

Agenda Report

November 3, 2008

TO: City Council

THROUGH: Municipal Services Committee

FROM: City Manager

SUBJECT: OUTLINE FOR COMPREHENSIVE WATER CONSERVATION PLAN AND SUSTAINABLE WATER SUPPLY

RECOMMENDATION

This report is for information only.

EXECUTIVE SUMMARY

On September 22, 2008 the City Council directed staff to provide a water conservation plan outline with conservation targets of 10%, 20% and 30% within 60 days, a status report on the full plan within 120 days, and a complete plan within 180 days. Pasadena Water and Power (PWP) has prepared this report to provide the requested information, which is outlined under Initiative 5 below, within the full context of PWP's water demand, supply, and financial situation. Consistent with Pasadena's Urban Environmental Accords goals and statewide goals, PWP will evaluate the 10%, 20% and 30% water conservation goals in terms of per-capita usage of potable water.

This report provides an overview of Pasadena's water supply and Water Fund financial situation as well as an outline of PWP's plan to ensure the long-term reliability of the water supply through a combination of alternative supply sources and water conservation efforts. Staff will provide a status report by January 30, 2009 and the complete conservation plan by March 30, 2009. The complete report will provide quantitative analysis on potential programs to meet the conservation goals, as well as their associated financial impacts.

PWP's plan to secure a sustainable water supply for Pasadena includes five key initiatives:

1. Revise the 2005 Urban Water Management Plan (UWMP) with current water supply information for use as a guideline in water resource planning;
2. Phase in a rate design with financial cues for customers to conserve water and rate increases to address infrastructure and operational needs;
3. Replace Pasadena's existing Water Shortage Procedures Ordinance with a new Sustainable Water Supply Ordinance;
4. Evaluate and implement alternative water supply resources; and
5. Initiate a citywide transformation of water use guidelines, processes, and water conservation programs.

This multi-prong strategy provides a long-term holistic approach to using and valuing water. The intent is to develop a sustainable portfolio of water supply and water conservation solutions that reflects the community's goals and priorities, with rates and regulations that are equitable; are relatively easy to understand, implement and administer; do not penalize early adopters; recover water and system costs appropriately; and, most importantly, support durable water use changes that will protect Pasadena's local resources now and into the future. PWP will complete the 2010 Urban Water Management Plan to evaluate supply and conservation options which will serve as the City's water Integrated Resource Plan (IRP)

BACKGROUND

Pasadena is located in a semi-arid region. Approximately 40% comes from Pasadena's local groundwater and 60% of Pasadena's water is imported from the Metropolitan Water District (MWD). MWD's primary water sources, the Colorado River and the State Water Project, have been significantly constrained and MWD can no longer guarantee an endless supply of water.

Since 2003, drought conditions have required MWD to take only its legal water rights from the Colorado River, about half what it had historically taken. MWD's State Water Project supply was cut by 30% this year due to drought and pumping restrictions. To make up for the shortfall, MWD has been pumping from storage for the last two years, depleting nearly half of its dry-year reserves.

Finally, Pasadena's groundwater resources are also threatened. Groundwater levels within the Raymond Basin are far below historical levels due to over-pumping. It is anticipated that Pasadena's groundwater pumping rights will be cut in the near future.

In response to the developing water crisis, Pasadena has pursued a number of actions including:

- On July 5, 2007, the Mayor issued a request for all PWP customers to conserve water with the goal of reducing consumption by 10%;
- On December 17, 2007, the City Council declared a potential water shortage and implemented Plan I of Pasadena's Water Shortage Procedures under Pasadena

Municipal Code (PMC) Section 13.10.040. This established calendar year 2006 as a "baseline" for conservation and potential water rationing;

- PWP ramped up its water conservation programs and messages, and initiated audits for large commercial customers and irrigation efficiency workshops for all customers;
- PWP began analyzing the needs and potential costs of implementing Water Shortage Plan II including staffing levels, equipment, penalty appeal procedures, etc., and initiated changes to the billing system to provide graphical water use data and potentially implement Plan II and Plan III of the Water Shortage Procedures;
- On August 11, 2008, Council approved staff's recommended minor revisions to Plans I and II of the Water Shortage Procedures (note that the first reading of the revised ordinance was deferred on September 22, 2008); and
- On September 8, 2008, staff conducted a workshop with PWP, the Planning Department, the Public Works Department and the City Attorney's Office to coordinate efforts to revise water-related city ordinances.

Since the potential for a water shortage was declared in December 2007, voluntary restrictions have not achieved the 10% conservation target and the supply situation has deteriorated further. A more comprehensive approach is now warranted in order to balance the declining water supplies with consumer demand.

Water Fund

The financial condition of Pasadena's Water Fund has deteriorated in recent years since rate increases have not kept pace with rising costs. The Water Fund's reserves have been depleted since current revenues are insufficient to meet operating costs and planned capital investment. Based on recent analysis, revenues will need to increase in Fiscal Years 2010 and 2011 to restore the fund's health. Ironically, achieving the goal of reducing water consumption by at least 10% will place additional pressure on water rates.

Pasadena's Water Shortage Procedures

Pasadena's twenty-year old Water Shortage ordinance consists of three progressively restrictive Water Shortage Plans. Water Shortage Plan I includes voluntary conservation activities that request PWP's water customers to refrain from a number of water wasting activities. Water Shortage Plan II prohibits these same activities and enables the City Council to adopt penalties for non-compliance. Under Water Shortage Plan III, mandatory rationing is imposed with penalties for exceeding allocations, which would be measured against a base year consumption, which is calendar year 2006 under the current case.

As mentioned earlier, staff recommended that the City Council approve a schedule of penalties for violations under Water Shortage Plan II on September 22, 2008. This

recommendation was supported by the Environmental Advisory Commission in their September 16, 2008 meeting with a 6-2 vote, and the minority position was provided in writing. The proposed fee schedule was not adopted and staff was encouraged to develop a different plan.

Staff, the City Council, the public, and members of the EAC have voiced significant concerns about Plans II and III of the Water Shortage ordinance, including:

- Potential inability for some customers, including City facilities, to comply with certain water use prohibitions;
- Lack of permanent prohibitions on water waste;
- Lack of exemptions for various customer- or use-specific situations;
- Potential for early adopters of water conservation practices to be penalized in the baseline allocation process when across-the-board reductions and penalties apply;
- Distinctions are not made between indoor and outdoor uses;
- Customer demand for an appeal process to allow for exceptions in individual circumstances not accounted for in the baseline; and
- Challenges and expense associated with programming billing systems to handle baseline and penalty computations.

Staff recognizes these concerns, and that the Water Shortage ordinance is at best a temporary and minor contributor to securing Pasadena's long-term water supply. However, water waste needs to be curtailed and Pasadena is obligated under the Memorandum of Understanding on Water Conservation Best Management Practices (BMPs) to enact an ordinance that prohibits water wasting activities. Pasadena must comply with the BMPs in order to be eligible for state grant funds for water projects.

A Different Approach

This document reflects the viewpoint that Pasadena needs a new way of thinking about water; a long-term comprehensive solution that appropriately values water given the constraints of our region and embraces the City's commitment to environmental stewardship and a sustainable future. Staff has outlined six initiatives, listed in the executive summary and described below, as a comprehensive approach to secure a sustainable water supply for Pasadena.

On September 22, 2008, the City Council directed staff to develop an outline for a comprehensive water conservation strategy and present it to Council within 60 days. The Council further directed staff to present a progress report on the plan after 120 days and to present the full report on the subject within 180 days.

Initiative 1 – Revise the 2005 Urban Water Management Plan (UWMP) with current water supply information for use as a Guideline in Water Resource Planning

Objective - Update Pasadena's long-term supply outlook to reflect current local and regional conditions.

Action Plan:

- Utilize current water supply information to revise the 2005 UWMP in order to provide Pasadena's Planning and Permitting Department with updated information for interim use until the 2010 UWMP is completed.
- Perform a comprehensive Water Integrated Resource Plan process that will culminate in the required 2010 UWMP.

Every five years, water agencies in California are required to complete an UWMP that examines projected water supply and demand to determine if the utility has adequate resources in order to qualify for state funding for water projects. The 2005 UWMP was completed prior to the district court ruling, which restricted pumping in the Sacramento-San Joaquin Delta and greatly altered southern California's long-term water supply outlook.

PWP recently retained a consultant to prepare a mid-term update of the 2005 UWMP in order to get a more accurate picture of both the short- and long-term implications of potential regional supply changes, groundwater restrictions, reclaimed water project, and conservation goals for PWP. When completed, the 2008 UWMP update will be provided to the Planning Department for use in evaluating the water supply impacts of new development projects until the 2010 UWMP is completed and adopted by the City Council.

In early 2009, PWP plans to start the water Integrated Resource Plan (IRP) public process that will culminate in the comprehensive 2010 Urban Water Management Plan. The IRP process will allow for public input and Council direction to establish the appropriate mix of water supply resources and conservation goals. A full range of supply-side and demand-side alternatives will be considered.

It is important to note that the IRP process to produce the 2010 UWMP will take substantial time and resources. Additional staff and fiscal resources will be needed to support these important endeavors. Also, as dealing with the water crisis cannot wait, staff will bring various elements of this plan to the Council for approval over the next year in advance of completing the UWMP.

Initiative 2 – Phase In a Water Conservation Rate Design

Objective - Implement a rate design that provides financial motivations for customers to conserve water while equitably apportioning costs and maintaining the Water Fund's fiscal health.

Action Plan

- Evaluate the fiscal impacts of proposed 10%, 20%, and 30% water conservation goals
- Develop a rate proposal to address capital and operational funding requirements and maintain Water Fund health

- Evaluate capital investment and operational costs to ensure maximum efficiencies and opportunities for cost reductions
- Develop alternative rate structure recommendation to incentivize conservation and offset higher cost of purchased water
- Develop improved water use data to customers
- Develop proposals to mitigate impacts of water rate increase on low income customers

The goal of a water conservation rate design is to reward efficient users and those who have invested in conservation fixtures and appliances and provide appropriate price signals and incentives for others to conserve water. In addition, the price impacts of procuring incremental water supplies are borne by those causing the demand rather than the entire community. Such rates are intended to help reduce water demands for the entire system and can be designed to reduce demand during peak times or seasons and recover surcharge costs as necessary during periods of shortages and MWD allocations. This enables the utility to manage costs and meet revenue requirements while maintaining pricing equity for all users.

Even with recent rate hikes, water revenues are insufficient to support ongoing operations, and the capital improvement fund will not fully support the infrastructure improvements contemplated under the Water System Master Plan, along with added debt service costs associated with additional long term borrowing. PWP will develop a proposal to address current funding gaps and encourage conservation, possibly in a phased approach to revising rates. PWP will evaluate resizing existing tier allocations and/or adding rate tiers as appropriate to reflect reduced local supply and provide additional conservation price signals. PWP will complete analyses of current customer data to effectively categorize customers by usage characteristics, including single family residential, multi-family residential, and various commercial classifications, and consider water-budget based rates as an alternative to the current tier structure.

The evaluation of potential changes to the rate structure will include an analysis of existing capital and service delivery programs to identify options for efficiency improvements. Rate requirements will be based on programs that are prioritized to deliver maximum value to PWP's customers at reasonable costs.

Due to challenges of billing multiple services and desire to provide more timely information to customers, PWP will evaluate potential alternatives, such as web-based systems, to provide water usage graphs, baseline computations, and usage comparisons to customers.

Initiative 3 – Adopt Sustainable Water Supply Ordinance

Objective - Replace existing Water Shortage Procedures with year-round water waste prohibitions in compliance with Best Management Practice (BMP) 13 that include additional prohibitions and rate conservation tiers that are phased in as water supply scenarios become increasingly severe.

Action Plan

- Adopt new ordinance consistent with BMPs, the MWD model water conservation ordinance, and coordinated with surrounding communities

Staff is proposing that a Sustainable Water Use Ordinance be developed to replace the Water Shortage Procedures Ordinance that was adopted in 1988. The new ordinance would continue to prohibit certain water-waste activities, but these prohibitions would become a permanent reminder to encourage customers to use water efficiently at all time, not just during a declared water shortage. The ordinance would be designed such that obvious water waste activities - allowing water to run off landscapes, irrigating when it rains, etc., would be restricted at all times. Other activities would be restricted if a water shortage is declared and the restrictions would ramp up as the water shortage became more severe. The new ordinance may include additional rate tiers, a conservation based rate structure (including water budgets,) or other price signals to encourage conservation during water shortages.

Changing habits in this area will not impact indoor household consumption or basic hygiene but rather focuses on eliminating wasteful practices. All customers and property owners would be charged with the task of reducing water waste by adopting the water conservation measures within the Ordinance. Nothing in the Ordinance would be intended to apply to situations where water is required to eliminate conditions that threaten public health, safety, or welfare.

Initiative 4 – Evaluate and Implement Alternative Water Supply Resources

Objective - Ensure water supply reliability through the development of alternative supply resources

Action Plan

- Implement groundwater clean-up projects
- Implement Reclaimed Water Project (covered under separate agenda report)
- Evaluate and implement project to enhance storm water capture and use
- Implement groundwater storage (Conjunctive Use) program with MWD
- Pursue implementation of Foothill Water Replenishment Pipeline

The single alternative supply project that could have the largest impact in terms of reduced potable water consumption is reclaimed water. If fully implemented, the reclaimed water project could deliver over 2,000 acre-feet of non-potable water (about 5% of total system demand). The project would require an investment by the City of at least \$37 million and could be built in three phases. The first phase would bring approximately 1,000 acre-feet of water to customers on the west side of the city such as the Rose Bowl and Brookside Golf Course. Phase 2 would bring approximately 800 acre-feet of water south of the 210 freeway to the Glenarm Power Plant, Huntington Hospital and others. The third phase would bring 415 acre-feet of water north of the 210 freeway. It is important to note that limited funding requires consideration of the

reclaimed water project in relation to other capital projects and water supply sources. PWP staff will actively pursue opportunities for alternative funding sources for the reclaimed water project, including MWD programs and state and federal grants.

Initiative 5 – Citywide Transformation of Water Use

Objective - Ensure that Pasadena's planners, businesses and customers think about efficiency, growth/development, and water use and water conservation programs.

Action Plan

- Continue developing and supporting current water conservation programs, with increased emphasis on efficient outdoor water use
- Develop a portfolio of conservation programs to meet proposed 10%, 20%, and 30% water conservation goals
- Review planning and permitting procedures and ordinances related to water
- Implement a water conservation rate structure (see Initiative 2)
- Increase regional coordination of conservation and supply programs

Staff will review existing and potential water conservation incentive programs to determine potential water savings and cost and impacts. PWP will develop new programs, particularly those focusing on efficient outdoor water use, as well as increasing incentives for existing programs to increase their coverage.

Staff proposes to review current planning and permitting procedures and ordinances, and, where appropriate, bring to Council ordinances to develop, upgrade and/or revise construction and building standards to improve water, energy, and landscape irrigation efficiencies including:

- Planning and California Environmental Quality Act (CEQA) procedure considerations;
- Fixture Replacement Program - Staff has prepared a draft background report on this issue that was presented to the Urban Design Committee of the EAC on October 20, 2008 for review;
- Building design standards to ensure efficient use of water and facilitate reuse of water (e.g., reclaimed water) - a Water Conserving Fixtures and Fittings ordinance would include new regulations for new construction, remodels, tenant improvements, additions, and alterations;
- Landscape ordinance;
- Gray Water ordinance, modeled after standards to be adopted by the state of California in early 2009;
- Certification Program for green plumbers and landscaping professionals;
- Construction Standards to include the study of permeable paving; and
- Standards to manage water usage for new development.

Staff from various departments will work together to examine which ordinances support the City's goal of a sustainable water supply and which are in conflict with that goal. As

needed, staff will propose new or revised ordinances.

PWP has met with Glendale and Burbank to discuss development of a consistent water waste ordinance and to combine resources to develop a regional water conservation outreach strategy. The goal of a consistent water waste ordinance is to eliminate any confusion as to what actions are prohibited in which city, particularly for commercial customers with properties in more than one city.

Staff is also working on specific conservation programs that can be implemented in all three cities such as efficient landscape workshops and green plumber certification programs. Combining the resources of the three cities will allow those resources to be used more efficiently and will maximize the effectiveness of the programs by expanding the audience.

Key Policy Considerations

Pasadena will need to make some difficult policy choices to implement the plan to increase water conservation and to develop alternative supply resources. Pasadena must consider and balance rate increases, reductions in service levels or other priorities, and/or deferral of planned capital investments. Staff has identified a number of key policy considerations that may have substantial impact on the direction of the water Integrated Resource Plan process as well as any interim actions and recommendations that may be developed.

- How should Pasadena prioritize the following objectives for water supply?
 - Low Rates and Affordability
 - Reliability and Infrastructure Improvements
 - Sustainability
- Should Pasadena discourage, restrict, or prohibit the use of water-intensive landscape within the City?
- Should new development be allocated any low-cost (e.g., Tier I) water?
- Should new development be required to offset any increase in usage, or usage that is greater than an efficient “baseline” for comparable development?
- Should building requirements be amended to require new development to install dual plumbing to accommodate for reclaimed water?
- General cost allocation and rate design questions such as:
 - Should existing rate tier allocations be modified to reflect reduced groundwater and increased need for conservation?
 - How should local groundwater (Tier 1) be allocated between classes?
 - Should customer classes (Residential and Commercial) be developed, and if so, be allocated different water volumes in various rate tiers?

- Should conversation based rates (including water budgets) be considered?
- Should future rate increases be applied to only to volumetric charges to increase conservation?

FISCAL IMPACT

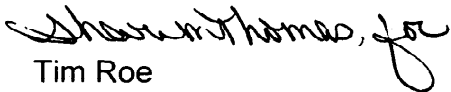
Each of the initiatives and policy considerations included in this report has fiscal impacts to the Water Fund and other City operations and those impacts become more significant as the conservation goals become more aggressive. Revenue requirements of the Water Fund to cover fixed obligations, including debt service, existing contracts and the general fund transfer must be preserved while various options are considered. Potential revisions to water rate design must be measured within the requirements of Proposition 218 and the economic impact on various ratepayer categories. Fiscal impacts will be prepared for specific initiatives and policy considerations as directed by City Council.

Respectfully submitted,



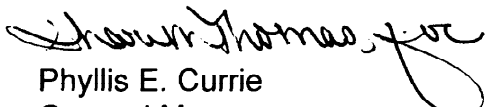
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