

**MUNI/WESTERN EXHIBIT 10-7**

**WESTERN MUNICIPAL WATER DISTRICT OF  
RIVERSIDE COUNTY**

**2005 URBAN WATER MANAGEMENT PLAN, COVER  
AND PAGES 19-23**



# Urban Water Management Plan • 2005





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December, 2005

Readers of Western Municipal Water District's  
2005 Urban Water Management Plan

Western Municipal Water District is pleased to publish its 2005 Urban Water Management Plan.

This plan provides significant information regarding Western's retail service area, specifically related to water demands and supplies, but also contains information on a regional basis related to demands and supplies within the 510 square mile area comprising Western's General District.

This plan has been prepared pursuant to procedures of California Water Code Sections 10640 through 10645 and is organized as recommended in the Guidebook to Assist Water Suppliers in the Preparation of a 2005 Urban Water Management Plan. It satisfies the requirements contained within the applicable code sections and provides information to aid in the evaluation of future water supplies in accordance with Senate Bill SB 610 and SB 221.

As this document is reviewed and used as an informative resource, should you have questions please contact us.

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barriers, groundwater recharge, or conjunctive use, or any combination thereof.

(1) *Agricultural.*

(2) *The water use projections shall be in the same five-year increments described in subdivision (a).*

### 3.6.2 Western's Customers

Western tracks retail water usage by customer types including residential, commercial, industrial, institutional, and agricultural accounts. Tracking is done by user code and reports can be generated to determine the number of accounts and quantities.

The number of future residential and commercial/industrial customers is expected to increase at the same rate as the estimated population growth. Based on 4 percent growth per year for 2006 and 2007 and subsequent 3.3 percent growth to 2030, Western will have nearly 39,500 residential, 600 commercial, and 605 governmental/institutional customers by 2030. Landscape irrigation customers are also expected to grow at the same rate. The number of agricultural users is not expected to increase, but rather may decrease with urbanization. However, to be conservative in demand estimations, the number of agricultural customers was kept at the 2005 level. A summary of the expected accounts by category is provided in Table 12. Water delivery projections are also based on increases at the same rate as the estimated population growth. The projected water deliveries are summarized in Table 12.

Western also provides wholesale water sales to various agencies within the District boundaries. These agencies provided an

estimate of potential water demands through 2030. The projected wholesale demands include both domestic and non-domestic water uses such as commercial/industrial and landscape and agricultural irrigation. Some of these demands may be interruptible during water shortages. These projected demands are summarized in Table 13.

Western does not use water for saline barriers, groundwater recharge or conjunctive use within its retail area. However, our distribution system does have unaccounted for water losses. These water losses are summarized in Table 14.

A summary of total water demand is provided in Table 15.

### 3.7 Demand Management Measures

#### 3.7.1 Law

##### Water Code Section 10631(f)

*(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:*

*(A) Water survey programs for single-family residential and multifamily residential customers.*

*(B) Residential plumbing retrofit.*

*(C) System water audits, leak detection, and repair.*

*(D) Metering with commodity rates for all new connections and retrofit of existing connections.*

*(E) Large landscape conservation programs and incentives.*

*(F) High-efficiency washing machine rebate programs.*

*(G) Public information programs.*

*(H) School education programs.*

*(I) Conservation programs for commercial, industrial, and institutional accounts.*

*(J) Wholesale agency programs.*

*(K) Conservation pricing.*

*(L) Water conservation coordinator.*

*(M) Water waste prohibition.*

*(N) Residential ultra-low-flush toilet replacement programs.*



**Table 13. Sales to Other Agencies- AF/YR**

Water Distributed	2000	2005	2010	2015	2020	2025	2030
Box Springs Mutual Water Company	121	132	448	448	448	448	448
City of Corona	25,056	22,948	21,302	23,519	25,967	28,670	28,670
City of Riverside	400	2,300	3,800	5,300	6,800	8,300	9,800
Elsinore Valley Municipal Water District	12,900	15,023	22,715	29,515	35,015	41,515	49,015
Lee Lake Water District	945	3,980	5,753	6,236	6,236	6,236	6,236
Rancho California Water District	32,698	33,641	34,884	36,128	37,371	38,615	39,859
<b>Total</b>	<b>72,120</b>	<b>78,024</b>	<b>88,902</b>	<b>101,146</b>	<b>111,837</b>	<b>123,784</b>	<b>134,028</b>

*Note: Includes both domestic, commercial/industrial and interruptible uses such as landscape and agricultural irrigation.*

**Table 14. Additional Water Uses and Losses - AF/YR**

Water Distributed	2000	2005	2010	2015	2020	2025	2030
Saline Barriers	0	0	0	0	0	0	0
Groundwater recharge	0	0	0	0	0	0	0
Conjunctive use	0	0	0	0	0	0	0
Raw water	0	0	0	0	0	0	0
Recycled (Golf Course/Cemetery)	386	450	500	500	500	500	500
Unaccounted - for system losses	6	1,415	1,690	1,980	2,330	2,750	3,230
<b>Total</b>	<b>492</b>	<b>1,865</b>	<b>2,190</b>	<b>2,480</b>	<b>2,830</b>	<b>3,250</b>	<b>3,730</b>

*Notes: Raw and recycled water, except as noted, were included in Table 12 and therefore not included in Table 14.*

*Values for 2010 include 4% increase for 2 years then 3.3% for 3 years to match projected population growth. Subsequent years are increased 3.3% per year.*

*System losses for 2000 were unusually low.*

*System losses for 2005 were based on 2001 to 2004 average quantity escalated by 4%.*

**Table 15. Total Water Use – AF/YR**

Water Use	2000	2005	2010	2015	2020	2025	2030
<b>Total of Tables 12, 13, 14</b>	<b>96,571</b>	<b>106,577</b>	<b>122,099</b>	<b>139,352</b>	<b>155,945</b>	<b>174,843</b>	<b>193,249</b>

(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.

### 3.7.2 California Urban Water Conservation Council Reporting

Western is a signatory to the California Urban Water Conservation Council and submits annual reports in accordance with the "Memorandum of Understanding Regarding Urban Water Conservation in California." Copies of our Best Management Practices (BMP) Reports are provided in Appendix E to meet the information requirements for Demand Management Measures (DMMs).

In summary, Western's regional water education, public information and water conservation programs continue to expand with the surge in population.

#### Water Education

Western has been a leader in the field of water education support for area schools since 1982. There are seven school districts with more than 225 public and private schools in Western's service area. Western's School Program is designed to encourage and assist educators as they teach students about water supply, distribution, reclamation, conservation and the

future of water supplies. The material and services offered meet the requirements of the California Science Framework Addendum and are provided at no charge to participating teachers, schools and students, public and private, within Western's 510 square mile District. Western offers materials including student workbooks, teachers' guides, videos, speakers and field trips. Complete class water education units are also distributed along with needed in-servicing.

#### Public Information

Western provides extensive public outreach to the communities it serves by participating in local events such as the Community Water Festival, a one-day festival celebrating water that attracts hundreds of people including children held in Temecula in the spring. Through its Water Talk program, Western staff makes a direct connection by presenting water information to local service groups and chambers of commerce within its service area. In

the calendar year ended December 31, 2004, Western's public affairs staff conducted more than 25 presentations.

#### Water Conservation

Western and its wholesale customers participate in a Metropolitan Water District managed water conservation incentive program for commercial, industrial and institutional water customers. The program, called *Save Water – Save A Buck*, is administered by a Metropolitan contracted vendor. The vendor maintains a toll-free number and processes rebates throughout Southern California. Rebates range from \$60 for the installation of a commercial ULFT, \$100 for a high pressure water broom, \$500 for a cooling tower conductivity controller, to \$2,000 for a hospital X-ray film processing water re-circulation system. Four-color informational brochures are regularly distributed at local chamber of commerce meetings and in business newsletters.





Businesses in Western's general service area have received more than \$115,000 in incentive funds. The installation of water conserving fixtures and appliances and the implementation of new water saving technologies resulting from this incentive program represent an annual savings of 72 acre-feet per year.

Western has been working with Riverside County Planning Office and developers to enforce the County's water-efficient landscaping ordinance by providing area developers with educational materials. This new program is still in its infancy, but in addition to the water conservation education materials that are being given to new home developers for their customers, Western has met with County Planning staff to encourage the enforcement of the County's landscape ordinance.

Western's staff conducts landscape plan reviews and inspections of all new commercial, industrial and institutional landscapes within Western's retail service area to ensure compliance with either the City or County of Riverside's water efficient landscape ordinance resulting from AB 325.

Western cosponsors an Irrigation Water Management Laboratory (CIMIS Mobile Lab) with the Riverside-Corona Resource Conservation District and the City of Riverside. This service offers those with large (one-acre or larger) parcels of land a free irrigation evaluation by the Conservation District staff. Each irrigator is given a detailed report on where and how to improve the irrigation system's efficiency and instructions on how to set their timers. The Conservation District will also visit residential homeowners within Western's general service area, conduct a landscape inspection and leave a helpful checklist of recommendations to improve landscape water-use efficiency.

Western opened the gates to its *Landscapes Southern California Style*<sup>SM</sup> June 24, 1989. Through *Landscapes Southern California Style*<sup>SM</sup>, Western reaches the community with its outdoor water conservation message. During the months of September through May, seminars are conducted for the general public, addressing such topics as landscape design, irrigation methods, drip irrigation systems and many other subjects

that impact the water-efficiency of a homeowner's landscape. Western reaches roughly 300 residents annually with these water-efficient landscaping messages. Local schoolchildren participate in special activities within the garden that contribute toward making them lifelong conscientious water users. For example, up to 100 students attend the annual Earth Day celebration where they learn about water conservation measures during this fun and engaging event. Staff members work continuously to make water-efficient landscaping techniques even easier to understand and incorporate into the everyday environment. To date, more than 150,000 people have walked the trails in this unique one-acre, water conservation education center.

In the last five years, more than 8,800 (data through 12/31/2004) non-conserving toilets were replaced with ultra-low-flow toilets (ULFT) in single and multi-family residences within Western's general service area. Western and its wholesale customers provide incentives ranging from \$50 to \$75 per non-conserving unit replaced. The installation of these ULFTs represents an annual water savings of more than 235 acre-feet of water. Since the inception of the High Efficiency Clothes Washer (HECW) incentive program in 2002, more than 3,850 (data through 12/31/2004) HECW rebates were distributed for the installation of qualified washers in single family homes. The HECW incentive is \$100 per unit. To date the program has saved an estimated 90 acre-feet of water. A summary of Western's water conservation program history is included in Appendix E.

**3.8 Evaluation of Demand Management Measures Not Implemented**

**3.8.1 Law**

**Water Code Section 10631(g)**

*(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. This evaluation shall do all of the following:*

*(1) Take into account economic and noneconomic factors, including environmental, social, health, customer impact, and technological factors.*

*(2) Include a cost-benefit analysis, identifying total benefits and total costs.*

*(3) Include a description of funding available to implement any planned water supply project that would provide water at a higher unit cost.*

*(4) Include a description of the water supplier's legal authority to implement the measure and efforts to work with other relevant agencies to ensure the implementation of the measure and to share the cost of implementation.*

**3.8.2 Unimplemented DMMs**

Western has implemented all DMMS except System Water Audits, Leak Detection & Repair. Although all identified leaks are repaired in a timely manner, Western does not have a formal

leak detection program. Water loss for Fiscal Year 2003-2004 (latest data available) is estimated (Western MWD Construction & Operations Report 2004) to be 100.4 acre-feet or 0.36% of all water delivered through the system.

Western has determined the cost-effectiveness of the unimplemented DMMs using the California Urban Water Conservation Council cost-benefit formula. The cost-effectiveness evaluation identifies all relevant costs and benefits from the perspective of society/supplier/customer, as appropriate; addresses program cost-sharing with other project beneficiaries; and discusses all major assumptions and data used to measure, value and discount program costs and benefits with a sensitivity analysis.

**3.9 Planned Water Supply Projects and Programs**

**3.9.1 Law**

**Water Code Section 10631(h)**

*(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. The urban water supplier shall include a detailed description of expected future projects and programs, other than the demand management programs identified pursuant to paragraph (1) of subdivision (f), that the urban water supplier may implement to increase the amount of the water supply available to the urban water supplier in average, single-dry, and multiple-dry water years. The description shall identify specific projects and include a description of the increase in water supply that is expected to be available from each project. The description shall include an estimate with regard to the implementation timeline for each project or program.*

**3.9.2 Expected Future Water Supply Projects and Programs**

Western has several projects and programs planned to meet the demands. Some of these projects were previously discussed in Section 3.3.2.

**Table 16. Evaluation of unit cost of water resulting from non-implemented / non-scheduled DMMs and planned water supply project and programs**

Non-implemented & Not Scheduled DMM / Planned Water Supply Projects (Name)	Per-AF Cost (\$)
System Water Audits, Leak Detection & Repair	\$2054.28

**Cost Effectiveness Summary for System Water Audits, Leak Detection and Repair**

Total Costs	\$206,250 (\$750 per mile)
Total Benefits	\$52,610 (\$524 per AF)
Discount Rate	4.0
Time Horizon	1 year
Cost of Water (\$ per AF)	\$524 (Tier 2 Water)
Water Savings (AF/Yr)	100.4

