



Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: Kerrie Romanow

**SUBJECT: SOUTH BAY WATER RECYCLING
STRATEGIC PLAN**

DATE: March 26, 2012

Approved

Date 3/29/12

COUNCIL DISTRICT: City-Wide

RECOMMENDATION

Accept this report update on the status of the South Bay Water Recycling program and strategic planning effort.

OUTCOME

This recommendation will provide Council and the Treatment Plant Advisory Committee an update on South Bay Water Recycling Strategic Plan.

BACKGROUND

The City's Environmental Services Department operates South Bay Water Recycling (SBWR), which includes the distribution and wholesale of recycled water generated by the San Jose/Santa Clara Water Pollution Control Plant (Plant). The Plant is a regional wastewater treatment facility serving the communities of San José and Santa Clara, the Plant's co-owners, and the cities of Milpitas, Campbell, Cupertino, Los Gatos, Saratoga, and Monte Sereno, who are represented by the Plant's tributary agencies that include the City of Milpitas, West Valley Sanitation District, Cupertino Sanitary District, County Sanitation District 2-3, and the Burbank Sanitary District.

SBWR delivers approximately 10,000 acre-feet per year (AFY) or 9 million gallons per day (mgd) of recycled water through 130 miles of pipelines ("purple pipes") throughout San José, Santa Clara, and Milpitas, which accounts for about 2% of the regional water use in Santa Clara County. Over 620 government and commercial customers use recycled water for a variety purposes including industrial cooling, landscape irrigation, and dual plumbed buildings. Further, SBWR supports the City's Green Vision Goal to recycle or beneficially reuse 100% of our wastewater by 2022.

Since the early 1990s, SBWR was one of several remedies prescribed in the South Bay Action Plan by the San Francisco Bay Regional Water Quality Control Board to reduce Plant effluent flows to protect the salt marsh habitats of the South San Francisco Bay. The Plant's National Pollutant Discharge Elimination System (NPDES) permit, in effect, limits the dry-weather effluent discharge to the Bay at 120 mgd. Should the Plant exceed this maximum effluent flow trigger, the City of San José, the City of Santa Clara, and the tributary agencies could be subject to a sewer connection moratorium.

In March 2010, Council approved Integration (cost sharing) and Lease agreements with the Santa Clara Valley Water District (District) to develop and operate the Silicon Valley Advanced Water Purification Center (SVAWPC) on Plant buffer lands. The SVAWPC will produce higher quality recycled water with fewer total dissolved solids (TDS) than what SBWR currently supplies. The SVAWPC is expected to be completed by spring 2013.

In September of 2011, SBWR was awarded a \$1,200,000 grant by the US Bureau of Reclamation to conduct a "Feasibility Study for Improvements and Expansions to SBWR Facilities." The Feasibility Study (Study) will enable SBWR to assess the ability of its existing infrastructure to meet current and future recycled water demands. This Study represents a significant portion of master planning activities that will be undertaken as part of SBWR's Strategic Planning process, and will include a strategic business review of SBWR's mission and objectives from both wastewater and potable water supply perspectives. Procurement for a consultant to support the strategic planning effort is anticipated to begin in April 2012, with the planning process being completed in late 2013. The local matching funds of \$1,200,000 for the grant are included in the approved Capital Improvement Program budget. These matching funds will be used to master plan existing SBWR infrastructure, including replacement and reliability needs. The preparation of a final consultant procurement document and consultant selection process will be a collaborative effort with the Plant Tributary Agencies and the District; District staff has agreed to cost share the local funding portion for the strategic planning process.

ANALYSIS

In 2011, City staff identified the need to conduct a comprehensive planning effort to identify and prioritize the short-term and long-term improvements necessary to maintain, improve and expand the SBWR system, and meet regulatory and financial commitments into the future. The outcome will provide Council an opportunity to consider the optimum approaches toward operating and maintaining current SBWR assets and improving system reliability, water quality, and the fiscal health of the SBWR system. The following discussion highlights some of the issues that will be evaluated as part of the planning process.

Treatment Plant Capacity and MGD Treated

The Plant has a rated treatment capacity of 167 mgd. For 2011, the Plant had an average daily influent flow of 100.3 mgd; well below the rated Plant capacity and flows which would trigger expansion planning efforts. State Board Order WQ 90-5 (1990) directed the San Francisco Bay Regional Water Quality Control Board to limit the amount of treated effluent discharged by the Plant to 120 mgd during the dry weather period to protect rare and endangered species residing

in the South Bay. For the Plant to exceed that regulatory threshold, the Plant's influent flows during the dry weather period would need to approach 134 mgd.

SBWR Strategic Plan Scope and Timeline

Plant Owners and tributary agencies have funding agreements with the Plant for construction of the recycled water system in order to assist in maintaining the Plant's compliance with discharge limitations. Based upon recent input from Plant owners and tributary agencies, staff has suspended expansion activities until planning efforts can be completed. In March 2012, the Mayor of Milpitas requested that expansion of the SBWR system be suspended until Strategic Planning efforts have been completed; and the Cupertino Sanitary District questioned the specific use of Plant funds for SBWR operation, maintenance, and capital expenses, as well as the economic benefit of SBWR to Cupertino Sanitary District ratepayers. Staffs from other tributary agencies have also requested that the strategic planning process be completed before consideration of further system expansion.

The planning process will address the following issues for the SBWR system raised by staff, Santa Clara and our tributary agencies, and other stakeholders including the District.

1. **System Reliability.** Currently, SBWR experiences summer-time peaking events that result from competing customer demands on recycled water. These unpredictable events add additional strains on normal operations to meet state water quality requirements under Title 22 of the California Code of Regulations. SBWR has limited storage, as it is dependent on the continual pumping at TPS to service customers with recycled water. The recycled water system has been built over the past 14 years in fragments in response to development needs and lacks redundant loops and other reliability measures common to other water distribution systems. Strategic planning would identify and prioritize critical replacement needs and develop a funding strategy for this work.
2. **Economic Viability.** Currently, SBWR operations are subsidized by San José and Plant Tributary Agency sewer rate payers. Financial (including wholesale and retail rate evaluation) and operational analysis (including existing system rehabilitation and maintenance) analyses will be necessary to support development of a new business model for the existing SBWR system to achieve cost recovery and potentially a return on investment. This evaluation would include the most appropriate strategy for SBWR to expand, including a potential IPR market, given the legal, funding, and infrastructure constraints of the system. Further, in the next two years, SBWR and District costs for recycled water infrastructure will be shared per provisions in the Integration Agreement, which will need to be incorporated into the business model.
3. **Governance.** The Plant's governing structure, TPAC, and the City of San José Council, make policy and budget decisions related to SBWR, prioritizing the interests and needs of the Plant and sanitary sewer rate payers of San José and the Tributary Agencies. The Integration Agreement between the City and the District provides the frame work for the City and District to financially and administratively support the production and use of recycled water in Santa Clara County. The Agreement also outlines the framework for coordination and cooperation between the City and the District to achieve the most cost effective, environmentally beneficial utilization of recycled water to meet both water

supply and wastewater treatment and disposal needs. A new governance model maybe needed to expend the system to meet future needs.

The process for competitively selecting a consultant to conduct the SBWR planning effort will take approximately eight weeks and is expected to begin in March 2012 with Council contract approval anticipated in August 2012. Once selected, it is estimated that the Study planning process will take approximately 18 months to complete.

Future Markets for Recycled Water

One new market for recycled water currently under evaluation by the District is indirect potable reuse (IPR), or using highly purified recycled water for replenishment of groundwater basins in the next ten to fifteen years, augmenting existing potable water resources, similar to the groundwater replenishment system jointly administered by the Orange County Water and Sanitation Districts. On February 10, 2012, District staff presented to the District's Recycled Water Policy Advisory Subcommittee some issues under consideration as part of the District's Indirect Potable Reuse Feasibility Study currently underway. These included increased regulatory requirements, negative public perception of IPR, the cost of processing water through an advanced purification system to meet quality standards for IPR, and funding additional pipeline and pump stations necessary to deliver recycled water to recharge locations identified by the District, which could include Anderson Reservoir and the Los Gatos percolation ponds. Staff expects the District to release the final IPR by summer 2012. In the future, the water produced by SBWR could be used entirely for IPR or a combination of IPR and continued use directly by industrial, institutional, and landscape customers.

Interim Strategy

SBWR's current strategy is to suspend all Plant-funded system expansion projects until the strategic planning process has been completed. Developer and recycled water retailer efforts such as those now being implemented by the San Jose Water Company could still move ahead as long as they are fully funded by the developer or retailer. Once the planning efforts have concluded, staff will be better able to inform Council on expansion policy options and strategies for consideration. The strategic planning process is expected to produce a carefully planned platform to guide SBWR's future while ensuring wastewater discharge potential and planned growth opportunities as well as water supply expectations to ensure local potable water needs are secured for future generations.

EVALUATION AND FOLLOW-UP

Staff will present an update on the SBWR Master Planning process in fall 2012 to the Transportation and Environment Committee. Staff is also expected to bring a recommended Master Plan consultant selection to Council in August 2012.

PUBLIC OUTREACH/INTEREST

- Criteria 1:** Requires Council action on the use of public funds equal to \$1 million or greater. **(Required: Website Posting)**
- Criteria 2:** Adoption of a new or revised policy that may have implications for public health, safety, quality of life, or financial/economic vitality of the City. **(Required: E-mail and Website Posting)**
- Criteria 3:** Consideration of proposed changes to service delivery, programs, staffing that may have impacts to community services and have been identified by staff, Councilor or a Community group that requires special outreach. **(Required: E-mail, Website Posting, Community Meetings, Notice in appropriate newspapers)**

This recommendation does not meet any of the above criteria, however it will be heard at the April 12, 2012 TPAC meeting, and will be posted on the City's website for the April 17, 2012 City Council meeting.

COORDINATION

This memorandum has been coordinated with the City Attorney's Office. This item is scheduled to be heard at the April 12, 2012 Treatment Plant Advisory Committee meeting.

CEQA

Not a Project, File No.PP10-069(a), Staff Reports.

/s/
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For questions please contact David Tucker, SBWR Program Manager at (408) 795-1865.