

Water Use Report and Conservation Plan for Mountain View City Properties



February 2011

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EXECUTIVE SUMMARY

The City of Mountain View recognizes the importance of water conservation and is committed to promoting and practicing the sustainable use of its water resources. The City demonstrates this commitment through outreach and education programs, financial incentive programs, and by implementing water conservation measures at City properties.

The City of Mountain View is dedicated to improving water use efficiency at its properties and has developed this plan for saving over four million gallons of water and \$10,000 each year.

This report discusses trends in water use at City properties (buildings, landscapes, and recreation areas owned and/or maintained by the City of Mountain View) over the past ten years, describes water-saving measures that have been implemented in the past, and discusses additional measures that are planned for these properties in the future.

Water Use Trends

Analysis of water use at City properties helps us understand past water consumption and informs our efforts to improve and track future water conservation. City properties consume an average of about 166 million gallons of water per year, which represents approximately four percent of the water used by the City of Mountain View as a whole (i.e., Mountain View residents, businesses, and other water customers). Over 90 percent of the water consumed at City properties is used for outdoor purposes such as maintaining parks and other landscapes. Accordingly, the City's water use has historically mirrored trends in local weather. In addition to weather, some factors that can affect water use include the economy, the number of employees and members of the public using City properties, and new building construction and renovations.

Prior Water Conservation Efforts

In an effort to increase water-efficiency at its properties, the City of Mountain View has implemented several measures and practices which save water both indoors and outdoors. Prior to the preparation of this report, the City installed 70 automatic low-flow sink faucets and 80 dual-flush toilet handles in several heavily-used buildings, and also adopted a Green Building Policy which encourages water-efficient design elements in new and renovated City buildings. Ongoing City practices that help to save water outdoors include regular testing and repair of landscape irrigation equipment and using weather-adjusted watering schedules. Additionally, the City now irrigates the Shoreline Park and Golf Links with recycled water and recently adopted Water

Conservation in Landscaping Regulations for new large landscaping projects in Mountain View.

Water Conservation Plan

The City of Mountain View is dedicated to improving water use efficiency at its properties and has developed this plan for future water-saving measures based on recommendations made in water use surveys conducted at City properties between 2007 and 2010. Planned conservation measures include replacing and retrofitting older toilets, urinals, showerheads, and faucet aerators with newer, more water-efficient models; implementing a landscape water budget program for City Parks; and installing a water-efficient demonstration garden at the City of Mountain View Library.

The City began implementation of this plan in 2010 with assistance from the Santa Clara Valley Water District (SCVWD) and the Bay Area Water Supply and Conservation Agency (BAWSCA). Once fully implemented, all planned measures are estimated to save approximately 4.25 million gallons of water and \$10,800 each year. More importantly, by demonstrating a commitment to water conservation, the City of Mountain View hopes to instill in its employees and customers a water-conscious approach to everyday life.

INTRODUCTION

Water is one of our most precious natural resources. California's limited water supplies must support natural ecosystems, businesses, agriculture, and residents' day-to-day living. The City of Mountain View strives to use water efficiently by implementing water conservation measures at City properties (buildings, landscapes, and recreation areas owned and/or maintained by the City of Mountain View), and by helping Mountain View residents and businesses to conserve water through public outreach, education, and financial incentive programs.

The City of Mountain View is committed to promoting and practicing the sustainable use of water resources.

In 2008, Governor Arnold Schwarzenegger set a state-wide requirement of 20 percent water conservation by the year 2020 to address concerns of environmental health and water supply reliability. The City of Mountain View plans to help California reach this goal by continuing its outreach and incentive programs for residents and businesses, and by improving water use efficiency at City properties.

This report explores trends in water use at City properties over the last ten years, reviews the City's completed and ongoing water conservation efforts, and sets forth a plan for implementing additional measures to increase water-efficiency at City properties¹.

¹ Shoreline Park and Golf Links transitioned from potable water to recycled water for irrigation in 2009. To provide an accurate picture of past potable water use trends in comparison to current and future water use at City properties, Shoreline's historical water use is not included in this report. On average, approximately one million gallons of water is used each day to irrigate Shoreline Park and Golf Links.

WATER USE TRENDS AT CITY PROPERTIES

Understanding water use trends at City properties is an important part of developing and implementing a water conservation plan. On average, Mountain View’s City properties use a combined 166 million gallons of water each year, or about four percent of the water consumed within the City of Mountain View as a whole². This water supports Mountain View’s City employees as well as thousands of residents and businesses who utilize the City’s public services such as the library, community center, and recreation facilities.

Between 2000 and 2009, annual water consumption at City properties ranged from a low of 152 million gallons in 2006 to a high of 185 million gallons in 2008. Figure 1 shows the annual water use at City properties over the past ten years, and highlights the influence of outdoor water use on the City’s total water consumption. Outdoor water use varies due to changing plant water needs, which are influenced by weather factors like wind, temperature, humidity (all of which impact plant evapotranspiration, or “ET”), and the seasonal timing and volume of rainfall.

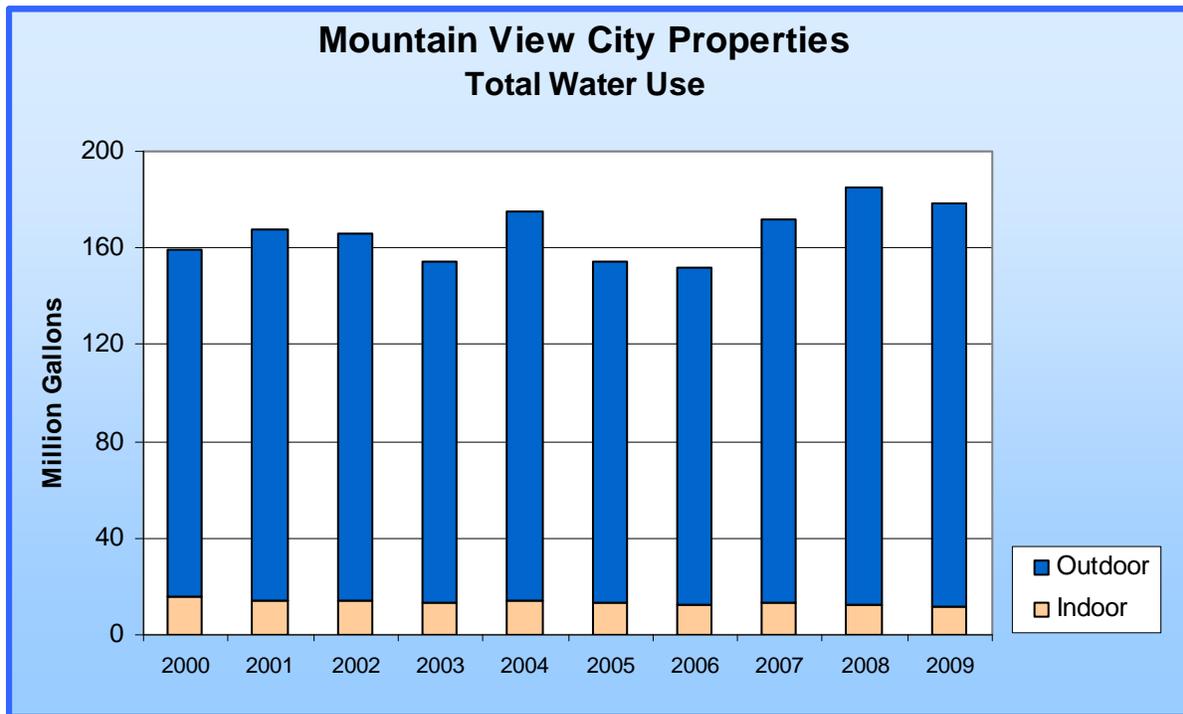


Figure 1. Annual and seasonal variations in weather play a large role in the water use patterns at City properties. For example, in 2008 rainfall was below average, and more water was needed to maintain City landscapes and parks.

² Water use at City properties is estimated using data from the utility billing system for City water meters delivering potable water. As previously mentioned, historical potable water use for Shoreline Park and Golf Links is not included in this report.

WATER USE TRENDS – INDOOR

Indoor water use makes up about eight percent of all water consumption at City properties, and less than 1 percent of all the water consumed within Mountain View as a whole³. Water is used indoors for toilets, sink faucets, water fountains, clothes washers, and air conditioning (AC) systems to support thousands of public visitors and over 600 Mountain View City employees in over 20 buildings⁴. Over the last ten years an average of 13.5 million gallons of water has been used inside at City properties each year. As Figure 2 shows, indoor consumption generally decreased from 2000 to 2009 with an average reduction in use of two percent per year.

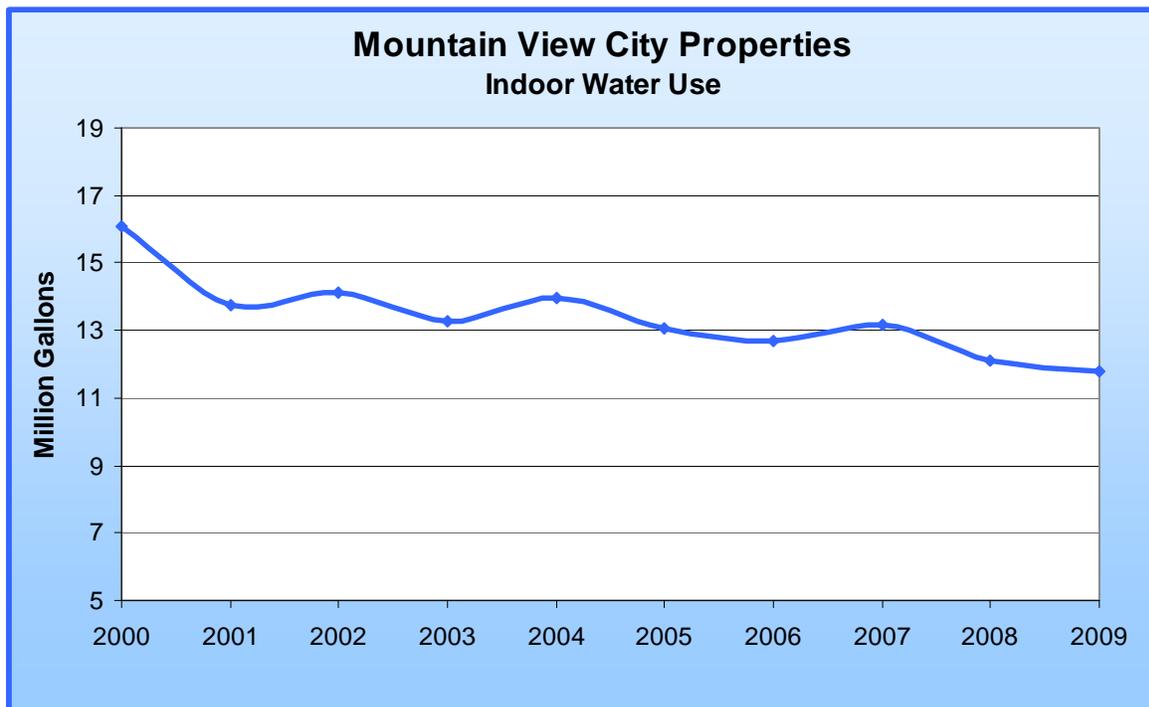


Figure 2. Indoor water use at City properties has decreased in recent years from a high of about 16 million gallons in 2000 to almost 12 million gallons in 2009.

Although water use in some years is higher than the previous year, the overall trend is downward. Fluctuations in indoor water use in subsequent years could be due to several factors, such as variations in the number of City employees and public visitors, the number of building and renovation projects, and varying demands on AC systems due to variations in the weather. The overall downward trend observed between 2000 and 2009 may be attributed, in part, to the installation of low-flow bathroom fixtures in City buildings, though the resulting water savings may not be directly observed in the larger patterns of water consumption.

³ Indoor water use estimates are based on data from City water accounts with Type 5 water meters.

⁴ Employee data was obtained from City of Mountain View Fiscal Year 2010-2011 Adopted Budget.

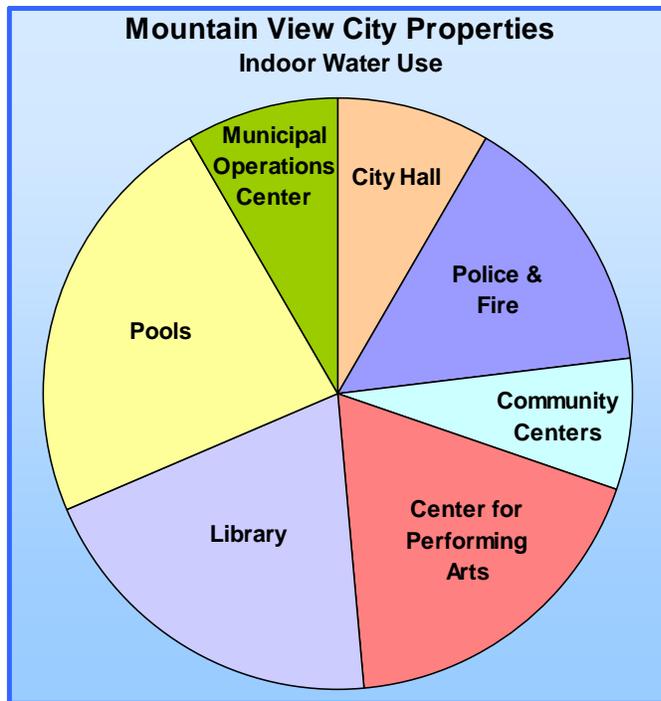


Figure 3. Indoor water use is greatest in the buildings most visited by the public.

To better understand the City’s water consumption, water use surveys were performed for a total of 13 City buildings between 2007 and 2010. These surveys reveal that indoor water use is greatest in buildings which serve high numbers of public visitors. The Rengstorff and Eagle Pools, the Library, and the Center for Performing Arts collectively represent over 60 percent of indoor water use for all surveyed buildings, with estimated annual usages of 1.8 million, 1.5 million, and 1.4 million gallons, respectively.

WATER USE TRENDS – OUTDOOR

Over 90 percent of the water consumed at City properties is used for outdoor purposes, and landscape irrigation is the single largest outdoor water use at City properties. Mountain View’s public landscapes are maintained for the community’s benefit and the City strives to keep these spaces and sports fields healthy and safe for recreational use at all times. Over the last ten years the City has used an average of 152 million gallons of water annually to keep more than 30 parks, 11 school playing fields, and 120 acres of landscaping adjacent to roads and buildings green^{5, 6}.

Over 90 percent of the water consumed at City properties is used for outdoor purposes, and landscape irrigation is the single largest outdoor water use at City properties.



As shown in Figure 4, total irrigation water use at City properties since 2000 has ranged from a low of 139 million gallons to a

high of 173 million gallons. This variation is due primarily to changes in weather, or more specifically,



Youth play team games on the grass of Eagle Park.

⁵ Irrigation water use at City properties is estimated based on City water accounts with Type 7 (Irrigation) water meters. As previously mentioned, irrigation for Shoreline Parks and Golf Links is not included in this analysis.

⁶ Park and landscape acreage information was obtained from Mountain View’s Parks Division records.

evapotranspiration (ET) and rainfall (see side box for explanation of ET.) In California’s Mediterranean climate landscapes need more irrigation water during the warm, dry summer months when ET is high than during the cool, wet winter months when ET is low. Similarly, landscapes need less irrigation during cooler years with above-average rainfall and more irrigation during warmer years with below-average rainfall. Figure 4 demonstrates the relationship between ET and irrigation water use at City properties.⁷

*Evapotranspiration (or “ET”)
represents plant and soil water loss
due to wind, heat, and humidity. High
ET correlates with hot dry weather
and low ET correlates with cool wet*



*The term ET is a combination of the words
“evaporation” and “transpiration”.*

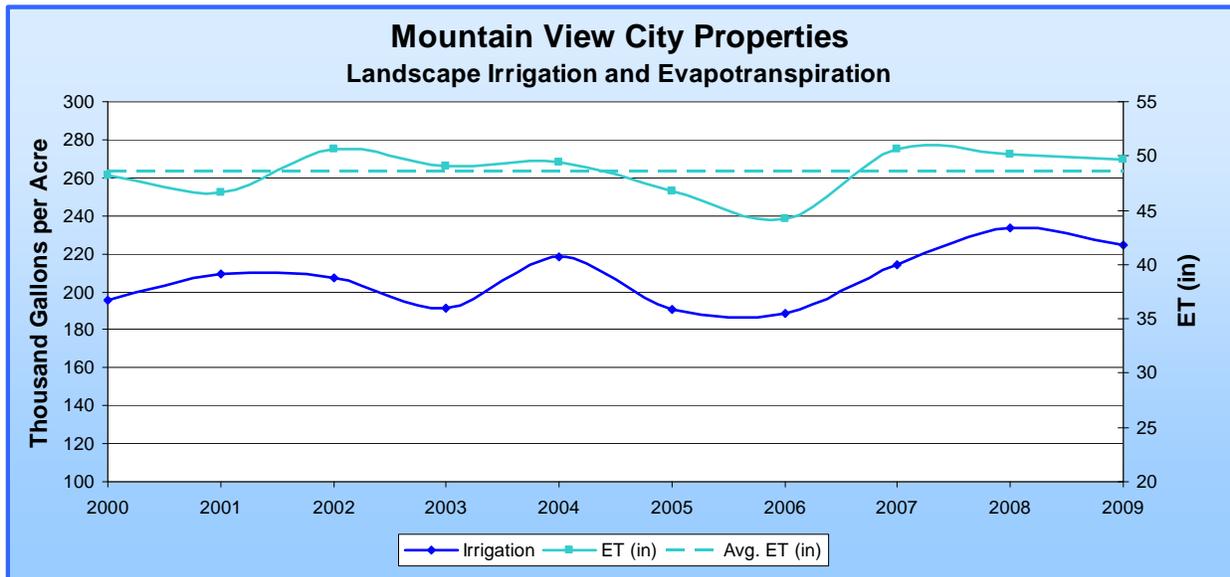


Figure 4. The City of Mountain View maintains recreation areas for the public’s benefit. Years of above-average ET require more irrigation to keep these spaces green and enjoyable for citizens.

Recreational areas requiring the most water are those with the greatest area of turf grass. Following Shoreline Park and Golf Links, the three City properties which require the greatest volume of irrigation water are Cuesta Park, Rengstorff Park, and the Whisman sports fields with average annual uses of 150, 12, and 8 million gallons each year, respectively⁸.

⁷ ET data was obtained from the California Irrigation Management System San Benito station. Data from the San Benito station were used because this station experiences weather patterns similar to those in Mountain View.

⁸ Average annual water use data for individual parks are from irrigation meter readings for 2000-2009.

PRIOR WATER CONSERVATION EFFORTS

The City of Mountain View has demonstrated leadership in water conservation through implementing water-efficiency measures both indoors and outdoors at City properties. The measures described below were completed prior to the preparation of this report.

WATER CONSERVATION EFFORTS – INDOOR MEASURES

Water used by visitors and employees for restroom purposes represents the largest proportion of the City’s indoor water consumption. Figure 5 shows the City’s distribution of indoor water use⁹. To increase water-efficiency inside its buildings the City has focused on upgrading and replacing toilets and faucet aerators in the buildings that experience the greatest number of users.

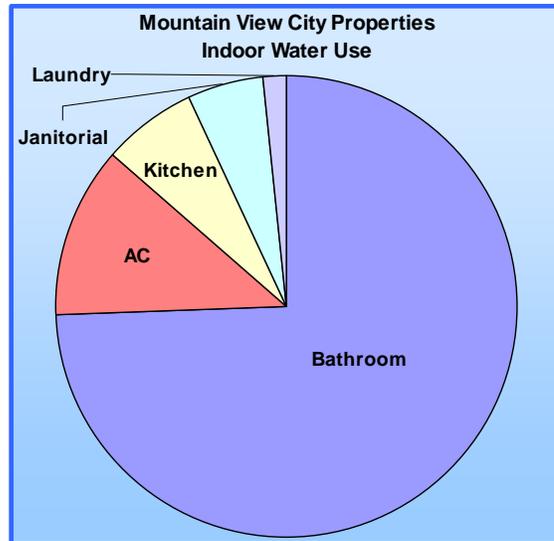


Figure 5. The greatest use of water indoors occurs in bathrooms.

Toilet Retrofits

Before the United States Congress passed the Federal Energy Act in 1992 a standard toilet used 3.5 gallons of water per flush. The 1992 Federal Energy Act mandated that all new toilets be designed to use 1.6 gallons per flush or less. Construction of Mountain View’s City Hall and Center for Performing Arts was completed in 1990, and therefore toilets installed in these buildings do not meet water-efficiency standards currently required for new buildings.



Dual-flush toilets use up to 30 percent less water.

In 2008 the City of Mountain View retrofitted 80 toilets in City Hall, the Center for Performing Arts, and the Library with green dual-flush handles to improve toilet efficiency. The dual-flush handles save water by providing users a choice between a regular flush and a smaller flush, which uses 30 percent less water, to dispose of liquid-only waste.

⁹ Indoor water use data was obtained from the 13 water use survey reports.

Sink Faucet Upgrades

“Turn off the tap when not in use” is a well-known water-saving mantra, but it is sometimes difficult to do when soaping up to wash your hands. In 2008, the City outfitted all 57 restroom sinks in City Hall, the Center for Performing Arts, and the Library with automatic low-flow faucets to help people to “turn off the tap” while soaping up. These faucets are estimated to save over 425,000 gallons of water per year¹⁰, improve the ease of hand-washing, and reduce the spread of germs. In addition to upgrading faucets in older buildings, the City also installed automatic low-flow faucets in the 2006 construction of the Mountain View Senior Center.



Hand washing made easy by an automatic low-flow faucet.

Green Building Standard

In March 2009 Mountain View adopted a policy of environmentally sustainable construction and renovation for public buildings. Beginning in 2009 all new City buildings or renovations of 5,000 square feet or more must meet LEED (Leadership in Energy and Environmental Design) silver certification requirements or better¹¹. Water-efficiency is a key component to LEED certification¹². As such, future City building projects will incorporate water-wise elements like the automatic low-flow faucets recently installed in other City buildings. The new Fire Station 5, as illustrated in the proposed design below, will seek LEED silver certification.



The new Fire Station 5, which began construction in 2010, is designed to meet the requirements for LEED silver certification.

¹⁰ Water savings is estimated in the water use survey reports for City Hall, the Center for Performing Arts, and the Library (2008).

¹¹ City of Mountain View Council Report - *Adopt Green Building Standard for Public Projects* (March 24, 2009)

¹² For more information on LEED certification, visit www.usgbc.org.

WATER CONSERVATION EFFORTS – OUTDOOR MEASURES

Mountain View strives to irrigate public parks, open spaces, and other landscapes as efficiently as possible while maintaining their beauty and recreational value. The City conserves water by adjusting irrigation schedules weekly, upgrading equipment on a regular basis, irrigating with recycled water in the North Bayshore Area, and incorporating water-efficient design and irrigation principles into new landscape projects.

Mountain View strives to irrigate landscapes as efficiently as possible while maintaining their beauty and recreational value.

Watering Schedules

Mountain View’s Parks Division adjusts landscape watering on a weekly basis using rainfall and ET data collected at local weather stations to compensate for seasonal and annual changes in the weather. Knowing how plants are affected by current weather conditions helps park managers to properly increase or decrease irrigation to avoid overwatering while maintaining healthy landscape appearance. In addition to up-to-date weather data, historical records (shown in Figure 6) are used to guide current watering schedules and provide a “big picture” view of irrigation management by comparing past and present water use for each park¹³.

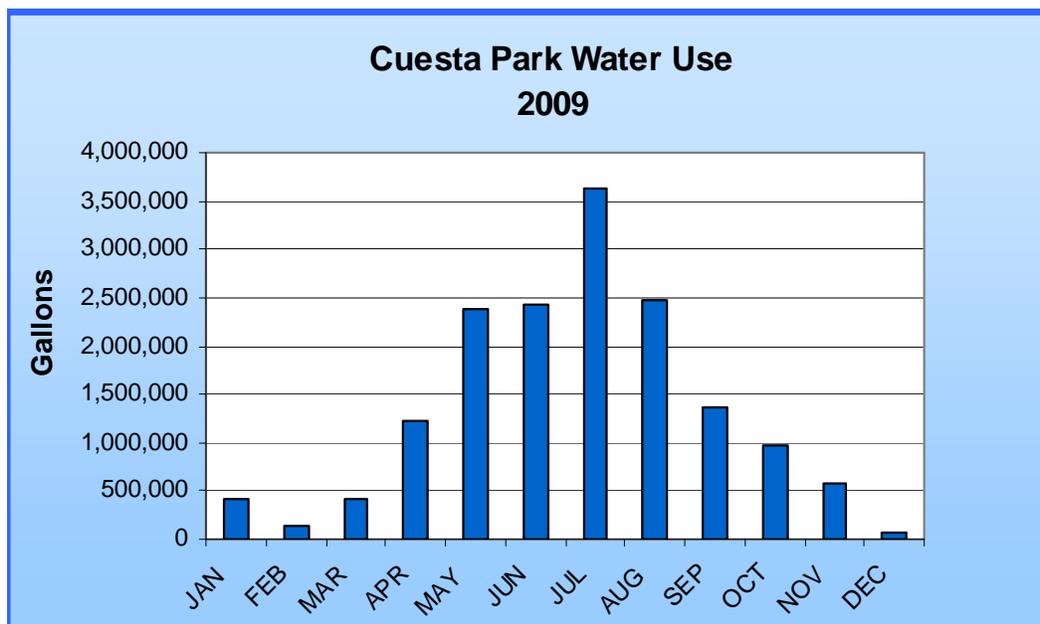


Figure 6. This graph of water use for Cuesta Park is an example of the data recorded for over 30 parks and playing fields in Mountain View. Note how water use increases in the summer.

¹³ Landscape water usage for individual parks was provided by Mountain View’s Parks Division (based on 2008 and 2009 meter readings).

Mountain View's Parks Division also conserves water by shutting off irrigation systems during rain events, irrigating parks and roadside landscapes during cooler, less windy times of day (between 9 p.m. and 6 a.m.), and by watering lawns no more than three days per week. These practices reduce evaporative water loss and encourage deep root growth to promote healthy grass. The City has employed these practices since the early 1990s as part of its landscape management program.

Watering more deeply, less often, promotes deep root growth and grass health.



Irrigation Equipment Upgrades

The City of Mountain View continually monitors and improves the condition of landscape irrigation systems through regular sprinkler testing and by replacing old and broken irrigation hardware with new and more efficient equipment. For example, Mountain View's Parks Division upgraded irrigation equipment for the downtown Castro Street planters in 2010. The vibrant Castro Street plant beds continue to create a pleasant shopping and dining atmosphere in downtown Mountain View, now while using less water.

Recycled Water



Purple pipes deliver recycled water in the North Bayshore Area.

Under a 2007 agreement between Mountain View and Palo Alto, the cities jointly constructed a recycled water distribution system to provide recycled water from the Palo Alto Regional Water Quality Control Plant. Treating and reusing recycled water for non-potable uses, like irrigation, conserves high quality water for drinking and other potable needs. The City of Mountain View reached a major milestone in its water supply and conservation efforts in 2009 when it began delivering recycled water in the City's North Bayshore Area to irrigate Shoreline Park and Golf Links, Charleston Park, and road median strips and commercial landscapes in North Bayshore. This new supply will ultimately save over one million gallons of potable water per day.

Water Conservation in Landscape Regulations

To save water in new and renovated landscapes, the Mountain View City Council adopted new Water Conservation in Landscaping Regulations in May 2010. These regulations require water-efficient design elements, encourage the use of native and drought-tolerant plants, and establish irrigation efficiency standards for City projects as well as for private developments.

WATER CONSERVATION PLAN FOR CITY PROPERTIES

To help California reach its goal of 20 percent water conservation by the year 2020 Mountain View has developed an implementation plan for future water conservation at City properties. This plan was devised using recommendations from water use surveys performed at 13 City properties and is estimated to save approximately 4.25 million gallons of water and \$10,800 each year. Table 1 summarizes the planned measures and the following paragraphs provide details for each measure. Installation of new fixtures will be scheduled to allow for a smooth and efficient transition. Depending on what is needed for each location, some buildings may undergo a complete change-out at one time while others may require a multiple step approach.

Water Conservation Plan for City Properties			
Year	Conservation Measure	Estimated Annual Savings ¹⁴	
		Gallons	Dollars
2010	Replace and retrofit bathroom fixtures Initiated upgrades for 180 fixtures including faucet aerators, showerheads, and toilets (to be completed in 2011).	1 million	\$2,600
	Replace washing machine The Center for Performing Arts had a water- and energy-efficient model installed in 2010.	16,000	\$40
	Begin pilot landscape water budgets Sylvan, Pioneer, Cuesta, and Magnolia Parks began receiving landscape water budgets in 2010.	2.5 million	\$6,300
2011	Upgrade Pool Showerheads Replace or retrofit 20 showerheads at Eagle Park Pool and Rengstorff Pool.	570,000	\$1,500
	Retrofit urinal flush valves Retrofit 50 urinals with low-flow flush handles.	162,000	\$400
	Create Library demonstration garden Install water-efficient plants behind the Library for public enjoyment and education.	6,000	\$20
Total Annual Savings¹⁵		4.25 million	\$10,800

Table 1. Planned water conservation measures for City properties.

¹⁴ Estimated annual water savings for indoor conservation measures were provided by water use survey reports of 13 City properties. Landscape water budget savings were estimated with an assumed 10 percent savings of 2009 water use. Water savings for the Library demonstration garden were estimated based on the approximate size of the planned renovations and historical water use at the site. Monetary savings were estimated using the San Francisco Public Utilities Commission's wholesale water rate of \$1.90 per hundred cubic feet. Estimates have been rounded for simplification.

¹⁵ Total annual savings include estimated water savings after all conservation measures have been implemented.

WATER CONSERVATION PLAN – INDOOR MEASURES

Upgrade Faucet Aerators

Faucet aerator designs have improved and become more water-efficient since many City properties were built. Older models allowed sinks to flow at two or more gallons per minute, while new low-flow models can reduce water use by 75 percent. In 2010 almost all faucet aerators in City facility restrooms were replaced with low-flow aerators.



Low-flow commercial faucet aerators use 0.5 gallons per minute, 75 percent less than older faucets.

Some bathroom faucet aerators could not be removed, and the City plans to install low-flow models once those bathroom faucets have reached a point beyond repair.

Install High-Efficiency Toilets & Dual-Flush Handles

The City of Mountain View has already made progress toward conserving water by retrofitting the toilets in several City buildings with dual-flush handles. Although dual-flush handles reduce water use by 30 percent, most of the existing toilets in these buildings are designed to use 3.5 gallons per flush and therefore continue to use more water than the currently available high-efficiency models, which reduce water use by over 60 percent.



High-efficiency toilets use 60 percent less water than older models.

In 2010, the City of Mountain View initiated the replacement of all high-volume toilets in its buildings (including those previously retrofitted with dual-flush handles in City Hall, the Center for Performing Arts, and the Library) with high-efficiency models. In 2011, the City will complete the replacements and re-use the dual-flush handles from the replaced toilets to retrofit standard 1.6 gallon flush toilets in other City buildings. These actions will convert all City toilets to 1.3 gallons per flush.

What will happen to the old plumbing fixtures?

The City of Mountain View is committed to improving environmental sustainability, including reducing the waste stream.

Toilets & Urinals

Removed fixtures will be crushed for use in constructing roads or used in artificial reefs.

Clothes Washer

The old clothes washer was recycled as e-waste through a third party company.

Install Efficient Clothes Washer

The Center for Performing Arts is equipped with a clothes washer to clean the costumes of hundreds of performances every year. The Center's previous machine used 30 gallons of water per load, or an estimated 32,000 gallons annually¹⁶. The City replaced this washer in 2010 with a water- and energy- efficient model which uses less than 20 gallons per load¹⁷.

Install Low-Flow Showerheads & Upgrade Pool Showerheads

Showers account for more than one third of bathroom water use in City properties¹⁸. Many of the showerheads in these buildings flow at much higher rates than the current standard flow of 2.5 gallons per minute. In 2011, the City of Mountain View will complete replacing or retrofitting 50 older showerheads using new low-flow models or flow restrictors, allowing flows no greater than 2.0 gallons per minute.



Mountain View will install low-flow showerheads like this one in City buildings.

Retrofit Urinal Flush Valves

Like older toilets, older urinals tend to use more water per flush than newer models. Some City urinals use 1.5 gallons per flush - almost as much water as today's standard toilet. The City plans to retrofit up to 50 of its urinals in 2011 with low-flow flush handles so that they use only half a gallon per flush.

How will the City pay for these water conservation measures?

The City will receive assistance through Santa Clara Valley Water District's water conservation programs for Commercial, Industrial, and Institutional (CII) organizations.

Free Conservation Materials

*Faucet Aerators
Showerheads
High-Efficiency Toilets
Urinal Flush Valves*

Rebates

*Up to \$400 for High-Efficiency Clothes Washers
Up to \$20,000 for Landscape Conversion
Unlimited Rebates for Smart Irrigation Equipment*

These programs are available for other qualifying customers in Santa Clara County. Visit www.valleywater.org for details and more information on program eligibility.

¹⁶ Water Use Survey Report for the Center for Performing Arts (2008).

¹⁷ Calculated using the load volume and water factor specifications of the new clothes washer.

¹⁸ Estimated using data from water use survey reports of 13 City properties. Showers in City properties include those located within four fire stations, the police department, and two swimming pools.

WATER CONSERVATION PLAN – OUTDOOR MEASURES

Landscape Water Budgets

The City of Mountain View is committed to increasing efficiency in irrigation. In 2010 selected landscape customers were invited to participate in a pilot landscape water budget program coordinated by the Bay Area Water Supply and Conservation Agency (BAWSCA). The landscape water budget program helps to conserve water by establishing customized water use goals for irrigation accounts based on the area of landscape, types of vegetation, and daily weather data. Four City parks began participation in the landscape water budget program in 2010.

Program participants receive a report each billing period, like the one shown here, which compares actual water use to the ideal water use for their landscape. This feedback is intended to serve as guidance for landscape managers to help them avoid overwatering. Customers that participated in BAWSCA’s landscape water budget program in 2009 saved an average of 24 percent from the prior year¹⁹.

Though the City’s Parks Division already uses ET data to adjust watering schedules, the landscape water budget program provides a more customized view of water usage at each of four City park sites, setting a weather-normalized water use target for each month.

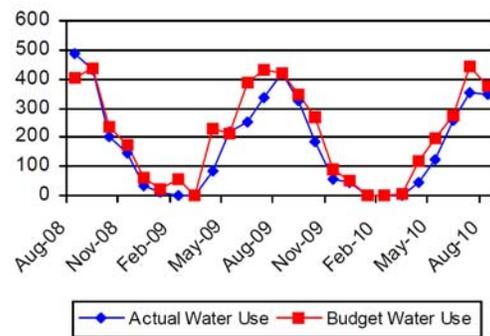
What is a Water Budget?

A “water budget” sets a goal for the ideal water use over a specific time period, just as financial budgets set goals for appropriate spending during a certain time period.

Landscape water budgets are individualized for each site and take into consideration the irrigation needs of a particular landscape.

Your Savings Potential

	Last Month	Last 12 Months	Last 24 Months
Over Water Ccf	0	0	83
Over Water %	0%	0%	2%
Dollars Lost \$	\$0	\$0	\$282



The example report above shows that this landscape has been watered very efficiently. Note that the blue line representing actual water use rose above the budgeted water use (red line) only once (August of 2008).

¹⁹ BAWSCA Landscape Program Summary for Calendar Year 2009 (March 22, 2010)

Library Demonstration Garden

As part of its “Greening the Library” program the City plans to renovate a small portion of Pioneer Park (located adjacent to the Library) in 2011 to create a water-efficient demonstration garden. This garden will not only reduce the volume of water used for irrigation at the park, but will also provide an educational site for the public²⁰. The demonstration garden will display the beauty and variety of native and drought-resistant plants, demonstrate water-efficient irrigation techniques, and provide design ideas for home landscaping. The garden will include interpretive signs and plant labels to help visitors identify the low-water-use plants.



Water-efficient plants will be installed in three planting beds, including this one, behind the Library.

²⁰ Though the City does expect to save water and money through this project, the primary intent of the Library demonstration garden is to serve as an educational resource for the community.

CONCLUSION

The City of Mountain View strives to conserve water at City properties by identifying improvements in water use efficiency and implementing measures to reduce water consumption, where appropriate. The review of recent water use at City properties presented herein reveals that most water consumed at City properties is used outdoors to keep landscapes healthy and safe for recreational use. Observed fluctuations in outdoor water use since 2000 highlights the important role that weather plays in the City's water consumption, as well as the great potential to save water through improving the efficiency of landscape irrigation systems. Indoor water use in City buildings, though only a small portion of total water use at City properties, has generally decreased over the last ten years. This decrease is likely due in part to the City's recent efforts to install water-efficient bathroom fixtures, but also reflects the complex interaction between multiple factors such as the economy, building occupancy and public use, development, and weather.

To further improve water use efficiency the City of Mountain View has adopted new environmentally-conscious policies like the Green Building Standards and the Water Conservation in Landscaping Regulations, and will continue to implement water saving measures through hardware upgrades and improved landscape management practices. By carrying out the water conservation plan presented in this report the City expects to save an estimated 4.25 millions of gallons of water and \$10,800 each year.