Final draft of San Diego water-reuse scheme published

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The City of San Diego, California, has published the final draft of its *Recycled Water Study* - the culmination of a two-year process to develop a new vision for water reuse in the San Diego region.

The fundamental focus of the study was to develop water-reuse alternatives and weigh these against other options - with particular focus on the water-supply benefits and the cost savings through reduced wastewater systems operations and improvements.

The alternatives were developed through a participatory process involving work sessions and stakeholder meetings, the culmination of which was a study review workshop held on 22 March 2012. The goal of the alternatives is to provide 100 MGD (378,500 m³/d) of water reuse.

Four common elements are included in all the alternatives, which will be among the earliest projects implemented:

Non-potable recycled water demands served by the North City and South Bay Plants
An initial 15 MGD (56,775 m³/d) North City Plant indirect potable reuse project to the San Vicente Reservoir
A South Bay Plant 15 MGD (56,775 m³/d) indirect potable reuse project to Otay Lakes using the Spring Valley No 8 Diversion
A 5 MGD (18,925 m³/d) El Monte Groundwater Recharge Project.

The study has produced a list of Alternative Net Costs representing the costs that should be compared with other water sources - particularly imported untreated water. The average costs of the alternatives are:

Cost assuming direct wastewater savings = US$ 1,200/acre-foot (AF) (US$ 0.97/m³)
Cost assuming above plus salt credit = US$ 1,100/AF (US$ 0.88/m³)
Cost assuming above plus indirect wastewater savings = US$ 700/AF (US$ 0.57/m³)

These costs compare well to the 2011 untreated water cost of US$ 904/AF (US$ 0.73/m³), says the study, and are more economical than most other new water supply concepts being proposed.

One of the biggest unknowns, and potentially the most impactful, the study points out, is whether direct potable reuse will be allowed in California in the near future. Law SB918 mandated that the California Department of Public Health should investigate the feasibility of developing uniform water recycling criteria for direct potable reuse by 31 December 2016.

If direct potable reuse was approved, it would be possible to directly integrate the advanced water purification facility output water into the potable water treatment plants (without going to San Vicente Reservoir, for example) and also allow integration with the regional untreated water aqueduct system.

The project team consisted of City staff from the Public Utilities Department, and a consulting team from Brown & Caldwell, Black & Veatch and CDM.

Source: **Desalination & Water Reuse**