



MEMORANDUM

Engineering Division

To: City Council
From: Thomas Williams, City Manager
Through: Greg Armendariz, Public Works Director
By: Kathleen Phalen, Utility Engineer
Subject: City's Water Supply Conditions
Date: October 21, 2008

This memorandum summarizes some of the aspects of the current water supply issues and conservation strategies the City plans to follow in the event that future water supplies are restricted. Given that the State of California has experienced two dry winters, it is appropriate to review the City's plans and options now to prepare for possible implementation next spring.

Q: Where does the City get its potable water supply?

A: The City purchases potable water from two wholesalers, the San Francisco Public Utilities Commission (SFPUC) and Santa Clara Valley Water District (SCVWD). SFPUC collects and stores water in the Hetch Hetchy watershed and local watersheds in the Bay Area. SCVWD collects local rainwater in Santa Clara County and imports Delta water from the State Water Project. The City also has a groundwater well in Pinewood Park that may be used for emergency purposes.

Q: What is the general overview of current water supply conditions?

A: Water storage for both SFPUC and SCVWD is currently sufficient to meet region-wide demands. However, the recent dry weather and court restrictions on water transfers in the Delta have restricted normal replenishment of surface water storage and groundwater reserves. Storage depletion may become critical if these conditions persist through the coming water year. At this time, both of the City's wholesalers continue to ask customers for a 10% voluntary cutback in water use.

During drought periods, SFPUC and/or SCVWD may not have sufficient supplies to meet demands. SFPUC can reduce water deliveries to wholesale customers during periods of water shortage. SCVWD relies on expected end-of-year groundwater basin carryover storage to determine if water deliveries have to be curtailed.

Q: What does the Governor's declaration of drought mean? How does it affect the City?

A: On June 4, Governor Schwarzenegger issued Executive Order S-06-08 proclaiming a statewide drought in response to two consecutive years of below-average rainfall. According to the Governor, "This drought is an urgent reminder of the immediate need to upgrade California's water infrastructure. (N)othing is more vital to protect our economy,

our environment and our quality-of-life. We must work together to ensure that California will have safe, reliable and clean water not only today but 20, 30 and 40 years from now."

Executive Order S-06-08 encourages local water districts and agencies to promote water conservation for the remainder of 2008 and to prepare for potential worsening water conditions in 2009. The Governor's declaration does not regulate or directly affect the City or the San Francisco Public Utilities Commission who wholesales Hetch Hetchy water to the City. It may impact water transfers within the State Water Project, which could restrict the Santa Clara Valley Water District's wholesale surface water supply.

Q: What is the City's plan for drought?

A: The City has adopted a comprehensive plan, called the Urban Water Management Plan (UWMP), whose purpose is to review current and future water resources, and to establish and maintain water conservation programs. The State requires the UWMP to be updated every five years, with the last revision occurring in 2005.

As part of the UWMP, a Water Shortage Contingency Plan was created to document how the City would manage during a water shortage situation, such as drought. The City has a four-stage rationing plan, which is described in detail below.

Q: What are the water conservation or rationing stages and reduction goals?

A:

Stage	Water Reduction Goal	Type of Rationing Program	Description
0	0%	None	Non-drought conditions. Ongoing water conservation programs.
I	5-20%	Voluntary	Increased public education. Water customers would receive informational packets on the drought and requests to conserve. Newspaper notices.
II	20-35%	Mandatory	Ordinance to achieve necessary reductions. Distribute additional conservation notices. (This type of rationing occurred in the City between 1988-93.)
III	35-50%	Mandatory	In addition to Stage II programs, well water would be used as an alternate source to supplement supplies.

Q: What Water Reduction stage is the City currently in?

A: The City is currently in Stage I, as both SFPUC and SCVWD have asked for 10% voluntary conservation.

Q: Does this mean that SFPUC and SCVWD have declared drought?

A: No, neither SFPUC or SCVWD can call for drought. However, if either or both declares a water shortage emergency of 20% or more, that would trigger Citywide mandatory water rationing, as shown in the table above.

Q: Has the City accomplished 10% voluntary conservation?

A: Based on a comparison to the year 2004, which had similar rainfall to this year, citywide SFPUC consumption was 4% lower, while SCVWD consumption was 6% lower. Please note that this comparison reflects total water volume purchases and does not factor in growth and increased population since 2004. SFPUC reports that regionally the South and East Bay Area service areas have reduced water use 15.4% and the entire Bay Area service area has reduced 13.5% when the April to October periods in 2004 and 2008 are compared. This more than attains SFPUC’s conservation goal.

Q: Does the City have a water conservation program?

A: Yes, the City partners with the Santa Clara Valley Water District to take part in most of the 14 conservation programs, called “Best Management Practices,” or BMPs, established by the California Urban Water Conservation Councils. The BMP list is as follows:

BMP	Program	Status	Responsibility
1	Water Survey Programs for Single Family and Multiple-Family Residential Customers	◆	SCVWD
2	Residential Plumbing Retrofit	◆	SCVWD
3	System Water Surveys, Leak Detection and Repair	♣	City of Milpitas
4	Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections	◆	City of Milpitas
5	Large Landscape Conservation Programs and Incentives	◆	SCVWD
6	High-Efficiency Washing Machine Rebate Programs	◆	SCVWD
7	Public Information Programs	◆	SCVWD
8	School Education Programs	◆	SCVWD
9	Conservation Programs for Commercial, Industrial, and Institutional (CII) Accounts	◆	SCVWD
10	Wholesale Agency Assistance Program	◆	SCVWD
11	Conservation Pricing	◆	City of Milpitas
12	Conservation Coordinator	◆	City of Milpitas
13	Water Waste Prohibition	◆	City of Milpitas
14	Residential ULFT Replacement Programs	◆	SCVWD

◆ Recommended program in the City's 2005 Urban Water Management Plan.

♣ Not recommended in the City's 2005 Urban Water Management Plan, but currently implemented (at least partially).

The City conduct public outreach for water conservation through its website, phone hotline, community access channel and distribution of educational materials. Conservation materials are displayed at numerous City facilities such as City Hall, Community Center, Sports Center, Senior Center and Library. The City’s water conservation program is ongoing and will continue to keep the public informed and aware of the importance of water conservation.

Q: What water use activities are prohibited by City code?

A: City Water Conservation Ordinance No. 240.1 established a list of prohibited water use activities, which are not allowed at any time, including non-drought periods. Also, there are additional water use prohibitions as the rationing stages become more severe. The list of prohibitions is divided by rationing stages below:

Stage	Prohibitions
O	Broken or defective plumbing Flooding into gutter and streets Using a hose without a shut-off nozzle for washing vehicles, hard surfaces, and landscaping Restaurants serving water except on request by a customer Using car wash equipment not equipped to recycle water Using cooling system equipment not equipped to recycled at least 50% of the water Using water for irrigation if recycled water is available Using decorative fountains not equipped with a recycled water system
I	All prohibitions listed in Stage O plus the following: Cleaning sidewalks, hard surfaces, etc. Construction purposes such as dust control and compaction. Initial filling of any swimming pool or pond (refilling due to evaporation or repairs is acceptable). Hydrant flushing, except for health and safety. Street or parking lot cleaning.
II	All prohibitions listed in Stage I plus the following: New swimming pool or pond construction Cleaning, filling, or maintaining levels in decorative fountains. Potable irrigation of golf courses except greens and tees.
III	All prohibitions listed in Stage II plus the following: Washing vehicles outside of a commercial washing facility. Irrigation of median landscape strips. Failure to repair leaks.

The City has also established Water Efficient Landscape Ordinance No. 238.2, which sets provisions for water management practices and water waste prevention for new and existing landscapes.

Q: Are these restrictions actively enforced?

A: The City does not impose penalties during Stages O and I of voluntary rationing. The City does has the authority to impose penalties during mandatory rationing (Stages II and III). The following table summarizes the potential penalties:

Stage	Penalties
O	None
I	None
II	Per Milpitas Municipal Code I-1-4.09-1, every violation determined to be an infraction is punishable by (1) a fine not exceeding \$100 for a first violation; (2) a fine not exceeding \$200 for a second violation of the same act within one year; (3) a fine not exceeding \$500 for each additional violation of the same act within one year. Each day such a violation continues shall be regarded as a new and separate infraction.
III	Same as Stage II.

Q: If the water wholesalers declare drought, what are the City's options?

A: The City has rationing program options to consider, as described in Appendix F of the Water Shortage Contingency Plan, as follows:

- 1) Percent of Use (with exceptions allowed): The rationed allotment is based on a specified percentage of a previous year's usage. Allotments can be increased for documented changes such as absence during the base year, increased household size (both temporary

and permanent), new landscaping, new appliances, pools, and growth in the non-residential sectors.

- 2) Per Capita: This system allows for a set volume of water for each person in the residential sector. Allotments can be increased for temporary or permanent visitors.
- 3) Household of Per Capita and Irrigation: This system provides a specific allotment for each person in the residential sector and includes an additional amount for outside water use. As in the per capita method, allotments can be increased for additional temporary or permanent visitors:
- 4) Per Household: This system assigns identical allotments to each customer in a specific user group. For example, all single-family customers would receive the same allotment, regardless of household size and outside water needs.
- 5) Per Household and Irrigation: This system assigns identical allotments to each customer in a specific user group and includes an additional amount for outside water use.
- 6) Inverted Block Rate Structure: This is a progressive rate structure that changes proportionally more for higher usage. It does not assign allotments for each customer. Instead, the water rate structure includes several tiers with increasing costs as usage increases.

For the 1988-1993 drought, both SFPUC and SCVWD implemented the Percent of Use method for their retailers. The City's utility billing system was used to determine water use allotments for over 15,000 water accounts and calculated bills. The City also had an Exception Request Policy, which allowed account holders to request allotment revisions. The allotment revision process was labor-intensive, time-consuming and costly since staff had to manually review exception requests, which tallied to almost 50% of total City accounts by the end of the drought periods. This defeated the purpose of imposing rationing sufficient to keep the City's total water purchases under the limits imposed by the wholesalers. Many customers perceived this method to be inherently unfair because they believed that they were already strictly conserving and had no ability to cut back further.

Based on the City's experience with the Percent of Use method, staff recommends an going to an inverted block rate for a future drought situations. The water use tiers over which the rate will change and the amount of the rate change between blocks would be established in direct response to the severity of the reduction needed. A tiered structure with progressive rates lets the customers decide how much they will cut back to save money. It also allows the City to obtain sufficient revenues to cover its costs and any penalties imposed by the Wholesalers.

Q: When would drought be declared, if at all?

A: The Wholesalers will be closely monitoring precipitation in their watershed this winter and spring to determine if further conservation and rationing are warranted. Any call for drought will probably not occur until near the end of the rainy season in Spring 2009. However, a drought could still be declared even if the next rainy season is wet. Recent dry weather and court restrictions on water transfers have significantly limited the availability of water supply reserves.

Q: What would be the financial impact to the City from mandatory rationing?

A: Water rationing would decrease revenues since less water is sold. In addition, sewer revenues would also decrease because sewer charges for industrial, commercial and institutional customers are based on water consumption. As the same time, the City would incur additional costs for the management of a rationing program.

Water revenue losses could be supplemented by either excess use charges (if an allotment system is implemented), or an inverted block rate structure, which would charge higher rates as water consumption increases. However, this might not fully compensate for lost revenue from decreased water sales and drought management costs.

Q: Is the City's UWMP available for review?

A: Yes, the UWMP is a public document that can be accessed through the City's website at http://www.ci.milpitas.ca.gov/citydept/publicworks/urban_water_management.htm. Copies of the report are also available at City Hall



Once it's on it's gone.

California is in a drought.
Limited water supplies make
it necessary to serve water
only when requested.

If you would like a glass
of water, please ask.

Thank you.

Santa Clara Valley
Water District

