Executive Summary

In April, 2008, St. Charles Mesa Water District (SCMWD) made an application to the Colorado Water Conservation Board (CWCB) Office of Water Conservation and Drought Planning, for a grant in the amount of $15,700. This also included an "In-Kind" contribution from SCMWD valued at $5,450. The grant was approved in June of the same year.

The purpose of the grant was to offset the cost of preparing a Water Conservation Plan for the District. In June, 2008, Young Technology Group began preliminary data collection related to same.

The Plan has been prepared, utilizing the CWCB's "Nine-Step" Planning Template. They are:

1. Profile the Existing Water System
2. Characterize Water Use and Forecast Demand
3. Profile Proposed Facilities
4. Identify Conservation Goals
5. Identify Conservation Measures and Programs
6. Evaluate and Select Conservation Measures and Programs
7. Integrate Resources and Modify Forecasts
8. Develop Implementation Plan
9. Monitor, Evaluate and Revise Conservation Activities and the Conservation Plan

During this process, several planning sessions have taken place between the District's personnel and YTG, related to identifying the conservation goals. Through this process, it was determined that the main conservation goals are:

1. Reduce the "Non-Revenue" water (water which is treated but does not show up in the accounting, mainly due to meter inaccuracies).
2. Increase efficient irrigation practices by customers.
3. Reduce overall use per customer, over time, without adversely impacting the District, financially.

The replacement of the existing meters is part of the Long Range Capital Improvement Plan (CIP). This program entails replacement of all existing meters over a 10 year span. This will benefit the district, and the individual customer(s) in the following manner:

1. The new meters shall provide a more accurate accounting of the individual customer usage. This will allow the district to better determine the amount of water which is being lost through leaks.
2. The new meters shall be radio-read, which will save the district time and money, related to the actual reading of the meters.
3. The new meters shall allow the district a more accurate accounting of the effects of the various conservation measures and programs, which the district implements.
4. The new meters come with a meter monitor, which is a remote receiver and display, which allows customers to monitor their individual water use. The unit also comes with a leak detection alert.

In order to accomplish these tasks, a series of 10 conservation measures and programs have been analyzed for implementation. Some of the individual programs are combined for this narrative. In general, they are as follows:

1. Replacement of all individual meters, over a 10 year period, commencing in 2010, and complete in 2020 (Approximately 400 meter annually).
2. Leak Detection and Replacement of leaking mains.
3. Low Water Use Landscapes
4. Efficient Irrigation Practices
5. Customer installation of Low Flow Plumbing Fixtures and Appliances. This includes a rebate program by the District to the customer.

The Conservation Plan contains an interactive spreadsheet, which calculates the results of the implementation of the measures and programs mentioned above. It is meant to be used as a guide, in order to determine the effectiveness of the various programs and measures.

The proposed programs and measures are diverse in nature and initially limited in scope. The purpose is to identify those programs and measures which are most effective, and consider wider application, if appropriate. Also, to identify any programs and measures which are not effective and either eliminate or modify them.

Initially, the Conservation Plan shall be monitored annually, immediately following the District's annual accounting audit. This should provide enough information to determine the effectiveness of the various programs and measures.

One of the main goals is to reduce per unit consumption, without adversely effecting District revenues. This will require initial, minimal implementation, to avoid a negative impact on the District.

Currently, the model predicts a minor reduction in overall water consumption, assuming that the conservation measures and programs are effective. Assuming a growth rate of 1%, the loss in revenue, due to a drop in per capita use, will be offset by growth and collection of tap fees. Also, the per capita reduction in use will allow the postponement of some of the system upgrades which are related to supply capacity. This will allow the District additional time to accumulate capital reserves prior to performing some of the supply capacity upgrades.

Water Saving Tips:

1. When brushing your teeth, or shaving, don't let the water run continuously. Use a glass of water when brushing teeth, and only run water when cleaning razor.
2. Bathe in the tub when possible, filling tub with just a few inches of water. Showers should be as brief as possible. Turn off water while lathering up and then back on to rinse.
3. Keep a large plant watering container near the faucet. While waiting for hot water, simply capture the cold water in the watering container, until hot water is available. The captured water should be used to water plants.
4. When doing laundry or using dish washer, always run full loads. If you can't wait, make sure the water level setting is correct.

5. Always repair leaks in faucets, toilet tanks, control valves and sprinklers. A small leak can waste up to 6,000 gallons per year.
6. Run your evaporative cooler only when necessary. An evaporative cooler can use 10 to 30 gallons per day. Run your cooler vent as much as possible until the temperature in your home requires you to cool.
7. Water only in the early morning or late evening, to reduce evaporation. Keep sprinklers adjusted so they are not spraying sidewalks and driveways. If you have a dry spot, water by hand. Mow your lawn at no lower than 3 inches, to help it keep the moisture in the soil.
8. Water trees and shrubs by hand. Don't let water run unattended.
9. Don't wash your patios or sidewalks. Sweep them off.
10. Washing your car should be done using a bucket or a hose with a control valve. Don't let the hose run, even on your lawn.
11. One inch of water a week, is generally recommended, to maintain a viable landscape, including vegetables, turf, trees and flowers.
12. One inch of water:

    Over 1,000 square feet = 624 gallons. Over 1-acre = 27,200 gallons.

    At a rate of 10 gallons per minute, it will require approximately 1 hour to add 1 inch of water, to a 1,000 square foot lawn.

    One Gallon = 15,100 drops, 16 cups, 8 pints, 4 quarts, 128 fluid ounces, 8.34 pounds.

    One Cubic foot of water contains 7.48 gallons of water.

    1-acre•foot of water = 12" (one foot) deep, over 1-acre (43,560 square feet) = 325,851 gallons.

All of the above information is available on the **District's Web Site**

1397 Aspen Road / Pueblo, Colorado 81006-1633 / Phone (719) 542-4380 / Fax (719) 542-4862
www.scmwd-pueblo.org