

## Memorandum

To: Programs Projects and Operations Subcommittee  
Re: Amendment to USGS Farm Process Pilot Groundwater Flow Model Agreement  
Date: May 11, 2010  
From: Brian L. Henkel P.E., Groundwater Management Engineer

In May 2010 the Board approved an agreement with the USGS to develop a pilot groundwater flow model (Pilot Model) utilizing the Farm Process for MODFLOW (MF-FMP2). The USGS recently offered the District an additional cost share amount of \$15,000 toward the Pilot Model. The cost share proposed is a 50% share with a District match of \$15,000. The cost share rate in the original USGS is 25%. There would be no increase from the other agencies. The amendment would improve the implementation of the Farm Process within the Pilot Model, improve the calibrated results of the Pilot Model to better match surface and groundwater conditions and improve the Districts ability to utilize the Pilot Model for management purposes. The original contribution amounts and the proposed contribution amounts for each of the contributing agencies are outlined in the table below.

Agency	Original Contribution	Amended Contribution
USGS	\$25,000	\$40,000
LPSNRD	\$10,000	\$10,000
LPNNRD	\$10,000	\$10,000
ENWRA	\$10,000	\$10,000
P-MRNRD	\$63,000	\$78,000
Total	\$118,000	\$148,000

The USGS proposal is to add technical training for USGS staff and District staff with the authors of the computer code utilized in MF-FMP2. Technical training for USGS and District staff would be completed over a three day period and be conducted by Wolfgang Schmid, of the University of Arizona and Randy Hanson, of the USGS California Water Science Center. This technical training would provide an opportunity for USGS and District staff to get hands on training specific to applying MF-FMP2 and will help ensure that the Pilot Model is constructed and calibrated to best utilize the MF-FMP2 on the Platte River system. The authors are already making modifications to the MF-FMP2 code to incorporate additional capabilities specific to the Pilot Model project and the technical training would be an opportunity to provide input from the District to the development of those capabilities. Additionally, this technical training would greatly improve the ability of District staff to apply the model to assess potential management strategies.

- **Staff recommends that the subcommittee recommend to the Board of Directors that the General Manager be authorized to execute an amendment to the Joint Funding Agreement with the USGS for the modification of the scope of the pilot model study for a new total cost of \$148,000, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.**