

7.0 DEMAND MANAGEMENT MEASURES

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...*
 - (a) *Water survey programs for single-family residential and multi-family 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 prohibitions.*
 - (n) *Residential ultra-low-flush toilet replacement programs.*

In 1991, a Memorandum of Understanding (MOU) regarding Urban Water Conservation in California formed the California Urban Water Conservation Council (CUWCC). The City is not currently a signatory of the MOU and is therefore not a member of CUWCC.

However, the City realizes the importance of Best Management Practices (BMPs) to ensure a reliable future water supply. The City is committed to implementing water conservation and water recycling programs to maximize sustainability in meeting future water needs for its customers.

The California Department of Water Resources (DWR) has termed such Best Management Practices (BMPs) as Demand Management Measures (DMMs). Accordingly; this chapter will refer to them as Demand Management Measures (DMMs).

7.1 DMM 1 – Water Survey Programs for Single-Family Residential and Multi-Family Residential Customers

This program consists of offering water audits to residential customers. Audit components include reviewing water usage history with the customer, identifying leaks inside and outside, and recommending improvements.

It is recommended that the City initiate a program offering such audits and residential landscape audits. The City should target the top one to five percent of single-family residential users in the first two years. A similar program for multi-family residential users should be developed in future years.

7.2 DMM 2 – Residential Plumbing Retrofit

This program consists of installing physical devices to reduce the amount of water used or to limit the amount of water, which can be served to the customer. In accordance with State Law, low flow fixtures have been required on all new construction since 1978. In addition, State legislation enacted in 1990 requires all new buildings after January 1, 1992 to install Ultra-Low Flush Toilets (ULFT).

Several studies suggest that savings resulting from miscellaneous interior retrofit fixtures can range between 25 and 65 gpd per housing unit. The studies also suggest that installation of retrofit fixtures in older single-family homes tends to produce more savings, while newer multi-family homes tend to produce fewer savings per housing unit. The City's Water Waste Ordinance (see Appendix H) provides that residential remodeling must be accompanied by low-water use fixture retrofitting.

Since 1986, the City has participated in an informational booth at the Kings District Fair. Water saver kits have been distributed that contain low-flow plumbing fixtures, toilet dam, dye tablets, and water-saving tips. The City is a member of the Kings County Water Education Committee (KCWEC). Representatives of the KCWEC go to public schools and make presentations on water safety and water conservation. Information is published in the local newspaper reminding people to conserve water. Book covers that provide water conservation and water safety information are purchased and distributed to local schools.

7.3 DMM 3 – System Water Audits, Leak Detection and Repair

As a result of leak detection, and of engineering analyses, the City spends \$50,000 per year replacing outdated, undersized, and leaking water mains in the distribution system. The City's capital improvement program provides funding for major water main replacement. The City has not yet conducted a formal water audit and leak detection program at this time. (A water audit is a process of accounting for water use throughout a water system in order to quantify unaccounted-for water. Unaccounted-for water is the difference between metered production and metered usage on a system-wide basis.) Water losses due to pipe leakage are considered, however to be minimal; the majority of the City's water system is less than thirty years old.

7.4 DMM 4 – Metering with Commodity Rates for all New Connections and Retrofit of Existing Connections

This DMM requires water meters for all new construction and billing by volume of use, as well as establishing a program for retrofitting any existing unmetered connections. Fifty-Five percent of all City connections are metered, with unmetered facilities principally consisting of downtown, low-usage, commercial service connections.

There are no seasonal rates; the present rate structure is an increasing rate structure. A good number houses and apartments within City limits are charged on a flat rate based on lot size. Residences on lots up to 4,000 square feet pay \$30.90 per month; residences on lots from 4,001 to 5,000 square feet pay \$34.93 per month; residences on lots over 5,000 square feet pay \$34.93 plus \$.72 for each additional 100 square feet over 5,000 square feet. Residences with meters pay \$30.90 for the first 600 cubic feet of usage and \$.83 for each additional 100 cubic feet. Comparable charges are made for other users (see Appendix I). Water meters are read every month, and consumers are billed monthly.

7.5 DMM 5 – Large Landscape Conservation Programs and Incentives

This DMM calls for agencies to commence assigning reference evapotranspiration-based (Eto) water budgets to accounts with dedicated irrigation meters and provide water-use audits to accounts with mixed-use meters.

The City will consider the adoption of a Water Efficient Landscape Ordinance in accordance with Assembly Bill 325: The Water Conservation in Landscaping Act. This ordinance would limit the amount of turf in landscaping, require plant groupings according to water needs, and provide some flexibility to the landscape designer while promoting landscape efficiency. The Parks Superintendent would review all commercial landscaping plans for compliance prior to permits being issued. The City would assist with setting irrigation controller clocks for water efficiency landscape watering.

To ensure that the intent of such regulations is carried out, the applicant for a building permit would be required to submit landscape plans for review to the City.

After the approved landscape is installed, it would be the responsibility of the Public Works Department to inspect the project to confirm that the landscaping for the project was installed in accordance with the approved plans. The landscape designer should certify that the project is in compliance with these regulations by signing and submitting a completed certificate of compliance. The Director of Public Works, or his designated representative, could authorize the deferral of landscape completion for good and valid reasons, subject to the posting of appropriate security with the City.

7.6 DMM 6 – High – Efficiency Washing Machine Rebate Program

A \$75 rebate is available to City residents who purchase a high-efficiency washing machine, and is sponsored by Pacific Gas and Electric Company (PG&E). An efficient washing machine can save the user up to \$650 in energy and water costs over the life of the machine. To qualify, the unit must be installed with a water-heating source using natural gas or electricity distributed by Pacific Gas and Electric Company.

7.7 DMM 7 – Public Information Programs

This program consists of distributing information to the public through a variety of methods including brochures, radio and television, school presentations and videos, and web sites.

The City participates in the KCWEC. Members of the committee make public presentations at local schools throughout the County and participate in the water awareness week campaign. Water-saving reminders are published in local newspapers.

The City also, through KCWEC, has an informational booth at the Kings District Fair. The City's relatively low per capita water use is evidence of the success of these programs coupled with the near-total metering of City water services.

7.8 DMM 8 – School Education Program

This DMM requires water suppliers to implement a school education program that includes providing educational materials and instructional assistance.

The KCWEC sponsors a poster contest for all schools in Kings County, provides book covers with water safety and conservation tips, and makes presentations pertaining to water safety and conservation.

7.9 DMM 9 – Conservation Programs for Commercial, Industrial, and Institutional Accounts

The City does not currently have a conservation program for commercial, industrial and institutional accounts. These accounts are currently metered and charged in accordance with the quantity of used water on an increasing rate basis for increased water usage.

7.10 DMM 10 – Wholesale Agency Programs

This DMM applies to wholesale agencies and defines a wholesaler's role in terms of financial, technical, and programmatic assistance to its retail agencies in implementing DMMs. The City is not a water wholesaler.

7.11 DMM 11 – Conservation Pricing

There are no seasonal rates; the present rate structure is an increasing rate structure. For single family residences, the first 700 cubic feet of water costs \$9.75, the next 2,800 cubic feet is \$0.65 per 100 cubic feet, the next 2,800 cubic feet is \$0.70 per 100 cubic feet, and all usage thereafter is charged at \$0.75 per 100 cubic feet. Other uses are charged similar rates (see Appendix I). Water meters are read every month, and consumers are billed monthly.

7.12 DMM 12 – Water Conservation Coordinator

The City, concurrently with the approval of this UWMP, will appoint a conservation coordinator. The conservation coordinator will be responsible for coordinating and expanding the City's water conservation program and providing residents with useful water conservation information.

7.13 DMM 13 – Residential Ultra-Low-Flush Toilet Replacement Programs

State legislation requires the installation of efficient plumbing in new construction, and effective in 1994 required that only ULFT be sold in California. Homes constructed since 1994 in the City have ULFT. The City's Water Conservation Ordinance (adopted in April 2003; see Appendix H) requires that residential remodeling be accompanied by retrofitting with low-flow fixtures.

The Ordinance provides the following requirements:

1. "No person shall keep, maintain, operate, or use any water connection, hose, faucet, hydrant, pipe, outlet or plumbing fixture which is not tight and free from leakage, dripping or waste of water."
2. "No person shall allow excessive water to run or waste from his property onto streets or highways."
3. "No person shall willfully or negligently waste water in any manner."
4. Outdoor watering for those with even numbered addresses is permitted on Tuesday, Thursday and Saturday, while odd numbered addresses may water on Wednesday, Friday and Sunday. Monday is a day on which no outdoor watering is allowed.
5. Regulates and constrains the drainage of swimming pools.

6. Prohibits wash-down of exterior asphalt or concrete areas.
7. Restricts water usage for washing cars, boats or other vehicles.
8. Requires remodeling replacement of fixtures with low-flow units.

It provides for increasing fines, and ultimately for service flow restrictions, for repeated violations of the Ordinance.

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