

# Section 7: Water Demand Management Measures

This section briefly overviews the Vallecitos Water District (VWD) conservation programs and their history. The section then discusses the urban water conservation Best Management Practices (BMPs) as proposed by the California Urban Water Conservation Council (CUWCC) and VWD's compliance strategies for these BMPs.

## 7.1 Vallecitos Water District's History in Conservation



During the past few decades, conservation has become a vital part of VWD's overall reliability strategy. This is similar to its water wholesaler, the San Diego County Water Authority (SDCWA), which has projected that conservation will account for 11 percent of its water diversification strategy for 2011 and increase to 17 percent by 2020. With a similar vested interest in water savings, VWD, as well as the other 24 member agencies of the SDCWA and the Metropolitan Water District of Southern California (MWD), collaborate on programs that benefit the entire region. The combined effort has yielded increased conservation and water knowledge through education, messaging and financial incentives for water-efficient devices.

VWD started a water conservation program in 1975, and with the support of the Board of Directors, the program expanded significantly during the drought of 1976-77. At the program's inception, efforts steered toward a long-term public information program and active cooperation with regional water conservation programs of the SDCWA. Though the drought ended, many of the programs that emerged during that time remained focused on switching from an "emergency situation" agenda to a long-term public information effort aimed at outreach in wise water management.

Through the addition of a Water Conservation Supervisor and Resources Assistant, the framework of a long-term conservation program continued to serve as a backdrop for the next major drought of 1987-1992. With the additional staff and a clear understanding of the importance of conservation, VWD aggressively revamped the conservation program and developed a variety of innovative and effective approaches to demand management. VWD reaffirmed its commitment to conservation and became one of the original signatories to the “Memorandum of Understanding Regarding Urban Water Conservation” (MOU) in California on September 16, 1991. The CUWCC, of which VWD is a long-time member, emerged from the MOU, as well as urban water conservation practices known as the BMPs, which are aimed at reducing California’s long-term urban water demands.

To assist in achieving goals set by the CUWCC, the structure of VWD’s conservation department was later changed to include a Public Information / Conservation Supervisor and two Public Information Representatives.

As conservation and public information go hand in hand, all members of the conservation department now have the responsibility for water conservation programs and related outreach. This proved to be extremely valuable in 2009 when two dry winter seasons and judicial pumping restrictions to the region left reservoir levels severely drained. This forced the SDCWA to cut supplies to its member agencies and resulted in a supply reduction to VWD customers of approximately 10 percent. As a result, the VWD Board of Directors declared a Level 2 drought alert, prompting mandatory water-use restrictions for all VWD customers. Through aggressive and innovative conservation outreach in 2009 and 2010, and by successfully implementing the BMPs, VWD water usage was consistently below the wholesaler’s allotment.

## **7.2 Best Management Practices**

VWD has adopted 13 of the CUWCC’s 14 comprehensive BMPs as a framework for its water conservation program. In 2007, however, the CUWCC actively pursued updates to the MOU and BMPs. VWD actively participated on the BMP revision committees to draft revised BMPs. In June 2010, the CUWCC formally reorganized their 14 BMPs into five categories. The first two categories, Operations Practices and Education, have been classified as “Foundational BMPs” and are considered to be essential water conservation activities that all agencies should implement. The three remaining categories, Public Outreach / Residential; Commercial, Industrial and Institutional (CII); and Landscape, have been classified as “Programmatic BMPs”. VWD’s compliance

strategies and history with these five BMP categories are detailed later in the section, and the most recent annual report submitted to the CUWCC is included in Appendix G.

In order to track the effectiveness of the BMPs implemented during the 2009 – 2010 drought, VWD created a monthly report that compared the cumulative municipal and industrial demand and agricultural demand against the allotment that was given to VWD by its wholesaler, the SDCWA. The report also tracked monthly water production, rainfall, and number of water meters in service to document how weather and customer growth impacted water usage for the month. If usage approached the allotment, staff could implement extra outreach measures to notify customers of necessary actions needed to reduce usage. More information regarding VWD's water use reduction determination is included in Appendix F.

Signatory agencies are required to comply with the new CUWCC BMPs through 2015. After 2015, the BMPs sunset and compliance with Senate Bill X7-7 is required for all retail water agencies. Table 7-1 shows the reorganization of the BMPs.

*Table 7-1: Previous and Revised BMPs*

Previous BMP Number and Name		Revised BMP Number and Category	
1.	Water Survey Programs for Single-Family & Multi-Family Residential Customers	3.	Public Outreach / Residential; Programmatic
2.	Residential Plumbing Retrofit	3.	Public Outreach / Residential; Programmatic
3.	System Water Audits, Leak Detection and Repair	1.	Operations Practices; Foundational
4.	Metering with Commodity Rates For All New Connections & Retrofit of Existing Connections	1.	Operations Practices; Foundational
5.	Large Landscape Conservation Programs and Incentives	5.	Landscape; Programmatic
6.	High-Efficiency Clothes Washing Machine Financial incentive Programs	3.	Public Outreach / Residential; Programmatic
7.	Public Information Programs	2.	Education; Foundational
8.	School Education Programs	2.	Education; Foundational
9.	Conservation Programs for Commercial, Industrial, and Institutional Accounts	4.	Commercial, Industrial and Institutional; Programmatic
10.	Wholesale Agency Assistance Programs	1.	Operations Practices; Foundational
11.	Retail Conservation Pricing	1.	Operations Practices; Foundational
12.	Conservation Coordinator	1.	Operations Practices; Foundational
13.	Water Waste Prohibition	1.	Operations Practices; Foundational
14.	Residential Ultra-Low Flush Toilets Replacements	3.	Public Outreach / Residential; Programmatic

## 7.2.1 Foundational BMPs

### BMP Category 1 - Operations Practices

#### *Water Waste Prohibitions*

All water agencies are required to administer a strategy – an adopted ordinance or terms of service – to meet water waste prevention. For compliance, VWD has adopted Ordinance No. 162, which is included in Appendix G. This Drought Response Conservation Program is patterned after the conservation actions of its water wholesaler (SDCWA) and establishes regulations to be implemented during times of declared water shortages or emergencies to conserve water. This ordinance establishes four levels of drought response with corresponding actions to be implemented in times of shortage or emergency, with increasing restriction on water use in response to worsening drought or emergency conditions, and decreasing available supplies.



*Dry winters and judicial pumping restrictions caused reservoir levels to drop, prompting VWD to declare a Level 2 Drought Alert in July of 2009.  
(Photos of Lake Oroville reservoir, which supplies water to San Diego).*



- **Level 1 – Drought Watch:** With this alert, VWD will increase public outreach and take action to encourage voluntary conservation practices.

- **Level 2 – Drought Alert:** With this alert, VWD will implement mandatory conservation practices to reduce water use by up to 20 percent. These practices include limiting landscape irrigation and repairing leaks within 72 hours of notification.

- **Level 3 – Drought Critical:** With this alert, VWD will implement mandatory conservation practices to reduce water use by up to 40 percent. Additional conservation practices include the prohibition of filling pools or fountains and washing vehicles and require repair of leaks within 48 hours of notification. With minor exceptions, no new potable water services will be allowed during a Level 3 Drought alert.
- **Level 4 – Drought Emergency:** With this alert, VWD will implement mandatory conservation practices to reduce water use above 40 percent in order for VWD to have adequate supplies to meet anticipated demands. Additional conservation practices include prohibited landscape irrigation, excluding commercial growers or nurseries, and the repair of leaks within 24 hours of notification.

Table 7-2 provides a summary of the conservation practices required at the four stages of drought conditions.

*Table 7-2: VWD's Drought Response Restriction Overview*

<b>LEVEL 1 - DROUGHT WATCH</b> Conservation Practices	<b>LEVEL 2 – DROUGHT ALERT</b> Conservation Practices	<b>LEVEL 3 – DROUGHT CRITICAL</b> Conservation Practices
<p>All customers shall comply with the following drought measures:</p> <ul style="list-style-type: none"> <li>• Stop washing down paved surfaces (except to alleviate sanitary hazards). Includes sidewalks, driveways, parking lots, tennis courts, or patios.</li> <li>• Stop water waste from inefficient landscape irrigation.</li> <li>• Irrigate landscapes before 10 a.m. and after 6 p.m.</li> <li>• Use a hand-held hose with a shut-off nozzle or bucket to irrigate landscaped areas that are not watered by an automatic system.</li> <li>• Use re-circulated water to operate ornamental fountains.</li> <li>• Wash vehicles using a bucket and hand-held hose with shut-off nozzle, high pressure / low volume wash system, or at a commercial site that re-circulated water on-site.</li> <li>• Serve and refill water in restaurants only upon request. Offer hotel guests the option of not laundering towels and linens daily.</li> <li>• Repair all water leaks within five days of notification by VWD.</li> <li>• Use recycled or non-potable water for construction purposes.</li> </ul>	<p>All customers shall comply with Level 1 drought measures, as well as the following:</p> <ul style="list-style-type: none"> <li>• Residential and commercial landscape irrigation will be limited to no more than three unassigned days.</li> <li>• Irrigation using sprinklers will be limited to no more than 10 minutes per watering station per day (Systems using water-efficient devices are excluded).</li> <li>• All leaks must be repaired within 72 hours of notification by VWD.</li> <li>• Stop operation of ornamental fountains unless re-circulated water is used.</li> </ul>	<p>All customers shall comply with Levels 1 and 2 drought measures, as well as the following:</p> <ul style="list-style-type: none"> <li>• Residential and commercial landscape irrigation will be limited to two assigned days per week and no more than once a week from November through May (excludes commercial growers and nurseries).</li> <li>• Stop refilling ornamental lakes or ponds, except to sustain aquatic life.</li> <li>• Stop refilling pools or spas.</li> <li>• Stop washing vehicles except at commercial car washes that recirculate water.</li> <li>• Repair all leaks within 48 hours of notification by VWD.</li> <li>• With minor exceptions, no new potable water service shall be provided.</li> </ul>
<p style="text-align: center;"><b>LEVEL 4 – DROUGHT EMERGENCY</b>                      Conservation Practices</p> <p>All customers shall comply with Levels 1, 2 and 3 drought measures, as well as the following:</p> <ul style="list-style-type: none"> <li>• Stop all landscape irrigation, and other outdoor watering for residential and commercial customers (excludes commercial growers and nurseries).</li> <li>• Repair all leaks within 24 hours of notification by VWD.</li> </ul>		

In the event that supply interruptions were caused by a major failure or other related situation, a Water Emergency would declare severe restrictions. This could result in a mandatory water reduction beyond 40 percent. In this case, the General Manager has the authority to declare a reduction beyond measures detailed in Ordinance No. 162.

Administrative fines can be levied for each violation of a provision of the ordinance as follows:

- \$100 fine for first violation
- \$200 fine for second violation if it occurred within one year of the prior violation
- \$500 fine for each additional violation if it occurred within one year of the prior violation
- Enforcement for further violations increases in severity and may include installation of a flow-restricting device in the meter, imprisonment, a fine up to \$1,000, and/or discontinuing service to the property where the violation occurred.

### *Water Loss Control*

The goals of modern water loss control methods include both an increase in water use efficiency in the utility operations and proper economic valuation of water losses to support water loss control activities. Agencies are expected to use the AWWA Free Water Audit Software (“AWWA Software”) to complete their standard water audit and water balance. Instrumental to VWD complying with this BMP is a host of programs targeted at averting unbilled water loss before they happen. These programs include:

- **Water Audits:** Monthly water audits that compare total water sales with water acquisitions to determine the amount of unaccounted water. Regular audits allow VWD to develop new programs to enhance water loss reduction as needed.
- **Leak Detection:** VWD’s distribution system is constantly monitored for leaks by a centralized control system, electric leak detection devices and visual inspections.
- **Water System Improvements:** A state-of-the-art telemetry room uses a computerized Supervisory Control and Data Acquisition (SCADA) system to monitor water flow more efficiently. Routine and preventative maintenance is performed on the entire delivery system.
- **Meter Maintenance and Replacement Program:** Meters within VWD are replaced every 15 years to prevent malfunction and leakage.

- **Prosecution for Water Theft:** VWD personnel continually monitor for water theft and prosecute as necessary.
- **Water Loss Billing:** Whenever possible, the parties responsible for water loss (for example, damages fire hydrants, dig-ins, etc.) are billed for the cost of required repairs and for all water lost.

### *Metering with Commodity*

Some of the requirements associated with meeting this BMP are including meters for all new service connections; establishing a program to retrofit existing unmetered connections; reading meters and billing customers by volume of use; billing intervals of no greater than bi-monthly; performing at least five meter readings for every 12-month period; and preparing a written plan that includes a census of all meters by size, type, year installed, and customers served. Also included are barrier identifications to retrofitting mixed commercial accounts with dedicated meters and conducting feasibility studies to assess the merits of a program to provide incentives to switch mixed-use accounts dedicated to irrigation meters.

Metering of all water use and billing by volume has long been the standard practice at VWD. As directed by the BMP, all new and existing water service connections are metered. For large parcels and commercial developments, separate, dedicated irrigation meters are placed where needed. Customers are billed based on monthly reads and according to “Tier Ranges” adopted by VWD on July 1, 2003. The “Tier Ranges” are divided into three step pricing tiers with separate use requirements for residential, irrigation, agriculture, and commercial / industrial, in an effort to promote conservation by charging a higher rate for each incremental use of water.

### *Retail Conservation Pricing*

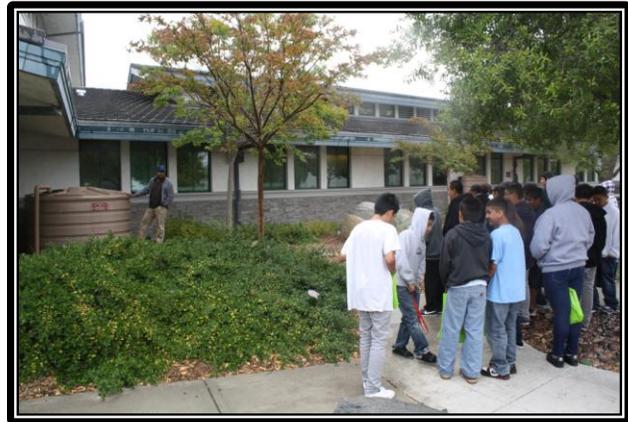
This aspect of BMP Category 1 promotes water conserving retail water rate structures. When creating a rate case, professional judgments are made to determine whether costs are accounted to a variable or fixed cost center by the staff of the agency. The final water rate case is an accumulation of all the decisions and judgments made by staff and supplemented by the financial projections leading an agency to establish its final water rate recommendation. The BMP is not intended to supplant this process, but rather to reinforce the need for water agencies to establish a strong nexus between volume-related system costs and volumetric commodity rates.

VWD customers are billed based on monthly reads and according to “Tier Ranges” adopted on July 1, 2003. The “Tier Ranges” are divided into three step pricing tiers with

separate use requirements for residential, irrigation, agriculture, and commercial / industrial. This is an effort to meet this BMP and promote conservation and wise water use by charging a higher rate for each incremental use of water. VWD currently offers a financial incentive for customers who practice exceptional water conservation. These customers, called “Frugal Users”, use 5 units or less of water per billing cycle and receive a 20 percent discount on their “Ready-to-Serve” charge and their sewer charge.

## **BMP Category 2 - Education**

This BMP has been established for water agencies to reach younger water users at an early age and enforce the need to engage in water conservation as a life-long behavior. Some targets associated with achieving success include implementing a school education program to promote water conservation and water conservation-related benefits through instructional assistance, educational materials, and classroom presentations that identify urban, agricultural, and environmental issues and conditions in the local watershed. Educational materials shall meet the state education



*VWD Public Information Representative educates students about rainwater harvesting at VWD's sustainable demonstration garden.*

framework requirements and grade-appropriate materials shall be distributed. Also, when mutually beneficial, the water wholesale agency may operate all or part of the education program. For such cases it may be beneficial for the retail agency to assume responsibility for CUWCC reporting of this BMP; under this arrangement, a water wholesale agency may aggregate all or portions of the reporting and coverage requirements of the retail agencies joining into the mutual consent.

The VWD Education Program is designed to meet BMP requirements and establish standards adopted by the California State Board of Education in October, 1998. Implemented in conjunction with the SDCWA, the presentations are designed to increase water knowledge among VWD's most impressionable users. The VWD Education Program includes:

- **Kindergarten** – In-class presentation to bring the science of the water cycle together with an effort to personalize the student's scientific knowledge of the role of water.

- **First Grade** – In-class presentation to help students comprehend the role of water in essential industries and introduce water conservation.
- **Second Grade** – Through a partnership with the City of San Marcos, VWD covers the cost to transport students to Jack’s Pond Park and Nature Center where they are exposed to nature by having hands-on time with native plant exhibits. They also listen to a presentation on the importance of water in the ecosystem and the development of human settlements.
- **Fourth Grade** – In-class presentation and “water awareness calendar” poster contest to deepen the student’s understanding of the water cycle.
- **Kindergarten through Fifth Grade** – VWD covers the cost for the San Diego County Office of Education’s “Green Machine” to be brought directly to the classroom. This hands-on agricultural program teaches the students about how they get their food and explores the journey from “seed to table” by explaining soil science, integrated pest management and the water cycle.
- **Fourth through Sixth Grade** – VWD covers the cost for the “Splash Science Mobile Lab” to make visits to area schools. This self-contained mobile laboratory is offered through the San Diego County Office of Education. It provides a hands-on experience where students learn about water by using cooperative learning skills, microscopes with live specimens, chemistry experiments, and state-of-the-art computers.



*VWD covers the cost for the “Splash Science Mobile Lab” to make visits to area schools.*

VWD has also partnered with the City of San Marcos to help create a conservation barn at Jack’s Pond Park to educate fourth through sixth grade students on various environmental topics. Inside the barn are seven rooms that each has a specific educational theme, such as wildlife and habitats; native plants, and the water cycle. There are also many hands-on displays, such as microscopes for examining life in the pond and an interactive wastewater treatment plant model (newspaper article included in Appendix C).



*VWD has partnered with the City of San Marcos to create a conservation barn to educate fourth through sixth grade students on various environmental topics.*

*Photos of conservation barn (above) and two of the educational rooms (right and below).*



- **Seventh through Twelfth Grade** – VWD outreaches to older students in a variety of ways, including:
  - In-class presentations on requested topics for middle schools and high schools.
  - VWD covers the cost to transport students to VWD’s Meadowlark Water Reclamation Facility (MRF) for facility tours to learn about wastewater treatment and recycling.
  - VWD participates in the San Marcos Unified School District’s annual Wellness Policy Fair by setting up a booth to discuss water issues with the high school students.
  - Throughout the year, VWD partners with local schools on a variety of special projects. As an example, in 2009 VWD provided plants for

students to install to create a native plant demonstration garden at San Marcos Middle School (newspaper article included in Appendix C). In 2010, VWD utilized San Marcos High School Future Farmers of America students to help install a sustainable demonstration garden in front of VWD's administration building.

- In-class presentations are currently under development for high school students, such as "Careers in the Water Industry", "Cost of Water", "Water Bill of Rights", and the classroom activity, "Value of Water".
- **Private Schools** – Smaller private schools and home schools within VWD's service area are each invited to a special two-day Splash Science Mobile Lab event at Jack's Pond Park. The City of San Marcos' Jack's Pond Park and Nature Center is opened in conjunction with the Splash Science Mobile Lab event, and the Nature Center's Director offers nature walks discussing storm water issues, local flora and fauna, and water allocation topics.
- **Colleges** – Although not a requirement of this BMP, VWD also works with local colleges to help educate students about the importance of water conservation. VWD participates in an annual environmental fair at Palomar College, and in 2010, VWD partnered with the college to



*VWD's sustainable demonstration garden features these solar-powered ornamental water features that operate using collected rainwater.*

create the sustainable demonstration garden which now graces the front of VWD's administration building. Environmental architecture and design

students designed the garden, which includes native plants, and a 2,500-gallon-capacity rainwater collection system that supplies water to solar-powered ornamental water features. One of the water features includes a casted bronze hand depicting the value of water, which was created by Palomar College's sculpture and foundry departments (newspaper article included in Appendix C).

In honor of Earth Day, VWD also participates with the “Earth Day through the Arts”, which is a community event held on the campus of California State University San Marcos (CSUSM), by manning a booth at the event. The event is sponsored by the CSUSM’s Art and Lecture series and the City of San Marcos.

Some of the festivities include eco-friendly art exhibits and a fashion show sporting garments made from recycled and repurposed items. This partnership allows VWD the opportunity to encourage water conservation and sustainability and to showcase the importance of Earth Day.

## **7.2.2 Programmatic BMPs**

### **BMP Category 3: Public Outreach / Residential**

#### *Public Outreach*

The primary basis for this BMP is to use public information programs as an effective tool to inform customers about the need for water conservation and ways they can conserve, and to influence customer behavior to conserve. The program should include, when possible, but should not be limited to, providing speakers to employees, creating social marketing elements that are designed to change attitudes to influence behavior; using paid and public service advertising; using bill inserts; providing information on customers’ bills showing use for the last billing period compared to the same period the year before; providing public information to promote water conservation measures and shaping water conservation messages; training stakeholders outside the utility staff in water conservation priorities and techniques and coordinating with other government agencies, industry groups, public interest groups and the media.

Through a three-person dedicated staff, VWD meets this BMP requirement through a variety of programs and strategically targeted communication. This includes internal and external, in-house produced periodicals such as a quarterly “Splash!” newsletter mailed to all customers, use of VWD’s website located at [www.vwd.org](http://www.vwd.org), a Speaker’s Bureau covering a range of topics, and an employee newsletter. Also critical to outreach success are visibility at community events, press releases, brochures, paid newspaper advertisements, bill inserts and bill messages, free water-wise workshops, promotional events, displays, open house events, the Lending Library, classroom presentations, field trips for area schools, and facility tours. Some specific recent examples include paid newspaper advertisements and bill messages to remind people to conserve during the recent drought, school presentations covering water history and demonstrating water conservation techniques, as well as conservation advice available online at

VWD's website. VWD has also started using other forms of communications such as automated phone calls, movie theater ads and social networking sites, such as Facebook. The recently installed sustainable demonstration garden is another avenue that opens communication dialogue with customers to discuss ways to reduce outdoor water use.

VWD's outreach is directed to reach the diverse social, cultural, and economic elements of the population within the service area. This is accomplished by mailing the quarterly newsletter to all residents within our service area, instead of limiting distribution to actual water customers. Brochures and bill inserts are periodically mailed to VWD customers informing them of current water conditions. To assist our Spanish speaking customers, many of VWD's outreach materials are printed in Spanish and VWD's website contains a link which can convert the website text into Spanish. (See Appendix C for examples of outreach materials).

### *Residential*

Residential water users throughout California depend on a reliable and safe supply of water for their homes. This BMP is designed to establish the best and most proven water conservation methods and measures that residents, working in conjunction with water agencies, can implement. The practices will encourage homeowners, multi-family property owners, and tenants to increase water use efficiency and reliability. As required by the BMP, retail water agencies will implement water-use efficiency through residential assistance programs such as landscape surveys, and water-efficient appliance and fixture rebates and incentives\*.

In meeting this BMP, VWD participates in a free water audit program to encourage water savings. As fifty to seventy percent of the water used in San Diego County is used on landscaping, customers can see significant savings by having an audit performed on their property. Audits assist customers by offering instrumental ways to save water in their own homes by reviewing landscaping irrigation systems as well as inspecting indoor and outdoor plumbing fixtures for leaks. VWD staff may suggest outdoor irrigation adjustments according to season and soil moisture composition, as well as recommend proper lawn maintenance and tips on low-water-use landscaping. Once complete, an educational packet with information about other water conservation programs is also offered. Also available for distribution are free faucet aerators, low-flow showerheads and booklets outlining effective irrigation practices, drought-tolerant plant selections, and simple tips to reduce water waste indoors and outdoors.

To further encourage customers to reduce outdoor water use, VWD participates in a regional landscape contest to award customers whose yards best exhibit the beauty of low-water gardening. Contest winners receive a gift certificate to a local nursery and are recognized at an award ceremony and/or at a VWD Board meeting. In addition, in 2010 VWD implemented an innovative promotion where VWD field crews distributed letters of recognition along with donated gift cards from local businesses to reward customers for being leaders in the community by having an exceptionally beautiful water-efficient front yard (see newspaper article in Appendix C).



*2009 VWD California Friendly  
Landscape Contest winner*

\*Rebates and incentives are dependent upon funding by VWD's wholesalers (SDCWA and MWD).

#### **BMP Category 4: Commercial, Industrial and Institutional (CII)**

Commercial, industrial, and institutional (CII) usage make up a large percentage of total water demand for California. CII water use varies dramatically between business sectors within a water agency's territory. The goal is to implement comprehensive yet flexible BMPs, allowing each water agency to tailor the implementation of each practice to fit local needs and opportunities. The end result is a practice that is successful and will produce the greatest amount of cost-effective water savings.

Through collaboration with SDCWA's CII Program, VWD meets BMP Category 4 requirements through a rebate program\* that offers CII customers financial incentives to migrate to water-efficient equipment. Participants also benefit long-term, experiencing savings in water, wastewater and energy costs. VWD's CII offerings have included partial reimbursement for pre-rinse spray valves, ultra-low flush toilets, urinals (waterless models included), water brooms, single-load high-efficiency washers, cooling tower conductivity controllers, multi-load high-efficiency washers, and weather-based irrigation controllers. The CII program is regularly promoted through VWD's website, mailings, bill inserts, letters, display ads, articles and newsletters.

\*Rebates are dependent upon funding by VWD's wholesalers (SDCWA and MWD).

## BMP Category 5: Landscape

Irrigation accounts for a large portion of urban water use in California. This water use varies dramatically depending on water pricing and availability, plant choice, geographic locations, seasonal conditions, and the level of commitment to sound water efficiency practices. The goal of this BMP is that irrigators, with assistance from the water agency, will achieve a higher level of water use efficiency consistent with the actual irrigation needs of the plant materials. Reaching this goal would reduce overall demands for water, reduce demands during the peak summer months, and still result in a healthy and vibrant landscape for California.



*VWD's audit program shows customers how to have a water-wise garden that can be lush and beautiful.*

VWD meets this BMP with its own in-house audit program and a partnership with the Mission Resource Conservation District to provide audits at no charge to VWD customers. For small residential or commercial properties, VWD has an in-house certified landscape irrigation auditor who conducts the landscape audits. On larger properties, such as homeowners associations or agricultural users, Mission Resources Conservation District is hired to conduct a more extensive audit.

Regardless of the size of the property, all audits include a face-to-face meeting where a walkthrough is performed to identify type of plants, irrigation system design, equipment problems and scheduling. This is completed with the goal of providing cost-effective opportunities at the property – from simple repairs to new ways to schedule irrigation. On large property audits, the audit concludes with a detailed report of graphs and charts showing a sample of the landscaped area, plant material identification, hydrozoning, weather data and water savings potential.