



**Proposal for Evaluation of Artificial Recharge Potential
and Automated Monitoring of Groundwater Levels in
California Statewide Groundwater Elevation Monitoring
Wells**

Merced Groundwater Basin
Merced, California

Submitted to:

**California Department of Water Resources
Sacramento, California**

Submitted by:

**AMEC Environment & Infrastructure, Inc.
Fresno, California**

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Proposal 2012-013

9.0 Attachment 9 Past Performance

MAGPI, through its agent MID, has successfully complete two previous investigations under AB303 grants. During 2000-2001, MAGPI was awarded an AB303 Grant of approximately \$495,000 to conduct an investigation of the southeast quadrant of the District (Geomatrix, 2001). This investigation evaluated the potential to install additional water supply wells in the southeast quadrant and examine the potential to recharge surface water, if possible. The investigation included the installation of eight exploration borings and two tests wells. The investigation results indicated that the southeast quadrant did not have significant untapped resources.

During 2003-2005, MAGPI was awarded an AB303 Grant of approximately \$250,000 to conduct an evaluation of the surface water/groundwater interactions and recharge potential along Bear Creek (Geomatrix, 2005). This investigation included the installation of six pairs of shallow and deep monitoring well clusters adjacent to Bear Creek east of Merced to near the foothills. These wells were instrumented with dataloggers to record changes in groundwater levels in response to changes in stream stage. The results of this investigation indicated that during flood stages, Bear Creek was a losing stream, and during low stage, Bear Creek had both losing and gaining reaches. Monitoring of Bear Creek is ongoing and the collected data may indicate areas where off-channel recharge may be possible.

During 2004-2010, MID funded a pilot recharge test at the Cressey Basin facility. This project started with seed money from DWR in the amount of about of \$30,000. It consisted of constructing and operating three small pilot test basins and monitoring changes in groundwater levels and quality over time in response to recharge. The results of this investigation indicate that up to 20,000 acre-feet of water could be recharged per year if the facility were completely built-out. The built-up facility was completed in 2010 with construction costs in excess of \$500,000 for both projects.

These projects are examples of how MAGPI, and its agent MID, are investigating the Merced Basin and furthering the understanding of surface water/groundwater interactions within the Merced Basin.