

## Memorandum

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**To:** Santa Cruz Water Supply Advisory Committee  
**From:** Bob Raucher, Stratus Consulting Inc.  
**Date:** 10/15/2014  
**Subject:** October Work Plan Update

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This memorandum provides a brief overview of progress on tasks described in the September 17, 2014 “Work Plan Development Update, and Subcontractor Recruitment and Preliminary Assignments.”

### **1. Demand Management: Conservation, Water Use Efficiency, and Improved Forecasts**

We are working with David Mitchell of M-Cubed on this task. We have included an enrichment memo in which we compare water use to several economic indicator variables for the Santa Cruz and Santa Barbara utility districts, and for the state of California. In that memorandum, we also present a comparison of 48 of Santa Cruz’s top 100 water users’ water consumption rates compared to the number of employees and revenue by subsector. Additionally, we have included a summary of the “Green Industry and Hospitality Industry” focus group workshops to understand the effect on Santa Cruz businesses of water use curtailments during drought that were held on September 24, 2014.

We also are working with Maddaus Water Management to tee up work on ways to shave peak season demands, and may complement this work with some input from John Rosenblum.

### **2. Climate Change: How Will Climate Change Impact Santa Cruz’s Water Future?**

We currently are in the process of working with Shawn Chartrand (Balance Hydrologics) and Gary Fiske (Gary Fiske and Associates) in conducting initial scoping investigations of: (1) how projected climate changes can be integrated into the hydrologic instream flow model, and then (2) how those flow results can be integrated into the *Confluence* model to project water system performance (e.g., surface water yields and associated projections of system reliability). This work is well underway, and we will summarize briefly at the October meetings.

### **3. Energy Requirements and Carbon Footprints of Potential Water Options**

We are working to finalize a Task Order with John Rosenblum (Rose Environmental) to provide a preliminary assessment in which he develops preliminary estimates of energy use and carbon footprints associated with the baseline (including possible water treatment or pumping upgrades

as may be required for continued water quality compliance), desal, water reuse, water exchanges, demand management, and other relevant options. The alternatives to be investigated will be refined based on WSAC activities related to the Alts Fair and the October meetings. Brown and Caldwell may contribute to this exercise of assessing energy use requirements for the alternatives.

**4. Fisheries: Flow Requirements and Impacts on Yields**

This work is underway in concert with item number 2 (above), and will be included in that work product. Jeff Hagar is conferring with Shawn Chartrand and Gary Fiske as they model flow and yield impacts.

**5. Water Storage (Inter-seasonal and/or Inter-annual)**

We are working to finalize a Task Order with Pueblo Water Resources to conduct a review of (1) the feasibility of aquifer storage and retrieval (or other groundwater recharge and down-gradient extraction) of winter flows or reclaimed water within the aquifer systems in the region, and (2) The viability of developing North Coast brackish (or other) wells.

**6. Groundwater Supplies and Management**

See item number 5, Water Storage. Also, we are following up with HydroMetrics to see if they are available to research seawater intrusion questions and related topics, as related to the basin shared with Soquel Creek (HydroMetrics is checking with their Soquel Creek Water District clients to assure there is no perceived or actual conflict of interest in working with WSAC).

**7. Water Recycling**

Nothing underway yet on water recycling, although we can readily provide WSAC with good background information on nonpotable reuse (NPR) options as well as indirect potable reuse (IPR) and direct potable reuse (DPR).

**8. Lifecycle Costing and Technical Scoping for Key Alternatives (Water Supply Options)**

We are finalizing a Task Order with Brown and Caldwell to work on scoping key alternatives. They will attend the October WSAC meeting to get oriented to the committee and the multi-criteria decision support (MCDS) model. After WSAC selects of a set of potential Alternatives, Brown and Caldwell will provide preliminary estimates and related information on the following, to be presented at the November meeting:

- a. Approximate costs

- b. Energy requirements
- c. Technical feasibility
- d. Yields
- e. Reliability
- f. Other technical topics as requested, if reasonably achievable within the timeframe and budget of this TO
- g. Indication of the extent of uncertainty associated with the above estimates (for use within the MCDS model).

**9. Enrichment Series**

We have developed an initial list of enrichment presentations. See enrichment overview memo (also in this packet) for more information.