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POTENTIAL REGIONAL, SUBREGIONAL AND LOCAL WATER SUPPLY PROJECTS FOR FURTHER EVALUATION

INTRODUCTION

Water purveyors are responsible for providing reliable, high quality water supply to current and future customers. In 2010, after a 16-month collaborative process among the Sonoma County Water Agency (Agency), the Water Contractors, Marin Municipal Water District (MMWD) and the public, the Agency Board of Directors adopted the Water Supply Strategy Action Plan (Action Plan). The Action Plan consists of nine water supply strategies developed to increase water supply system reliability, resiliency and efficiency and plan for the future, taking into consideration the numerous challenges and uncertainties that face our region. To help address Water Supply Strategy 5 – *Build Partnerships with Water Users that Facilitate Information-Based Water Supply Planning Programs*, Strategy 6 – *Implement Projects to Improve Transmission System Reliability,* Strategy 8 – *Implement Integrated Water Management Into Agency Programs*, and Strategy 8, Immediate Action 6 - *Work with water contractors to evaluate local and sub-regional projects that could be combined with regional Water Agency projects to increase overall water supply reliability in most cost-effective manner*, the Water Contractors and MMWD, in partnership with the Agency, have undertaken an analysis of existing and future water supplies. The goal of the analysis is to determine the most reliable, affordable, environmentally friendly water supplies that will meet the needs of current and future generations.

PURPOSE

The purpose of this document is to describe projects that the Technical Advisory Committee (TAC) believe are most viable for improving regional water supply resiliency with the goal of improving reliability and meeting water demand forecasts in accordance with each water contractors' and MMWD's Urban Water Management Plans. Because the Agency's transmission system facilities connect several local systems operated by individual water contractors, there may be opportunities to collectively manage these systems in a coordinated manner with a regional perspective to the benefit of all water contractors. For example, local or subregional water supply projects directly serving one or more water contractors can benefit all water contractors, may alleviate the need for more expensive regional infrastructure or may increase reliability of water supplies during times of constrained Russian River water supply conditions.

This document examines several new water supply opportunities, presents the results of a screening evaluation, and recommends certain projects to prioritize for further evaluation. It is envisioned that this analysis will be updated and revised as new information becomes available.

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ANALYSIS – EXISTING SOURCES

Working collectively, the Water Contractors', MMWD and Agency staffs met and identified all currently known existing water supply sources. Six existing water supply sources currently provide the following volumes of annual water supply:

Existing Sources	Volume (Acre-feet/Year)
Existing Agency Supply - Russian River	75,000
Existing Agency Supply – Groundwater	2,300
Existing Groundwater – Local	2,600
Existing Water Conservation	4,055
Existing Recycled Water for Non-Potable uses and offsetting Potable Use	3,017
Existing Graywater for Non-Potable uses	1

It was determined by the Water Contractors', MMWD and Agency staffs that for purposes of this analysis, all necessary additional funding and activities will be implemented by the Agency, MMWD and Water Contractors to maintain these existing water supply volumes and that further evaluation of these existing sources is not required at this time.

ANALYSIS – FUTURE SOURCES

Working collectively, the Water Contractors', MMWD and Agency staffs met and identified all currently known future water supply sources. The list of all possible future water supply sources included the following:

Additional Sources
Additional Agency Supply – Russian River
Additional Agency Supply – Production Wells
Additional Groundwater – Water Contractor – Production Wells
Additional Groundwater – Water Contractor – Standby Wells
Future Water Conservation
Future Recycled Water for Non-Potable uses and offsetting Potable Use
Small Scale Recycled Water for Non-Potable Uses and offsetting Potable Use - Satellite treatment plants
Small Scale Storm water Capture (i.e. - Individual homeowner rain water harvesting for potable use; individual rainwater harvesting for non-potable use)
Aquifer Storage and Recovery - Potable Supply (i.e. - Winter water purchased from Agency; Agency storage of surface water in the ground)
Windsor Water Rights

Locally Driven Sources
Water Supply Agreement - Valley of the Moon, Sonoma and Sonoma Development Center
Raise Lake Stafford
Regional Sources
Desalination - Bay Area Regional Desalination
Large Scale Storm water Capture (i.e. – Service area-wide storm water capture for non-potable purposes; Service area-wide storm water capture & treatment for potable purposes)
Raise Coyote Valley Dam
Water Transfer from Humboldt Bay Municipal Water District
Aquifer Storage and Recovery - Other Supply (Recycled Water or Storm water)

All projects were screened by the Water Contractors', MMWD and Agency staffs at a conceptual, planning level for feasibility, regulatory, environmental and legal constraints, reconnaissance level capital and operation and maintenance costs, current status of studies and additional information needed. Upon completion of the initial screening, ten future water supply sources were identified for further evaluation and prioritization. Although some water supply sources will not be evaluated further at this time, over time, these sources may become more feasible and will be revisited from time to time to determine if/when they should be further evaluated and prioritized.

FEASIBLE FUTURE PROJECTS

The ten future water supply sources that were determined to be feasible were further evaluated by the Water Contractors', MMWD and Agency staffs and more detailed information was developed for each of these sources. Information included an analysis of the volume of water that could be provided based on existing UWMPs, review of any environmental, regulatory or legal constraints, a summary of known cost information, and consideration of rate payer impact.

The following ten water supply sources were determined to be feasible at this time and are recommended for further analysis. The projects are listed in no particular order.

Additional Sources
Future Water Conservation
Future Recycled Water for Non-Potable uses and offsetting Potable Use
Small Scale Storm water Capture (i.e. - Individual homeowner rain water harvesting for potable use; individual rainwater harvesting for non-potable use)
Additional Agency Supply – Russian River
Additional Agency Supply – Production Wells
Additional Groundwater – Water Contractor – Production Wells
Additional Groundwater – Water Contractor – Standby Wells
Windsor Water Rights

Small Scale Recycled Water for Non-Potable Uses and offsetting Potable Use - Satellite treatment plants
Aquifer Storage and Recovery - Potable Supply (i.e. - Winter water purchased from Agency; Agency storage of surface water in the ground)

New water supply projects developed by one or more water contractors will merit further analysis if the project promotes improved regional resiliency by increasing the overall reliability of water supplies (thus benefiting all water contractors) and/or helps to meet future water demands forecast in the water contractors' UWMPs. It is assumed that any additional supplies resulting from such new water supply projects will not result in a reduction of entitlement limits for a water contractor or replacement of future amounts of surface water that the Agency would provide to a water contractor, unless that water contractor agrees to such a reduction/replacement.

RECOMMENDATION

The Water Contractors', MMWD and Agency staffs further prioritized the list of water supply sources and recommends 7 sources be further evaluated. The Water Contractors', MMWD and Agency staffs recommend that the TAC and Water Advisory Committee (WAC) consider this list and, if recommended by the WAC, the Agency set aside funding for the TAC to solicit a consultant to conduct an analysis of the following future water supply sources, which are listed in no particular order:

Water Source: Future Water Conservation

- Estimated Volume of Water: Up to 15,545 Acre-feet
- Potential Costs: $218 – 529/acre-foot
- Constraints: Compliance with 20%x2020 needed; customer implementation.
- Ratepayer Impact: Costs as listed above.
- Issue: Project is not feasible unless it results in additional water supply for the contractor(s) developing the project.

Water Source: Future Recycled Water for Non-Potable Uses and offsetting Potable Use

- Estimated Volume of Water: Up to 2,649 acre-feet
- Potential Capital Costs: $6,000 – 50,000/acre-foot; varies based on pipeline alignment and storage needs.
- Potential O&M Costs: To be determined; varies per water contractor.
- Constraints: Approval from Department of Public Health and Regional Water Quality Control Board; CEQA compliance would be needed.
- Ratepayer Impact: Costs as listed above.
- Issue: Project is not feasible unless it results in additional water supply for the contractor(s) developing the project.

Water Source: Aquifer Storage and Recovery - Potable Supply

- Estimated Volume of Water: To Be Determined – Feasibility studies currently underway.
- Potential Capital Costs: To Be Determined – Feasibility studies currently underway.
- Potential O&M Costs: To Be Determined – Feasibility studies currently underway.
- Constraints: Approval from Department of Public Health and Regional Water Quality Control Board; CEQA compliance would be needed.
- Ratepayer Impact: Costs as listed above.
- Issue: Project is not feasible unless it results in additional water supply for the contractor(s) developing the project.

Water Source: Additional Agency Supply – Russian River

- Estimated Volume of Water: Up to 10,000 Acre-Feet/year
- Potential Capital Costs: To Be Determined.
- Potential O&M Costs: To Be Determined; Current wholesale cost is approx $650/Acre-Foot with estimated increases of 4-7% annually through 2030 for existing projects.
- Constraints: Regulatory changes to d1610; compliance with Endangered Species Act; CEQA compliance would be needed.
- Ratepayer Impact: Costs to be determined for additional water supply.

Water Source: Additional Agency Supply – Groundwater Production Wells

- Estimated Volume of Water: To Be Determined.
- Potential Capital Costs: To Be Determined.
- Potential O&M Costs: To Be Determined.
- Constraints: Information from USGS Study and collaboration with Santa Rosa Plain Groundwater Management Plan process needed; Approval from Department of Public Health; CEQA compliance would be needed.
- Ratepayer Impact: Costs to be determined for additional water supply.

Water Source: Additional Groundwater – Water Contractor – Production Wells

- Estimated Volume of Water: Up to 540 Acre-Feet/year
- Potential Capital Costs: $350 -1200/Acre-foot; Varies based on treatment and operational needs.
- Potential O&M Costs: $100 – 130/Acre-foot; Varies based on treatment and operational needs.
- Constraints: Approval from Department of Public Health; CEQA compliance would be needed.
- Ratepayer Impact: Costs as listed above.
- Issue: Project is not feasible unless it results in additional water supply for the contractor(s) developing the project.

Water Source: Windsor Water Rights

- Estimated Volume of Water: 4,725 Acre-Feet
- Potential Capital Costs: To be determined; Estimate $300,000 for CEQA compliance.
- Potential O&M Costs: To be determined.
- Constraints: State Water Resources Control Board approval needed; compliance with Endangered Species Act; CEQA compliance would be needed
- Ratepayer Impact: Costs to be determined for additional water supply.

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