Other

Type of program — Select an Option

Other type of program

Total Measured Water Savings(AF/Year)
Measure life (years)
Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

AA) Hot Water on Demand

Measured water savings (AF/Year)

Number
Type of program — Select an Option
Other type of program

Total Measured Water Savings(AF/Year)
Measure life (years)
Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

BB) Pre-rinse Spray Valves of 1.3 gpm (gallons per minute) or less

Measured water savings (AF/Year)

Number
Type of program — Select an Option
Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

CC) Central Flush Systems

Measured water savings (AF/Year)

Number

Type of program — Select an Option

Other type of program

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

Other Measures chosen by the Agency

Measured water savings (AF/Year)

Description of program

Sample (if applicable)

Total Measured Water Savings(AF/Year)

Measure life (years)

Lifetime water savings (years)

If you are using your own water-savings measure, send your supporting spreadsheet
Enter the file name and Email to Natalie@cuwcc.org

The fields in red are required.

Agency name: Desert Water Agency
Reporting unit name (District name): Retail
Reporting unit number: 110

Primary contact:
First name: Katie
Last name: Ruark
Email: kruark@dwa.org

You must enter the reporting unit number that we have on record for your agency. Click here to open a table to obtain this number.

2010

BMP 5 Landscape

Link to FAQs
View MOU

(•) Traditional ( ) Flex Track

For Traditional Track please answer the fields within the traditional boxes.
For Flex Track option, please answer the fileds within the flex track boxes.
You must enter all measured water savings manually. For each measure entered, upload a spreadsheet with sufficient information to show the way that water savings were measured and that the measure was adequately tracked (i.e., all relevant data was collected) - in some cases there are specific data point salso requested in form which are necessary to show that the measure was implemented as described.

Accounts with Dedicated Irrigation Meters

Traditional

Number of dedicated irrigation meter accounts	256.00
Number of dedicated irrigation meter accounts with water budgets	0.00
Aggregate water use for dedicated non-recreational landscape accounts with budgets	0.00
Aggregate acreage assigned water budgets for dedicated non-recreational landscape accounts with budgets	0.00
Preserved water use records and budgets for customers with dedicated landscape irrigation accounts for at least four years	( ) Yes ( ) No

Flex Track

Water Savings from Accounts with dedicated irrigation meters with water budgets (Acre Feet)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

Technical Assistance

Traditional

Number of Accounts 20% over-budget	0.00
Number of accounts 20% over-budget offered technical assistance	0.00
Number of accounts 20% over-budget accepting technical assistance	0.00

Measured water savings (AF/Year)

Flex Track

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

Irrigation Water Use Surveys for Mixed-use and Un-metered Accounts

Flex Track

Traditional

Number of mixed use and un-metered accounts	
Number of irrigation water use surveys offered (cumulative, all years)	
Number of irrigation water use surveys accepted (cumulative)	
Can your Agency estimate the amount of landscape acreage for mixed use and Un-metered accounts	O Yes O No
If Yes, Aggregate acreage for mixed use and Un-metered accounts	
Esrimated water demand from acreage for mixed use and Un-metered accounts	
Annual water savings by customers receiving irrigation water savings surveys and implementing recomendations	

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

Financial Incentives

Flex Track

Traditional

Have you implemented and maintained an irrigation equipment retrofit incentive program? O Yes O No

Number of incentives	Dollar value of incentives	Incentive Types	Measured Water Savings (AF/YR)
		Recycled water	
		Landscape water audits	

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

Traditional Reporting Stop Here, Do not continue
Flex Track Reporing Please Continue...

Landscape Flex Track Measure Types

1. Monitor and report on landscape water use

A) Measure landscapes and develop water budgets for customers with dedicated landscape meters. Provide timely water use reports with comparisons of water use to budget that provide customers the information they need to adjust irrigation schedules (such as faxes, twitter, etc. not included in the previous sections).

Measured water savings (AF/Year)

Enter the Number of sites with:

Dedicated Mixed Meters	
Water Budgets	
Landscape Measurements	
Others (describe)	

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

B) Measure landscapes and develop water budgets for customers with Mixed Use meters. Provide timely water use reports with comparisons of water use to budget that provide customers the information they need to adjust irrigation schedules.

Measured water savings (AF/Year)

Enter the Number of sites with:

Dedicated Mixed Meters	
Water Budgets	
Landscape Measurements	
Others (describe)	

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

C) Establish agency-wide water budget. (Note that: ETo based water budget in the MWELO changed in 2010 from .8ETo to .7ETo.)

Measured water savings (AF/Year)

Agency-wide total irrigated area Per-2010		(Acres)
Agency-wide totak irrigated area Post-2010		(Acres)
Amount of Water Used		(AF/Acre)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

D) Establish agency-wide, sector-based irrigation goal to reduce water use, based on seasonality.

Number of minimum irrigation goal ____ (AF/Acre)

Amount of Water Used per Period ____ (AF/Period)

Measured water savings (AF/Year) ____

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

2. Provide technical landscape resources and training

A) Upon customer requests, provide landscape irrigation management and landscape design information and resources: provide assistance, answer customer questions, respond to run-off and high-bill calls.

Enter the Number of:

Contacts In Person ____

Contacts over the phone ____

Contacts via Email ____

Measured water savings (AF/Year) ____

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

B) Perform landscape & irrigation audits: including irrigation scheduling, plant information, and landscape area measurement.

Enter the Number of:

Audits conducted per year ____

Measurement of square footage of Turf areas ____

Measurement of square footage of NON Turf areas ____

Measured water savings (AF/Year) ____

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

C) Sponsor, co-sponsor, promote, or support landscape workshops, training, presentations and other technical educational events for homeowners and professionals: design, installation, maintenance, water management.

Enter the Number of:

Events

Participants

List Type or Title of Events

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

D) Establish Time-of-Day Irrigation Restrictions.

○ Yes ○ No

Describe Restrictions:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

E) Establish Day-of-Week Irrigation Restrictions. ○ **Yes** ○ **No**

Describe Restrictions:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data)
(Enter the file name and Email file to Natalie@cuwcc.org)

3. Provide incentives

A) Establish Landscape budget-based rates. ○ Yes ○ No

Describe Rates:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

B) Provide incentives for conversions from mixed-use meters to dedicated landscape meters.

Number of Conversions:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

C) Provide incentives for installing sub-meters to separate landscape water use

Number of meters installed:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

D) Provide incentives for irrigation equipment upgrades that improve distribution uniformity, irrigation efficiency, or scheduling capabilities.

Select types of irrigation equipment upgrades:	Number of devices installed
☐ Controllers	
☐ Emitters	
☐ Soil moisture sensors	
☐ Pressure Regulators	
☐ Rain shut off devices	
☐ Other (describe)	

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

E) Provide incentives for the reduction of water use over an irrigated area, or reduction in the size of the irrigated area due to replacement of turf or other high water-using plants with low water-using plants, artificial turf, or permeable surfaces.

Acreage of live turf converted to low water-using plants, artificial turf, or permeable surfaces: _____ Acres

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

F) Provide incentives for conversions from potable to recycled water.

Number of Conversions: _____

Number of Incentives: _____

Funds Invested: _____

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

G) Provide incentives for the use of alternative sources of water in the landscape (i.e. gray water, rainwater, cisterns, etc.)

Number of Conversions: _____

Number of Incentives: _____

Funds Invested: _____

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

4. Participate in local and regional planning and regulatory activities

A) Collaborate with planning agencies at the local and regional level, other water suppliers in the area and stakeholders in response to state or federal requirements such as the State Model Water Efficient Landscape Ordinance and AB 1881. Participate in the development, review, implementation, and enforcement of requirements for new developments. Provide water use data to planning agencies.

Measured water savings (AF/Year)

Public Information Programs List

Agency Type	Describe Involvement	If Ohter: Enter Name	Actions

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

B) Establish or participate in a water conservation advisory committee or other community outreach effort to drive market transformation and exchange information about landscape water conservation with developers, community-based organizations, homeowners associations, residential customers, landscape professionals, educators, other water suppliers in region.

◯ Yes ◯ No

Describe Involvement:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

C) Participate in regional efforts: integrated water resource management, watershed management, NPDES permit agencies, etc.

◯ Yes ◯ No

Describe Involvement:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

---

5. Develop a holistic approach to landscape water use efficiency

A) Develop and implement a comprehensive landscape water conservation program for all customers. Target marketing efforts to those most likely to result in benefits to both customer and Agency.

Describe Program:

Measured water savings (AF/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file to Natalie@cuwcc.org)

---

6. Other Measures

A) Other Landscape Measures.

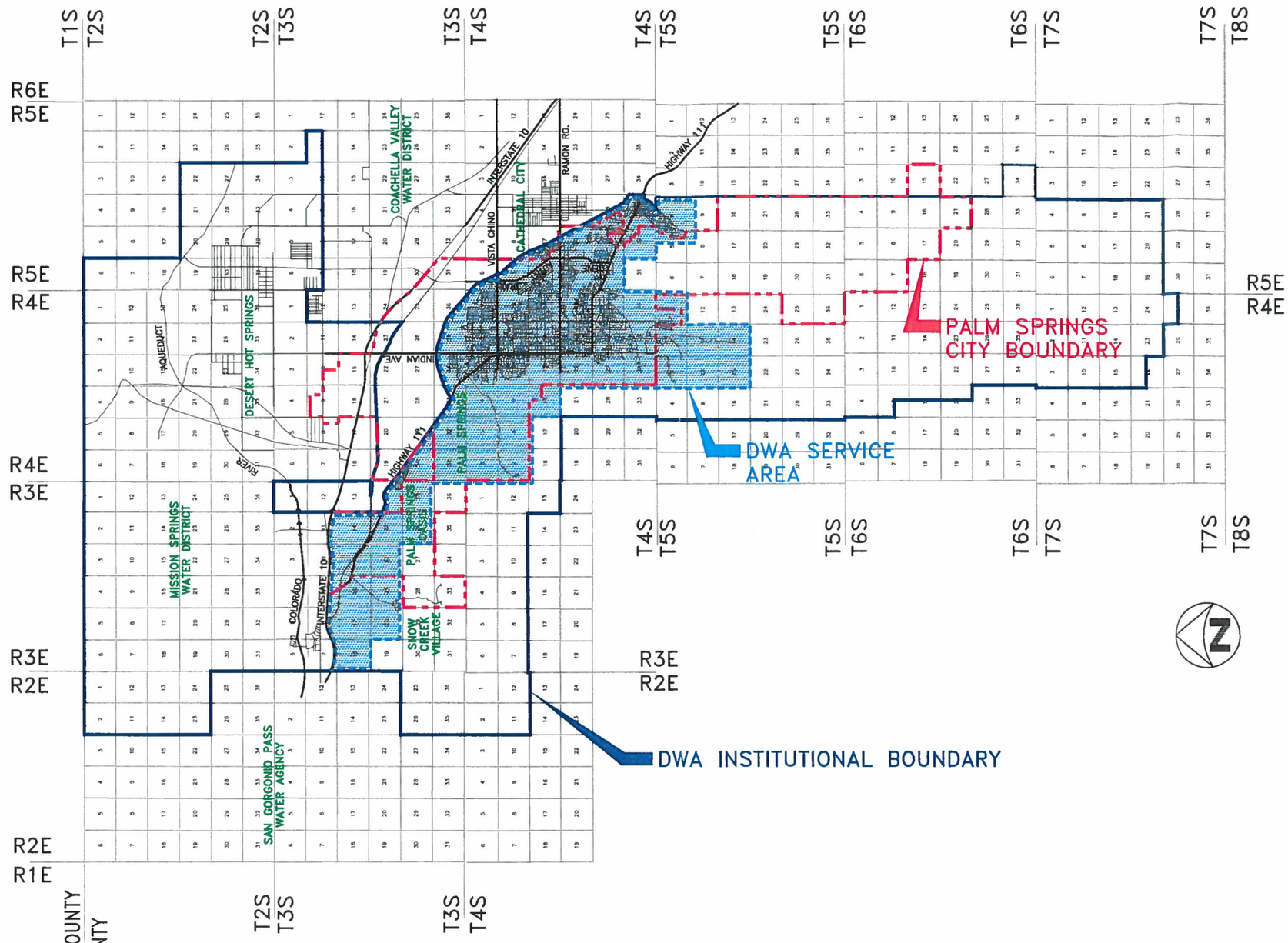
Describe Other Landscape Measures:

Measured water savings (Af/Year)

If there is Water Savings in this measure, upload the Methodology Spreadsheet (backup data) (Enter the file name and Email file Natalie@cuwcc.org)

APPENDIX G

FIGURES



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Krieger & Stewart Incorporated
3602 University Ave. · Riverside, CA. 92501 · 951-684-6900

DESERT WATER AGENCY

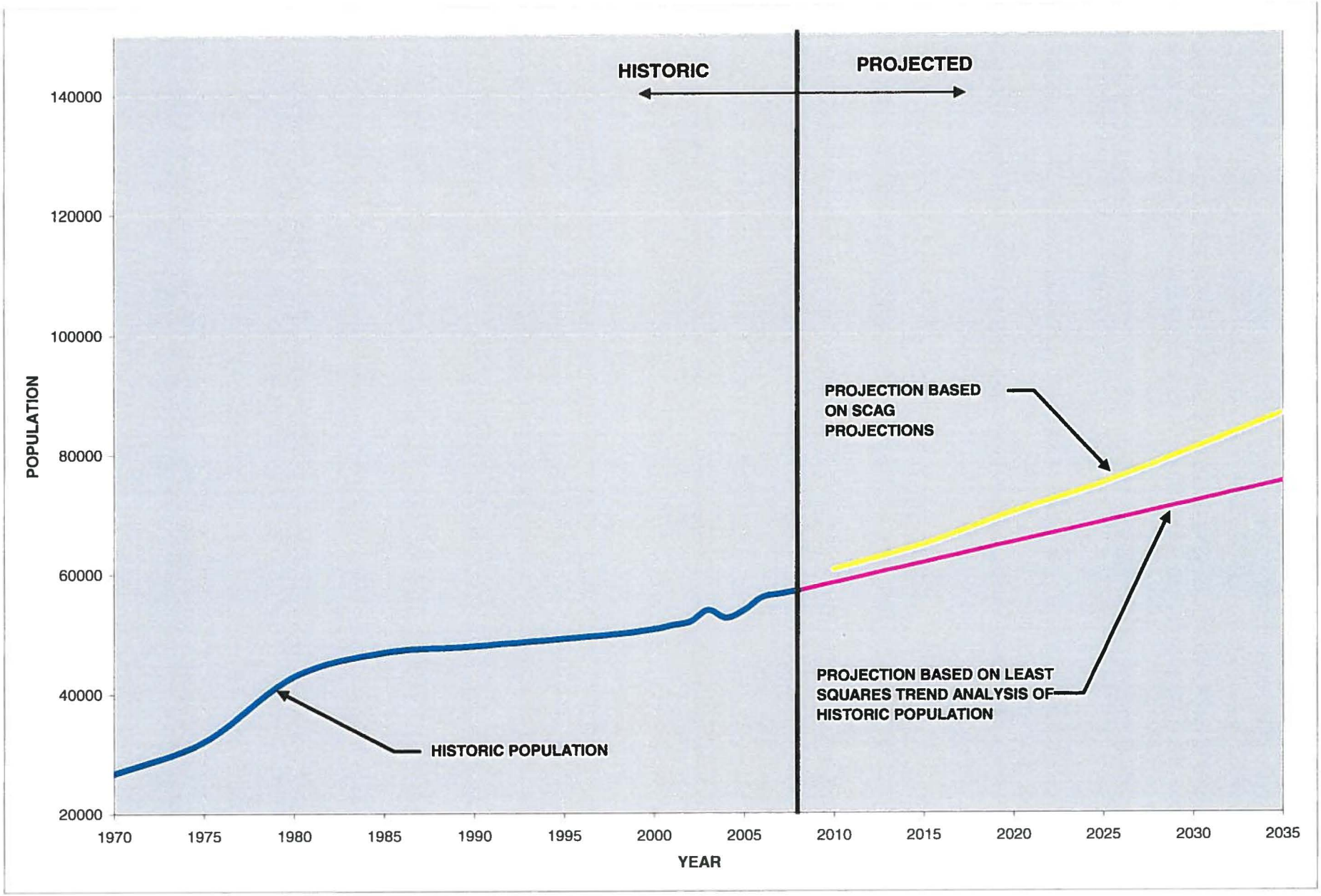
URBAN WATER MANAGEMENT PLAN 2010

SERVICE AREA AND INSTITUTIONAL BOUNDARY

FIGURE 1

SCALE: N.T.S. DATE: 12/15/10 DRAWN BY: PMD CHECKED BY: KJL W.O.: 101-26.6

FIGURE 2
DESERT WATER AGENCY
URBAN WATER MANAGEMENT PLAN
POPULATION GROWTH WITHIN DWA SERVICE AREA



KRIEGER & STEWART INCORPORATED
ENGINEERING CONSULTANTS

FIGURE 3
DESERT WATER AGENCY
URBAN WATER MANAGEMENT PLAN
POPULATION PROJECTIONS
DWA IN COMPARISON WITH RIVERSIDE COUNTY

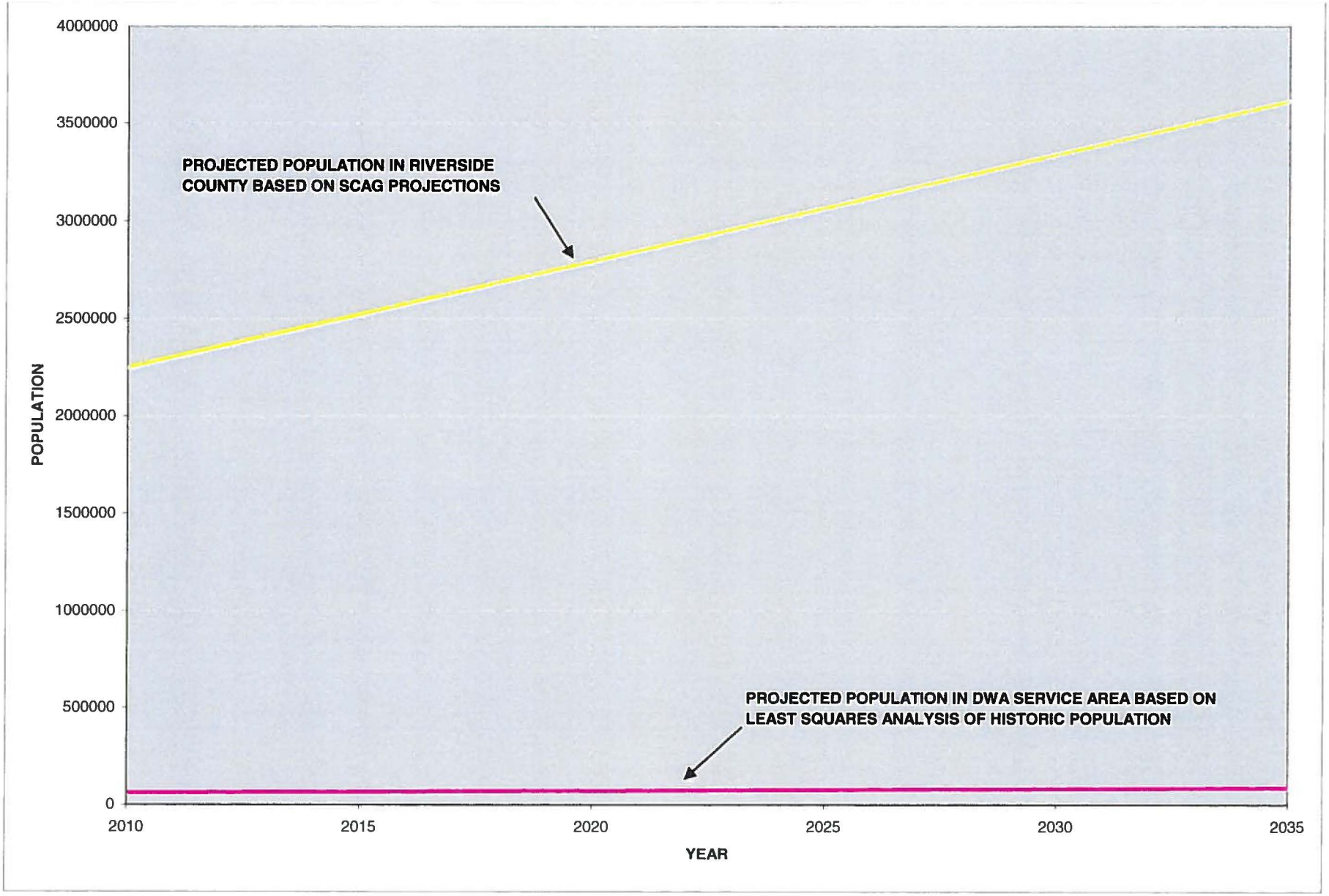
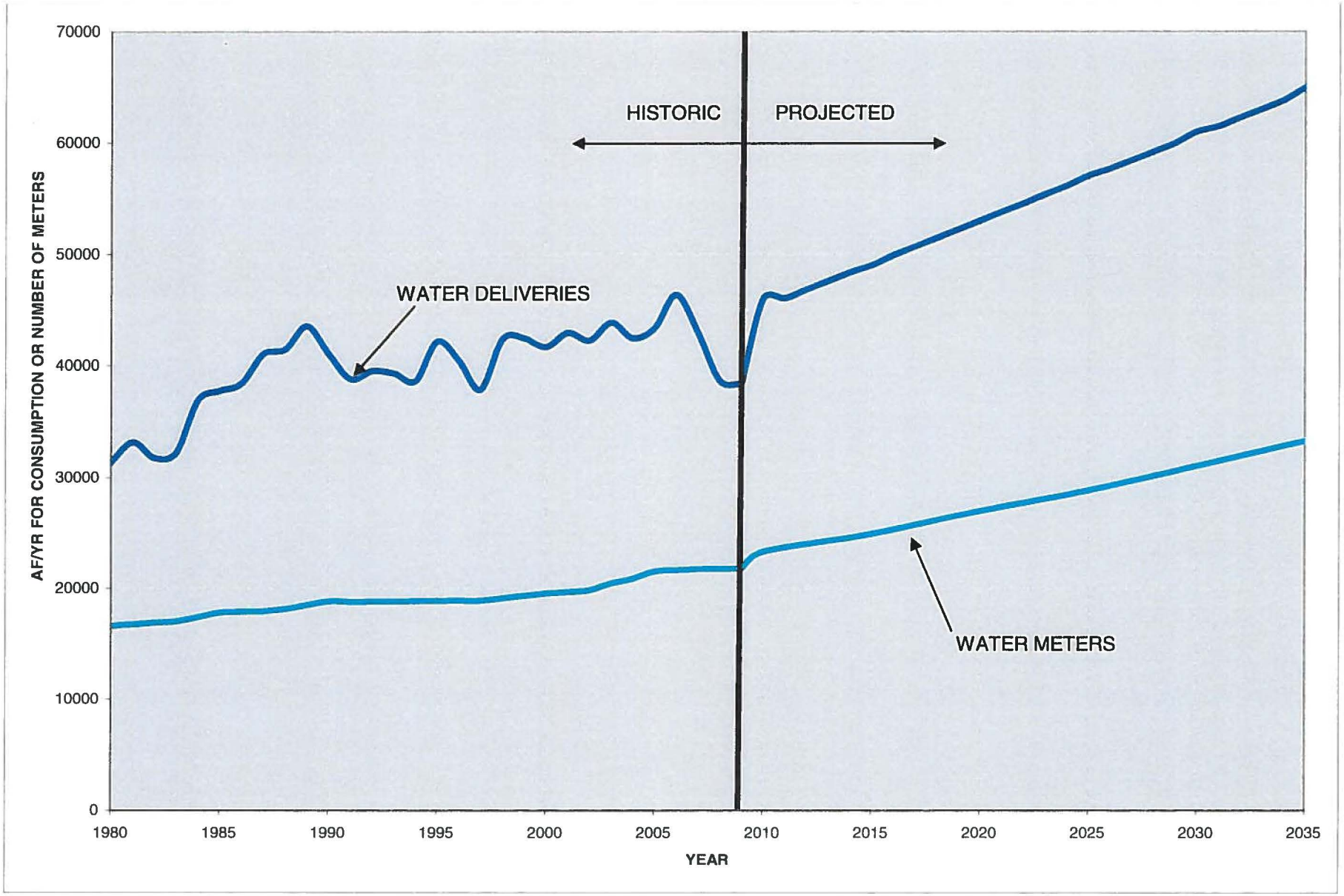


FIGURE 4
DESERT WATER AGENCY
URBAN WATER MANAGEMENT PLAN
HISTORIC AND PROJECTED WATER DELIVERIES (AF/YR) AND WATER METERS (EA)



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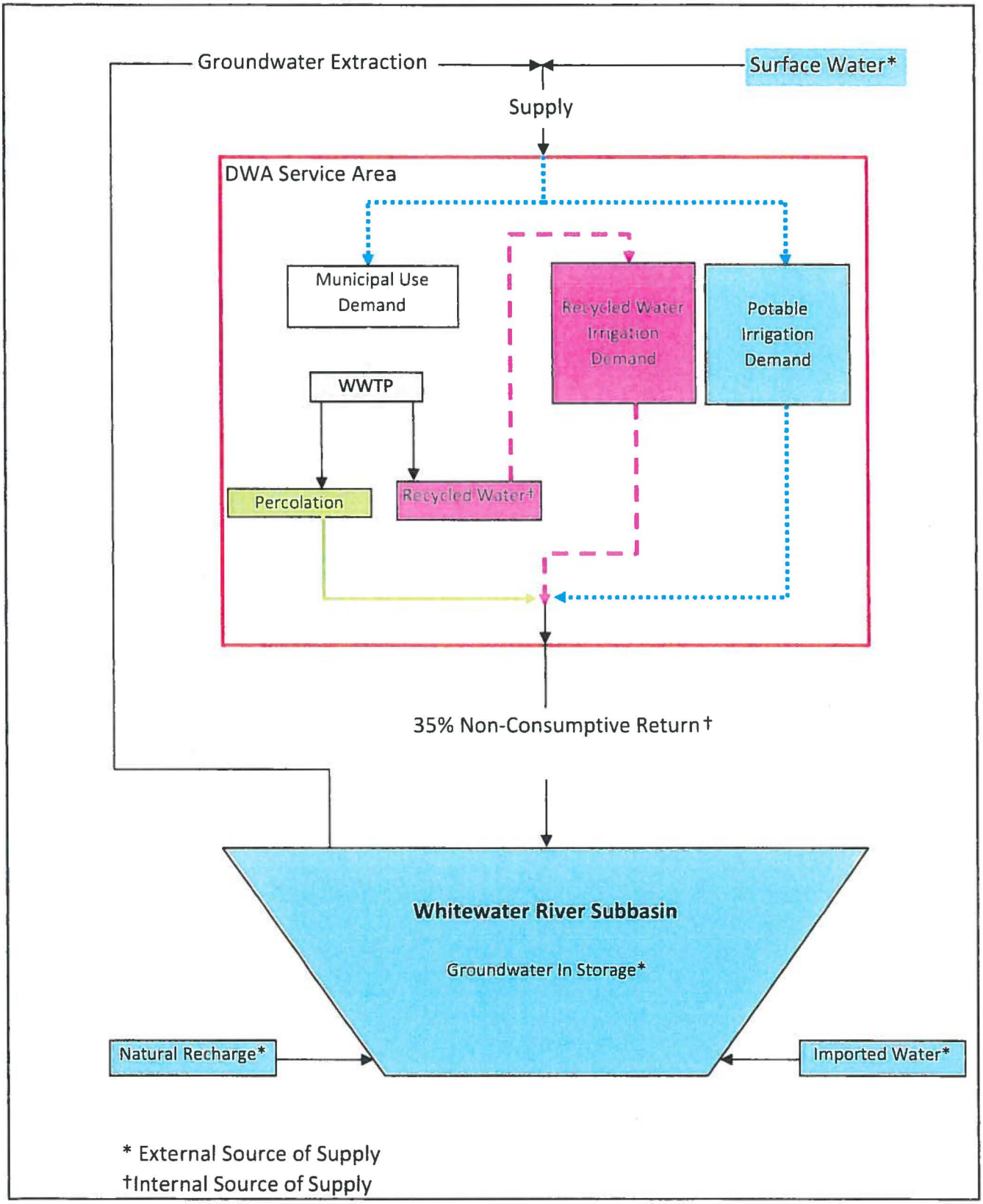
FIGURE 5
DESERT WATER AGENCY
URBAN WATER MANAGEMENT PLAN
WATER SOURCES AND USES