

# Memorandum

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**To:** Water Supply Advisory Committee (WSAC)  
**From:** Bob Raucher and Colleen Donovan, Stratus Consulting Inc.  
**Date:** June 2, 2015  
**Subject:** Technical Team Progress Update

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In this memorandum, we provide an update of the Technical Team's activities for Phase 2 of WSAC activities, reflecting efforts in May and early June 2015.

## **Brown and Caldwell (BC) – Engineering and Planning Assessments of Alternatives**

BC, along with several other team members, have been focusing on technical and other issues related to Aquifer Storage and Recovery (ASR), especially as potentially applied in the Santa Cruz context for storage and recovery of winter flows.

BC also has continued to develop improved estimates of infrastructure needs and preliminary estimates of costs, production supply, energy use, and other engineering-related aspects of potential water supply enhancements.

In addition, BC also has helped with reviews and comments on technical drafts developed by Pueblo Water Resources, Inc. (PWR), related to groundwater issues and implications for ASR and indirect potable reuse (IPR) in the Santa Margareta and Aptos groundwater basins, and the North Coast groundwater supply options.

## **Pueblo Water Resources, Inc. – Groundwater Issues (ASR, IPR, North Coast Groundwater)**

PWR has completed a preliminary evaluation of existing information on the basic components of ASR and IPR, and also of potential groundwater supply issues related to the North Coast. PWR has responded to review comments and provided final versions of these two technical memoranda. The draft and revised versions were reviewed by the Santa Cruz Water Department (SCWD), BC, Stratus Consulting, and Independent Review Panel member Mike Cloud.

## **Maddaus Water Management, Inc. (MWM) – Demand Management/Conservation**

MWM has continued to work with Stratus Consulting in assisting to update the evaluation of the revised Program C Recommended, using their Decision Support System Least Cost Planning Model (DSS Model), with the revised demand forecast estimates provided by David Mitchell. MWM continued providing clarifications and detailed information to Stratus Consulting, as we have been working to identify any double-counting across demand management measures within Program C and other Consolidated Alternatives (CAs), and to properly net out savings

attributable to plumbing codes or Program A (the latter being embedded in the revised demand forecast developed by Dave Mitchell).

MWM has also been providing responses and updated DSS Model runs in response to several requests from Stratus Consulting related to providing more transparency, netting out measure-specific administrative costs, ensuring consistent approaches to estimating present values, and other issues. The objective is to have more transparent and consistent assessments of demand management options for Santa Cruz.

### **Habitat Conservation Plan (HCP) and Climate Change-Related Activities – Balance Hydrologics, Gary Fiske, and Stratus Consulting**

Because climate change and HCP-related scenarios have been developed for, used by, and accepted by WSAC over the past months, no new work has been developed in these areas. The climate change, extended drought, and HCP-related impacts continue to be applied in a suite of *Confluence* model runs to examine the impact of various alternatives and portfolios on projected shortages.

### **David Mitchell, M-Cubed – Demand Projections**

David Mitchell presented the updated interim demand forecast – including the addition of lower and upper bound estimates – at the April 30, 2015 WSAC meeting.

David Mitchell is also now actively working on developing an econometric demand forecast for Santa Cruz. He is working with Toby Goddard of SCWD and Carolyn Wagner of Stratus Consulting to develop the datasets that will be used to estimate new statistically based models of water demand for single-family, multi-family, and nonresidential customer categories.

### **Stratus Consulting and Gary Fiske – Evaluations of Key Consolidated Alternatives**

A suite of follow-up analyses has been conducted over the past month by Gary Fiske and Stratus Consulting, using the *Confluence* model to provide a more in-depth assessment of several key types of CAs and related portfolios. The latest analyses are focused on the portfolios that will be used for the upcoming June 2015 WSAC meeting exercises.

### **Stratus Consulting**

In addition to all the items noted above, Stratus Consulting has been engaged in a broad array of technical issues. A partial list of the additional technical activities includes:

- ▶ Portfolio interpretation and analysis to support the Strengths-Weaknesses-Opportunities-Threats (SWOT) exercises planned for the June 2015 WSAC meetings.
- ▶ Completing detailed investigation of the methods and findings of the MWM demand management alternatives, to ensure internal consistency and to provide needed transparency in how DSS Model results are generated. A memorandum has been developed for WSAC, describing our findings and providing a set-by-step replication of the analysis and findings from the DSS Model for an example conservation measure.
- ▶ Investigation and summary of relevant information related to ASR issues and experiences, with a summary provided in a pair of memoranda developed for WSAC review.
- ▶ Enrichment activities, including assisting with planning and organization, especially for the upcoming purified recycled water session lined up for June 17, 2015.
- ▶ Reviewing and managing all subcontractor work efforts.

In addition, Stratus Consulting continues to actively engage in WSAC planning and meeting-support activities, as well as project administration and contract management.