PROPOSAL FOR
LAS POSAS BASIN SALINITY MANAGEMENT AND WATER SUPPLY AUGMENTATION PROJECT - ENGINEERING OPTIMIZATION STUDY
NOVEMBER 2011

Problem and Opportunity Statement: Brackish shallow groundwater recharged by Arroyo Simi and Arroyo Las Posas has been leaking into the main aquifers of the Las Posas Basin since the 1970s and is affecting beneficial uses over an approximate 15 square mile area. The brackish shallow groundwater represents an untapped water supply that could be developed to improve groundwater quality, augment local supplies, improve local supply reliability, and export salts from the watershed. Ultimately, developing the shallow groundwater resource will increase aquifer storage capacity for storm water capture, thereby creating new opportunities for conjunctive use and integration of flood risk management and water supply activities.

Project Objectives: The Fox Canyon GMA's Groundwater Management Plan recommends developing the shallow aquifer as a primary means of achieving its groundwater management objectives for the Las Posas Basin. This project will identify the most cost-effective infrastructure needed to develop the shallow groundwater resource. This project will also establish a network of shallow aquifer groundwater monitoring wells needed for ongoing basin management activities by the Fox Canyon GMA and operation of future projects resulting from this study.

Scope of Work: Determine the most cost effective system of wells, desalters, and transmission infrastructure to produce saline groundwater, treat it, and distribute it to users. The primary tasks include:

1. Identify the area requiring water quality management, including specific wells and flow rate requirements.

2. Install up to six permanent shallow aquifer groundwater monitoring wells. Perform well tests to determine aquifer hydraulic properties for well spacing calculations.

3. Identify optimal locations for desalter source wells. Factors to be considered include the extent of the salinity plume, prioritizing use of existing wells, spacing to minimize drawdown interference, drawing down the shallow aquifer to maximize storm water capture, and impacts to existing pumpers.

4. Document and analyze existing water conveyance infrastructure that could be used to transport desalinated water to the end users. These systems include but are not limited to Zone, Berylwood, Thermic, and Arroyo Las Posas Mutual Water Companies. Identify new infrastructure requirements.

5. Based on Tasks 1 through 4, recommend the most cost effective system of wells, desalter(s), and infrastructure to deliver desalted water within the basin. Prepare engineering estimates for construction and operation of the recommended facilities.

Deliverables: (1) Engineering study report; (2) Up to six shallow groundwater monitoring wells.

Estimated Total Project Cost: $200,000
Funding Request: $120,000
Matching Funds: $80,000 ($50,000 cash [CMWD]; $30,000 in kind staff labor [FCGMA])