

ATTACHMENT 4
APPLICATION ATTACHMENT TABS
GAP MONITOR WELL INSTALLATION PROGRAM – 2013
KAWEAH DELTA WATER CONSERVATION DISTRICT

Attachment 4 - Project Description

The goal of the Kaweah Delta Water Conservation District's (District) Groundwater Management Plan (GWMP) is to offer efficient and effective groundwater management in an effort to provide a sustainable, high quality supply of groundwater for agricultural, environmental and urban use for the future. The beneficial characteristic of the District's monitor well network is to obtain technical information and to maintain the improvement of a groundwater evaluation tool in which the District uses to periodically update the District's Water Resources Investigation, maintain the District's involvement in the California Statewide Groundwater Elevation Monitoring (CASGEM) program, provide accurate information for State and Federal water reporting, and updates to the GWMP through annual reports. The objective of this Proposal is to prioritize the current data gap areas identified in the monitor well network, through the development of twelve (12) new monitor wells that would be used to provide information, which is used by several agencies, focused on groundwater conditions and the evaluation of surface water importation, groundwater recharge and development of land use planning policies. Accomplishment of the proposed Project would allow for the continued success in the District's Basin Management Objectives to stabilize and potentially reverse the long-term decline of groundwater levels, evaluate groundwater replenishment projects, evaluate cooperative management projects, and coordinate groundwater basin management with local agencies.

In the process of drilling the monitor wells, classification and logging of the intercepted soils will occur. This lithology data is of critical importance in the development of the cell structures which, when combined, provide the basis for the groundwater model. Absent this data, estimates must be made of these critical parameters which often leads to a difference between computed and actual groundwater response conditions. Of additional importance is the groundwater level data where in the more data available, the more accurate the calibration. Therefore, more accurate calibration leads to more accurate estimates of groundwater storage conditions. Land use and water management decisions made within the Kaweah Basin extensively rely on this model, thus the interest of the applicant in improving the database on which the model relies. Due to the existence of a confining clay layer, beginning on an axis parallel to State Highway 99 and extending westward, proper characterization in this area of groundwater response is difficult to achieve. This difficulty is not due so much to the natural conditions as it is to the wells which have been constructed in the area. Some are terminated in the upper, unconfined layer, some completed and perforated below the clay layer and some completed below the clay layer, but perforated and drawing water from both the confined and unconfined zones. The locations of the proposed wells are designed to improve the data set on which the groundwater model relies.

The District's Groundwater Management Plan (GWMP), which is an AB3030, SB 1938 compliant plan, has numerous participants. Participation is through a series of executed MOUs,

which are listed on the attachment hereto. In addition, a number of cooperative agreements exist for management of water resources for the benefit of the health of the groundwater reservoir. These agreements are designed to accomplish, or at least augment, specific elements of the GWMP. Some of the objectives of these agreements, such as that between the District and the City of Visalia, are managed by a joint committee, comprised of elected representatives. Others, such as that between the District and the Ivanhoe Irrigation District, have management objective instructions which tier off of the original agreement objectives and are designed to enhance the original objectives. Recently a GWMP participant, the City of Lindsay, completed a project, with the Department of Water Resources assistance, to develop and calibrate an expansion of the District's numeric groundwater model from its current easterly boundary, east to the edge of the Sierra Nevada foothills. Numerous examples exist of MOU participant activities which enhance the implementation of the GWMP and go well beyond just attendance at annual meetings and participation in 5-year GWMP update efforts.

One of the principal functions of the District is that of education outreach to the public. In addition to regular efforts such as the Board of Directors meeting, the annual Groundwater Management Plan meeting and the regular management committee meetings with cooperating agencies, the District engages in special outreach efforts. These efforts include a regular newsletter, the conduct and sponsoring of tours, best management practice efforts related to water management and in-house and external education events. The latter cover all age groups and parties external to and directly participating in irrigated agriculture. Special efforts are extended to work with local land use planners including the running of the numeric groundwater model for alternative land use scenarios. These efforts are improved over the historical level based on the augmentation of the model to evaluate impacts down to a 100 foot grid cell side dimension, as compared to the normal model cell side dimension of 1,000 feet.

The District obtains groundwater levels on an annual basis, both spring and fall, for all available wells in their monitor well network. The operations, maintenance and repair costs associated with the proposed new wells will be funded by the District. Proper maintenance of the well system on which the primary water level data relies is of high priority to the District. Annual budget actions of the District Board of Directors reflects funding directed at not only keeping the Water Resources Investigation current, but also the support elements including the monitor well network, the numeric groundwater model, the Groundwater Management Plan and the approximate 5,000 acres of groundwater recharge facilities. In addition, the District is in the process of development of another 1,000 acres of recharge basins, the original selection and the performance of which are directly tied to the monitor well network. Information obtained from this monitor well network is directed to the groundwater model database for use in model runs as well as mapping of groundwater conditions, including comparative analysis exercises.