

## Newmark Groundwater Contamination Remediation Facility

### HIGHLIGHTS

Eight City wells with high concentrations of TCE and PCE.

Construction of a large-scale, pilot, air stripping tower led to preliminary design of Newmark air stripping towers.

Construction of the facility funded under a grant from the California DHS.

The California DHS conducted a survey and found eight of the City of San Bernardino's wells to have high concentrations of TCE and PCE which resulted in the eventual closure of the wells. The City retained Carollo to evaluate possible treatment options and to determine a cost-effective method for recovering the valuable groundwater resource.

The alternatives studied were air stripping, oxidation, and GAC adsorption. Conventional air stripping, where land use permitted, was determined to be a cost-effective alternative. The study included the construction of a large-scale, pilot, air stripping tower to test various tower packing for VOC removal efficiencies and to verify operating costs.

The pilot study by Carollo led to the preliminary design of the Newmark air stripping towers, the completion of air dispersion analysis and health risk assessment, the compliance with requirements, and the acquisition of a SCAQMD permit to construct a 6,000-gpm air stripping facility at the Newmark site.



*Carollo designed a 6,000-gpm air stripping facility at the Newmark site in San Bernardino, California.*

The Newmark facility consists of two 12-foot diameter, 50-foot high fiberglass stripping towers; two 40-hp 20,000-scfm air blowers; about 800 feet of 12-inch and 16-inch transmission main to intertie four wells; and an automated metering and process control center. Each tower is rated to treat 3,000 gpm of water with PCE and TCE concentration of 150  $\mu\text{g/L}$  and 50  $\mu\text{g/L}$  respectively. Carollo also designed vapor phase carbon adsorption facilities to treat the air leaving the columns at the Newmark site and at the City's 10,000-gpm Waterman Stripping facility. Design was based on treating water with up to 150  $\mu\text{g/L}$  of PCE and 50  $\mu\text{g/L}$  of TCE.

Construction of the facility was funded under a grant from the DHS. Major equipment was prepurchased to compress the construction schedule and to maintain greater control of equipment quality.