



PUBLIC WORKS DEPARTMENT

Council Meeting Date: January 29, 2008
Staff Report #: 08-015

Agenda Item #: F1

STUDY SESSION: Discussion of Municipal Water Policies and Practices

BACKGROUND

On September 25, 2007, a memo from Mayor Kelly Fergusson and Council Member Heyward Robinson proposed an informational study session on various water issues, current practices, and policies. On October 16, 2007, Council confirmed the scope for the study session (Attachment A, Staff Report #07-171). Nine topics related to the current and proposed status of water supply and water conservation programs are discussed below. As the purpose of the study session is informational in nature - analysis, costs, or recommendations are not included within this report. No City Council action is required.

ANALYSIS

Approximately one-third of the City of Menlo Park's population is served by the Menlo Park Municipal Water District (MPMWD). The California Water Service Company – Bear Gulch District serves most of the City's remaining residents, with two smaller areas being served by the O'Connor Tract Co-operative Water Company and the Palo Alto Park Mutual Water Company. The MPMWD boundaries are loosely defined as the Sharon Heights area and most parcels north and east of El Camino Real. See Attachment B for a map of the MPMWD boundaries.

Consistent with the scope confirmed by Council, the following discussion addresses water issues only with respect to the MPMWD.

1. Exploring the implications of keeping water purchases below Menlo Park's current contractual supply assurance from the City and County of San Francisco.

MPMWD Supply Cap:

In the current Settlement Agreement and Master Water Sales Contract (master contract), the San Francisco Public Utility Commission (SFPUC) grants 184 million gallons per day (MGD) per year to all 25 members combined of the Bay Area Water Supply and Conservation Agency (BAWSCA). This contract was executed in 1984 and is valid through June 2009. An individual water supply contract (supply assurance), which survives the termination of the master contract with no expiration date, grants 4.46 MGD of the 184 MGD per year specifically to MPMWD. In Fiscal Year 2006-07, MPMWD purchased 3.56 MGD from the SFPUC.

The master contract and supply assurance are subject to temporary reductions in the event of drought, earthquake, or other emergency. In any given year, a less-than-10-percent chance exists that MPMWD would receive less than the supply assurance cap during a natural disaster or emergency. The reduction clause in the contract has thus far been invoked by the SFPUC only during times of drought.

MPMWD Water Usage History and Projections

In 2004, water consumption through 2030 was forecast as part of a series of technical studies for SFPUC's regional water system capital-improvement program. Forecasts were based on the Association of Bay Area Governments' 2002 sub-regional growth projections and 2001 base-year water-use data. Growth in population was forecast at 0.38 percent per year and growth in employment was forecast at 0.96 percent per year. Growth in residential accounts was expected to follow population growth; growth in commercial and industrial accounts was expected to follow employment growth. New subdivisions and commercial redevelopment projects anticipated to occur during the 25-year projection period have, therefore, been included in the water consumption projections.

The forecasts also included water-use reductions over time resulting from passive and active conservation efforts. Passive conservation measures are defined as water savings from the adoption of State and Federal plumbing codes mandating the sale of high-efficiency toilets, fixtures, showerheads and washing machines. Active conservation measures are the result of implementing proactive, managed water conservation programs, such as those outlined in section 2, below. Water-use reductions were forecast to decrease by eight percent for single-family, 14 percent for multi-family, seven percent for commercial, and one percent for industrial customers by 2030.

It should be noted that in the pre-drought years of 1986-1987 – before significant conservation methods were implemented – water usage by MPMWD customers was 4.01 MGD, much higher than current consumption. Since significant conservation has already taken place in Menlo Park, further conservation program expenditures will be unlikely to net as much water savings.

The most recently published document incorporating the ABAG projections indicates that the MPMWD will approach the supply assurance cap in FY 2025-26. Since 2005, less water has been used than the forecast amounts. This shift can be attributed mostly to changes in weather patterns (2006 was an unusually wet year), and greater allocation of resources towards water conservation. Should the current trend continue, it is likely that the supply assurance cap will not be reached until after the year 2026.

Water Conservation Strategies

The history of the water conservation program budget is discussed in section 2, below. Attachment C documents projected water use, actual water use, and the rationale for the differences per calendar year.

Strategies that can help keep demand below the current supply assurance include:

- Developing groundwater sources for irrigation uses to offset current irrigation demands.
- Carefully analyzing proposals for new development and redevelopment for their affects on water supply and requiring water efficient landscaping and buildings.
- Continuing to fund water conservation programs at current or increased levels.

2. Potential increase in budgeting for conservation methods – BAWSCA and City Budgets.

In FY 2007-08, the City’s water conservation budget is \$113,988. A breakdown of programs implemented by the MPMWD in partnership with BAWSCA are outlined below. Program costs are expected to total \$81,078, with the remaining balance of \$32,910 allocated for staff costs and outreach strategies such as water bill inserts, banners, and other promotional items. Information regarding participation within the BAWSCA-led conservation programs is outlined in section 6, below.

Program Name	MPMWD Adopted FY 2007-08 Budget
Residential Washing Machine Rebate	\$24,900
Water-Wise School Education	\$5,000
Commercial Toilet/Urinal Direct Install	\$36,000
Large Landscape Audit	\$7,178
Commercial Washing Machine Rebate	\$7,000
Water-Wise Gardening in the Bay Area CD-ROM	\$1,000
Landscape Education Classes and Native Garden Tours	\$0 *
Total	\$81,078

*Included as part of MPMWD’s quarterly payments to BAWSCA

Over the past three years, the water conservation budget has increased almost five-fold, as shown below. The increases over the years have been significant from year to year as conservation programs and efforts have substantially increased.

Water rate increases have already begun to fund the reliability improvements to the regional Hetch Hetchy water system. As rates continue to increase, a more robust water conservation program has been implemented to assist customers. The increase in next fiscal year's conservation budget, however, is expected to be nominal, as most conservation programs shown to be cost-effective for MPMWD are already being implemented.

City of Menlo Park Water Conservation Budget

FY 2004-05: \$17,500 (programs) and \$6,760 (staff + outreach)	= \$24,260
FY 2005-06: \$46,600 (programs) and \$13,520 (staff + outreach)	= \$60,120
FY 2006-07: \$58,887 (programs) and \$18,978 (staff + outreach)	= \$77,865
FY 2007-08: \$81,078 (programs) and \$32,910 (staff + outreach)	= \$113,988
FY 2008-09: \$116,100 (projected)	

The California Urban Water Conservation Council (CUWCC) has recommended that water conservation programs constitute approximately two to five percent of a water department's operations and maintenance budget. The City's water conservation budget represents 3.2 percent of the MPMWD's FY 2007-08 water budget of \$3,596,684.

3. Considering action to become a signatory to the California Urban Water Conservation Council's (CUWCC) Memorandum of Understanding to implement Best Management Practices for Urban Water Conservation, as supported by the Sierra Club.

The California Urban Water Conservation Council was created to increase efficient urban water use throughout the state. The goal of integrating water conservation best management practices into the planning and management of water resources is fostered through partnerships among urban water agencies, public interest organizations, and private entities.

Approximately 200 water agencies are members of the CUWCC, of which 25 are smaller than the MPMWD, with fewer than 4,000 connections and with service populations below 10,000 users.

Currently, the CUWCC requires its members to implement 14 best management practices (BMP's) for water conservation. The MPMWD, individually or in partnership with the BAWSCA, is currently implementing seven of these practices.

BAWSCA and 14 of its 25 member agencies are signatories to the CUWCC Memorandum of Understanding. Through BAWSCA, MPMWD is able to implement many of the recommended BMP's. The benefits of becoming an independent signatory include availability of technical resources (software and consultants) and publications.

Becoming an independent signatory to the CUWCC requires a yearly membership fee of approximately \$2,350. In addition, dedicated resources for staffing and funding the implementation and maintenance of the 14 BMP's are required. Significant annual

reporting also is required to demonstrate compliance with the BMP's. The CUWCC recognizes that not all water districts will have adequate funding or resources to implement all 14 BMP's, and so it encourages implementation of only those measures that are cost-effective.

A list of the 14 CUWCC BMP's and the current status of MPMWD's participation are included in Attachment D.

4. Considering the adoption of the landscaping principles and guidelines promoted by StopWaste.org.

StopWaste.org currently has six principles and practices of Bay-friendly landscaping, as follows:

- Conserve water and other resources.
- Nurture healthy soil and plants.
- Reuse plant trimmings (mulch and composting).
- Provide wildlife habitat.
- Feature native and Mediterranean plants.
- Choose least-toxic pest control methods.

The City encourages the above principles through the Water Efficient Landscaping Ordinance (Section 12.44) and the Water Conservation Ordinance (Section 7.38). Projects that are required to comply with the Water Efficient Landscaping Ordinance undergo a landscaping plan review in which the installation of native plant materials and water conservation methods are conditions of development.

The City has adopted an Integrated Pest Management Plan to identify the least-toxic pest control methods. All development projects required to enter into an operations and maintenance agreement for storm water treatment or retention are required to follow integrated pest management practices.

In addition, the City administers various programs both singularly and by partnering with BAWSCA to support the StopWaste.org guidelines. These programs are: Commercial Landscape Audit Program, the "Water-Wise Gardening in the Bay Area" CD-ROM giveaway, the "Bay-Friendly Guide to Mulch," "Bay-Friendly Guide to Landscaping," "Water Efficient Landscapes," and "Water-Wise Gardening in California" handouts, compost-giveaway events, and landscape education classes all promote the guidelines of StopWaste.org.

5. Reviewing the sufficiency of the current and planned diversity of water sources serving Menlo Park.

Currently, the MPMWD is fully supplied by water purchases from the SFPUC. Storage through the water system is achieved via two reservoirs, totaling 5.5 million gallons of capacity. The reservoirs store water to supply the Sharon Heights area only; there is no water storage serving the MPMWD service area east of El Camino Real. MPMWD has cross connections and mutual aid agreements with other nearby water agencies for use

in the event of an emergency. In the event of an outage in the regional water system, however, adjacent water agencies would be very unlikely to have water available to help supply Menlo Park.

Plans for expansion of the MPMWD water system include construction of a new underground reservoir (preliminarily sized between 3 million and 5 million gallons). Storage from this planned reservoir will serve the areas north and east of El Camino Real.

In addition to the new reservoir, plans call for the installation of at least one groundwater well. The well(s) would be used as a second potable water source during emergencies. Well water would be pumped into the reservoir to extend the duration that stored water is available. The well water would be disinfected but not otherwise treated. According to current State Department of Health Services regulations, well water can be used for up to five days in this manner. Because of the groundwater quality available in Menlo Park, with additional treatment well water could be used indefinitely.

Part of the City's project to construct a new underground reservoir and well system is to evaluate how well water can be used to supplement water supplies during non-emergency periods. Well water can be used untreated for irrigation and other non-potable uses. Whether it would be cost-effective to deliver well water to large irrigation customers will be studied in more detail. An alternative would be to install smaller wells at City parks to supply irrigation systems. Using groundwater for irrigation would reduce reliance on Hetch Hetchy water – especially important during times of drought – and may be less expensive as wholesale water rates continue to rise.

Redwood City has a project under construction to bring recycled water to the area near Highway 101 and Seaport Boulevard. Potential access to the Redwood City recycled water line would be several years in the future and very costly because of the initial cost of running distribution-system piping. At this time, using groundwater as an alternative for non-potable demands appears to be much more cost-effective.

6. Large Landscape Audit Program and other current BAWSCA-led conservation programs.

MPMWD participated in four BAWSCA-led water conservation programs in FY 2006-07, as described below. These programs are a partnership between MPMWD and BAWSCA, where the MPMWD administers the programs on a City-wide level and BAWSCA leads the program on a regional level.

- Residential Washing Machine Rebate Program. Ninety-two rebates totaling \$11,000 were issued. Of these, 23 were Tier 2 Washers – higher-efficiency machines (\$100 rebates), and 69 were Tier 3 Washers – highest-efficiency machines (\$150 rebates). MPMWD promoted residential washing machine rebates through direct mailings, water bill inserts, informational flyers placed in public places, and website postings.

- School Education Program. One hundred thirty-nine Water-Wise School Education kits were distributed to children to perform home audits of their families' water use. Once a year, fifth-grade classes are chosen to receive the kits and participate in a teacher-led discussion on water conservation. Students at Belle Haven Elementary School and La Entrada Elementary School received the kits in FY 2006-07.
- Commercial Spray Valve Installation Program: Fifty low-flow (1.6 gallons per minute) pre-rinse spray valves were distributed and installed at food-industry, churches, schools, care facilities, and other commercial properties. This program was discontinued after FY 2006-07.
- Commercial High Efficiency Toilet/Urinal Direct Install program. No rebates were issued for installations, because of contractor implementation problems. It is anticipated that in FY 2008-09 this program will be revised to become a residential high-efficiency toilet rebate program.

MPMWD implemented two additional BAWSCA-led programs at the beginning of FY 2007-08.

- Large Landscape Audit Program: Ten sites of the top 25 commercial and irrigation water customers will receive landscape water-use audits. Two of the 10 sites will receive intensive commercial field studies, and the remaining eight sites will receive generalized landscape audit reports.
- Commercial Washing Machine Rebate Program: The Commercial Washing Machine Rebate Program is a partnership between PG&E and local water districts. Qualifying commercial MPMWD customers will receive a rebate of \$350 per washing machine. Each rebate comprises a \$220 rebate from the MPMWD and a \$130 rebate from PG&E. This program targets coin-operated facilities such as self-service laundries and multi-family properties. As of January 2008, 16 of the 31 rebates budgeted for this year have been paid out to customers.

MPMWD is currently participating in all of the water conservation programs offered by BAWSCA.

7. Drought-tolerant landscaping education program.

BAWSCA currently targets landscaping companies and local residents with outreach programs on drought-tolerant landscaping principles. Free landscape education classes and native garden tours are available to all residents.

Between February and April 2006, 12 landscape education classes were offered throughout the regional BAWSCA area. A copy of the "Water-Wise Gardening in the Bay Area" CD-ROM was distributed to each class participant. In addition, the City directly mailed approximately 85 copies of the CD to local landscaping consultants and

contractors in July 2007. Beginning in early 2008, the information presented on the CD will be available for downloading and viewing over the Internet at BAWSCA's website.

Free publications on Bay-friendly landscaping are also available in several public locations, including City Hall, the library, and the community and recreation centers. The publications include the "Water-Wise Gardening in the Bay Area" CD-ROM, "Bay-Friendly Landscape Guidelines (Sustainable Practices for the Landscape Professional)," "Bay-Friendly Gardening – From your backyard to the Bay," "Water-Wise Gardening in California," "Water-Efficient Landscaping," and "A Bay-Friendly Landscaping Guide to Mulch."

The City has also created a television promotional message on drought-tolerant landscaping that is broadcast on the City's public information channel.

8. C/CAG Utilities Task Force participation.

The objective of the City/County Association of Governments of San Mateo County (C/CAG) Utilities Task Force is to promote discussions between the cities and the County on energy efficiency, water conservation, alternative generation, and climate protection. Additional goals include economic development, collaboration, and shared leadership. The end goal of the task force is to develop a document with goals, strategies, actions, and resources for utility sustainability and enhanced environmental quality. Monthly task force meetings are attended by a representative from the Public Works Department.

The task force expects to submit a draft-final document entitled the "San Mateo County Energy Strategy" to the C/CAG Board in Spring 2008. Upon adoption, C/CAG will request all of the cities to endorse the document guidelines and to commit to working Countywide toward the energy-strategy goals.

A goal of the task force is to make water conservation a standard practice. Water-specific conservation goals are to reduce Countywide water consumption by approximately 5.2 MGD by 2030 and to work with BAWSCA to support agricultural water conservation programs in the Central Valley. As described earlier, Menlo Park and MPMWD currently implement water conservation strategies, with additional practices to be implemented within the next fiscal year.

The energy-efficiency goals in the abovementioned strategy document are to reduce the overall purchase of energy from utility companies and to develop clean, renewable energy. In an effort to promote such goals, the City recently eliminated building-permit fees for solar panel installations. Other conservation strategies such as "green building" are encouraged through the City's planning and building-plan check processes.

9. Considering policy actions to implement increasing block water rate structures that send a conservation signal to the customer and are consistent with Proposition 218.

MPMWD currently uses a block rate fee structure in which the unit rate increases as more water is consumed. Water consumption is measured in units: One unit of water is one hundred cubic feet, or 748 gallons. The current fee structure is as follows:

0 to 5 units	\$1.35 per unit
6 to 10 units	\$1.60 per unit
11 to 25 units	\$1.85 per unit
over 25 units	\$2.35 per unit

In addition, a monthly service charge based on meter size is also applied. Service charges range from \$6.26 for a ¾" meter to \$1,026.77 for a 10" meter.

Most other BAWSCA water providers also use the block rate structure. Nearby examples are the cities of Sunnyvale, Redwood City, Mountain View, San Bruno, and Palo Alto. Rate comparisons show that MPMWD charges the lowest average cost to its residents. Below is a comparison of a hypothetical monthly water bill from the above-mentioned agencies. Average costs shown are inclusive of service charges imposed by the water providers. The information below uses rates in effect in January 2007.

City	Average monthly bill (based on 14 units of use)	Minimum block rate charge (1 unit)	Block rate charge for 26 units	Highest block rate charge (# of units)
Menlo Park	\$25.96	\$1.35	\$2.35	\$2.35 (26+ units)
Sunnyvale	\$26.26	\$1.06	\$2.05	\$2.05 (101+ units)
Redwood City	\$41.86	\$1.28	\$2.84	\$4.42 (76+ units)
Mountain View	\$44.88	\$1.35	\$5.52	\$5.52 (26+ units)
San Bruno	\$56.85	\$2.95	\$4.48	\$4.48 (19+ units)
Palo Alto	\$58.17	\$4.04	\$4.27	\$4.27 (8+ units)

The MPMWD fee schedule reflects a 74 percent increase in increases the cost per water unit from the lowest block rate to the highest block rate, thereby encouraging water conservation. The City of Mountain View has a similar block rate structure, with an increase of 309 percent from the lowest rate to the highest rate. Palo Alto, in contrast, increases by only six percent from the lowest rate to the highest rate.

On April 18, 2006, the Menlo Park City Council approved an 11.9 percent rate increase each year through FY 2009-10 to water-meter and consumption charges for the MPMWD. The purpose of the fee increase was to offset the SFPUC's projected rate increases for the planned major improvements to its delivery system and to fund one additional City water-staff person dedicated to water-quality issues. According to a 2006 rate study, annual rate increases of 10.9 percent will be needed until 2015-16.

IMPACT ON CITY RESOURCES

This report makes no recommendations, and therefore there is no additional impact on City resources. Council direction to staff to expand or create new water programs could be considered during the FY 2008-09 budget process.

POLICY ISSUES

Discussion of this topic does not represent any change to existing City policy.

ENVIRONMENTAL REVIEW

Discussion of this topic is not considered a project under the California Environmental Quality Act.

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PUBLIC NOTICE: Public Notification was achieved by posting the agenda, with this agenda item being listed, at least 72 hours prior to the meeting. Additional outreach was provided through a posting in The Almanac.

ATTACHMENTS: A: [Staff Report #07-171, dated October 16, 2007.](#)
B: [MPMWD boundary map.](#)
C: [Recent Trends of Projected versus Actual Water Use.](#)
D: [CUWCC list of 14 Best Management Practices.](#)