

# Lower Rio Grande Water Users Organization

c/o City of Las Cruces Utilities – P. O. Box 20000 – Las Cruces, NM 88004  
575-528-3511 telephone / 575-528-3619 fax

---

## NOTICE OF TECHNICAL COMMITTEE MEETING

A meeting of the Lower Rio Grande Water Users Organization Technical Committee is scheduled for Thursday, May 28, 2009 at 3:30 p.m. at the City of Las Cruces Utilities Center, Conference Room 150, 680 Motel Blvd, Las Cruces, NM.

### AGENDA

1. WRRI Project/Billing Status – Dr. J. Phillip King will discuss.
2. EBID Project/Billing Status – Dr. J. Phillip King will discuss.
3. Fiscal Agent Report – Adrienne Widmer will discuss.
  - a. Internal Audit
  - b. Grant Status
4. Other Items of Interest

*If you need an accommodation for a disability to enable you to participate fully in this event, please contact us 48 hours before the event at 541-2000/v or 541-2821/TTY.*

---

City of Las Cruces (Fiscal Agent) – New Mexico State University – Doña Ana County  
Elephant Butte Irrigation District – Doña Ana Mutual Domestic Water Consumers Association  
Town of Mesilla – Village of Hatch – Anthony Water and Sanitation District

**Lower Rio Grande Water Users Organization  
Technical Committee  
Summary Meeting Minutes**

Committee Members Karl Wood (NMSU), Steve Forbes, (DAMDWCA), Adrienne Widmer (CLC), Gary Esslinger, (EBID), Phil King (EBID), Debbie Lujan (Town of Mesilla), Sue Padilla, (DAC)

Others Present: Diane Gamboa (LRGWUO)

Time/Date of Meeting: May 28, 2009, 3:30 p.m.

Place of Meeting: Utilities Center, Conference Room 150

Meeting commenced at approximately 3:30 p.m.

**1. WRRRI Project/Billing Status**

- Phil King - project deliverables are expected by June 30<sup>th</sup>.
- Adrienne Widmer – invoices received to date will not be paid until deliverables are met.

**2. EBID Project/Billing Status**

- Phil King – submitted a revised scope of work/budget proposal for the project.
- Wood moved to accept the revised proposal as presented. Widmer seconded. Unanimous.
- King expected the reports to be complete in June with installation of equipment completed later in July.

**3. Fiscal Agent Report**

a. **Internal Audit** – City of Las Cruces internal audit observations relating to the LRGWUO grant were distributed/discussed by Adrienne Widmer.

b. **Grant Status** -

- Grant will expire in September 2009. No further extensions will be requested.
- Upon expiration of the grant, City is requesting another entity assume fiscal agent responsibilities under the Joint Powers Agreement.

**4. Other Items of Interest**

a. Esslinger - LRGWUO needs to consider regrouping. There are a lot of water related entities being formed that should be a part of the LRGWUO. Dona Ana Flood Control Group and the new utility at Sunland Park and LRG Public Waterworks Authority (LWGPWA) were mentioned as possible new members. It was the consensus of the members present that Karl Wood contact Martin Lopez of the LRGWUO and extend an invitation to be a member of the LRGWUO. May contact other entities in the next few months.

b. **Public Outreach Effort** – King expressed interest in having another public outreach effort. Esslinger suggested targeting groups like Leadership Las Cruces and the Chamber of Commerce. These organizations normally have high profile business professionals that are involved in the community. Good

Meeting ended at approximately 4:25 p.m.

# Lower Rio Grande Water Users Organization

c/o City of Las Cruces Utilities - P. O. Box 20000 - Las Cruces, NM 88004  
505-528-3511 telephone / 505-528-3619 fax

## SIGN-IN SHEET LRGWUO TECHNICAL COMMITTEE MEETING May 28, 2009

PRINTED NAME	ORGANIZATION	PHONE
<u>Karl Wood</u>	<u>NMSU</u>	<u>646-4337</u>
<u>Adrienne Widmer</u>	<u>CLC</u>	<u>528-3527</u>
<u>Steve Forbes</u>	<u>Doña Ana MDWCA</u>	<u>526-3491</u>
<u>Don Padilla</u>	<u>Doc</u>	<u>525-6213</u>
<u>Gary Esslinger</u>	<u>EBID</u>	<u>639-4377</u>
<u>Debbie Lujan</u>	<u>Mesilla</u>	<u>636-7553</u>
<u>Phil King</u>	<u>NMSU/EBID</u>	<u>646-5377</u>
<u>DIANE GAMBOA</u>	<u>LIZGWUO</u>	<u>649-7035</u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>



Sponsored Projects Accounting

MSC SPA
New Mexico State University
P.O. Box 30001
Las Cruces, NM 88003-8001
575-646-1675, fax: 575-646-1676
spa@nmsu.edu

November 18, 2008

Jorge A. Garcia
Chief Utilities Engineer
CLC, Utilities Engineering Dept.
PO Box 20000
Las Cruces, NM 88004

Contract/Award No: Letter Dated 03/28/05
Budget Period: 02/01/05-09/29/08
Budget: \$75,378.00
NMSU Fund No: 600231
Grant No: GR0000109
Progress Billing No. 7

LRGWUO-EPA and LRGWUO Unified Groundwater Model-Rincon

INVOICE NO: GR0000109-600231-7 ( FINAL )

Table with 4 columns: Item, Original Budget, Current Period 1/1/08-09/29/08, Cumulative Expenditures. Rows include Salaries, Fringe Benefits, Subcontracts, Total Direct Costs, F & A Costs, and Total Costs.

Total due NMSU per this invoice \$1,867.72

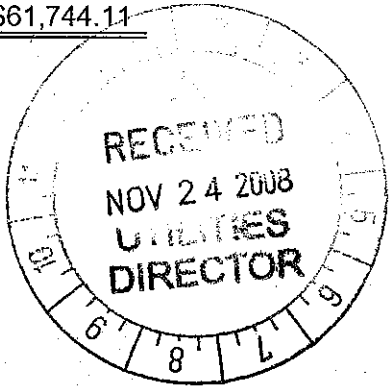
Cost Shared or In-Kind Donated

Table with 3 columns: Description, Amount, Total. Rows include Cost Shared by NMSU, In-Kind Donated, and a final total row.

CERTIFICATION:

I certify that all expenditures reported are for appropriate purposes and in accordance with the agreements set forth in the application and award documents.

BY Tina V. Hales 11/19/08
Tina V. Hales, Assistant Director - Sponsored Projects Accounting
Contact Person: Lourdes Alvarado Phone: (575) 646-7932



Remittance Address: See Above

\*\*\*\*Please reference invoice number on all payments, wire transfers, and correspondence.\*\*\*\*



# Sponsored Projects Accounting

MSC SPA  
New Mexico State University  
P.O. Box 30001  
Las Cruces, NM 88003-8001  
Tel: 575-646-1675  
Fax: 575-646-1676

January 8, 2008

**Jorge A. Garcia**  
Chief Utilities Engineer  
CLC, Utilities Engineering Dept.  
PO Box 20000  
Las Cruces, NM 88004

Contract/Award No: Letter Dated 03/28/05  
Budget Period: 02/01/05-09/29/08  
Budget: \$75,378.00  
NMSU Account No: 105457 ✓  
NMSU Fund No: 600231 ✓  
Grant No: GR0000109 ✓  
Progress Billing No. 6 ✓

LRGWUO-EPA and LRGWUO Unified Groundwater Model-Rincon

**INVOICE NO: GR0000109-600231-6 ( NOT A FINAL )**

	Original Budget	Current Period 10/1/07-12/31/07	Cumulative Expenditures
Salaries	\$62,872.00	\$22,180.53	\$61,492.34
Fringe Benefits	2,516.00	861.26	2,027.94
Subcontracts	9,990.00	0.00	9,990.00
Total Direct Costs	75,378.00	23,041.79	73,510.28
F & A Costs (@ 0%)	0.00	0.00	0.00
<b>Total Costs</b>	<b>\$75,378.00</b>	<b>\$23,041.79</b>	<b>\$73,510.28</b>

Total due NMSU per this invoice

**\$23,041.79**

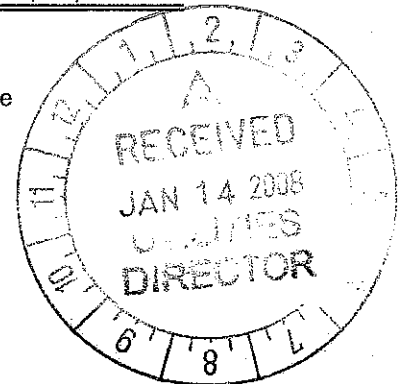
### Cost Shared or In-Kind Donated

Cost Shared by NMSU	10,138.39	32,344.53
In-Kind Donated	-	-
	<u>\$10,138.39</u>	<u>\$32,344.53</u>

### CERTIFICATION:

I certify that all expenditures reported are for appropriate purposes and in accordance with the agreements set forth in the application and award documents.

BY: Tina V. Hales 1/8/09  
Tina V. Hales, Assistant Director - Sponsored Projects Accounting  
Contact Person: Lourdes Alvarado Phone: (575) 646-7932



Remittance Address: See Above

\*\*\*\*Please reference invoice number on all payments, wire transfers, and correspondence.\*\*\*\*

**Amended Proposal:  
Grand Unified Groundwater Model Development for the Lower Rio Grande**

**Submitted to the Lower Rio Grande Water Users Organization  
On behalf of  
New Mexico Water Resources Research Institute**

Proposed by J. Phillip King, P.E., Ph.D.  
Associate Professor and Associate Department Head  
Department of Civil and Geological Engineering  
New Mexico State University  
June 8, 2007

**Problem Statement:** The City of Las Cruces (CLC) and Elephant Butte Irrigation District (EBID) have, for various reasons, developed MODFLOW-based groundwater models to allow them to examine various groundwater, and related surface water issues in the Mesilla, Rincon, and Jornada aquifer systems. The models have coarse spatial scales, on the order of 1 kilometer cells, and coarse temporal resolution, either annual or two seasons. The State of New Mexico through its Office of the State Engineer (OSE) is developing another model for administration of water rights in the area. While the lineages of the models are related, each has been developing for some time, and are intended to answer questions associated with long-term changes in the surface water – groundwater systems of the Rio Grande Project area. Drought, changes in Project Water allocation methods, transfer of water from agricultural to municipal use, water rights adjudication, and potential litigation with downstream users are raising a whole new set of groundwater management questions that the LRGWUO is committed to addressing collaboratively and constructively. Much more sophisticated management tools are necessary to develop conjunctive use strategies to maintain equity within the Rio Grande Project while making water available for increasingly diverse user interests.

EBID and CLC collaborated to develop landmark legislation to facilitate the transfer of EBID water rights from agricultural to municipal use through the mechanism of the Special Water Users Association (SWUA). By creating this new entity, municipalities within the service area of EBID can acquire and hold water rights through purchase or lease. The policies surrounding the SWUAs have certain restrictions on the geographical distribution of water-righted land that municipalities may purchase for municipal use to maintain the historical equity of water access for those EBID constituents who choose to remain in irrigated agriculture. These geographical limitations can be waived by the Board of Directors of EBID if they do not see any hydrologic problem with a given land and water acquisition by the SWUA.

While the development of the SWUA legislation and policy has been a rare success of collaboration in a sea of disputes over water, EBID and CLC have not settled on the analytical basis for evaluating many of the more complex potential transfers. Compounding the complexities of SWUA transfers is the current, and very likely persistent drought with which the region is faced. These factors make it imperative that EBID and CLS have an analytical basis on which both parties agree to evaluate the effect of agriculture to municipal transfers both on the irrigators in the area and the other mutual and domestic water users and to develop strategies for

effective conjunctive management of the area's surface and ground water resources. It is clear that EBID and CLC need a more detailed operations model, which both agencies trust, to evaluate at finer temporal and spatial scales the effect of the two agencies' water use.

The SWUA collaboration has provided leadership for other water using entities in the area. Mutual domestic water users associations, and potentially even environmental groups interested in restoration projects may gain access to surface water through the SWUA mechanism. Clearly, all water users in the area have a strong interest in SWUA policy, and the technical basis for its administration.

In addition to the SWUA and development of the Regional Water Plan, ongoing negotiations among EBID, the El Paso County Water Improvement District No. 1 (EPCWID), and the Bureau of Reclamation have yielded a landmark change in the way Project Water, the primary renewable source of water in the LRG, is allocated among EBID, EPCWID, and the Republic of Mexico. While the potential for shorting the downstream users is drastically reduced with the new allocation method, it is not without hydrologic consequence in the LRG. Continuing negotiations are closing in on a scheme for providing carryover storage in Elephant Butte Reservoir, which may also have substantial effects on the region's hydrology that will propagate through all water use sectors in the LRG.

**Solution:**

A previous effort by the PI implemented the new Farm Module Package (FMP) in the southern Rincon Valley to provide a basis for evaluating the impacts of various management changes on farm-level hydrology.

The next logical step is to develop an extended model of the Jornada del Muerto aquifer basin to the extents of newly available data. The extended model can then be coupled with an existing model of the Rincon and Mesilla valley aquifer systems. This will provide both improved simulation in the Jornada and the ability to simulate interaction among the three major aquifers in the LRG associated with the Rio Grande corridor.

The Jornada model will be developed and coupled with the most current available Rincon-Mesilla model under the guidance of a steering committee composed of:

1. Dr. John Shomaker, President of Shomaker and Associates and developer of the current definitive model of the Jornada. Dr. Shomaker is a consultant for the City of Las Cruces.
2. Dr. Thomas Maddock III, Professor and Department Head of Hydrology and Water Resources at the University of Arizona. Dr. Maddock developed the current definitive model of the Rincon-Mesilla and is contributing to the development of a next-generation model in cooperation with the State of New Mexico. He also works as a consultant with EBID.
3. Mr. Mike Johnson is a hydrologist with the Office of the State Engineer in Albuquerque. He is one of the primary hydrologists in charge of administration of water rights in the Jornada aquifer, and is a frequent user of the existing models.

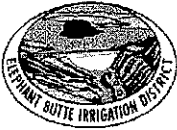
**Deliverables:**

1. A technical report documenting and describing the development of the Jornada del Muerto aquifer model.
2. A technical report describing the integration of the Jornada model with the existing Rincon-Mesilla model.
3. Working versions of a stand-alone Jornada model and a coupled Jornada-Rincon-Mesilla model.
4. Responses to external reviewers of models.
5. Steering committee comments on deliverables 1-3.

**Amended Budget Request:**

Grand Unified Groundwater Model Development for the Lower Rio Grande  
 Proposed by J. Phillip King, P.E., Ph.D.  
 Associate Professor and Associate Department Head  
 Department of Civil and Geological Engineering  
 New Mexico State University

Description	Original Award	Original Cost Share	Award Totals	Proposed Request	Proposed Cost Share	Proposed Totals	Project Total Award	Project Total Cost Share	Project Total
GRA Support - salary & fringes	44,150			31,228					
WRII Mapping and Production					19,796				
Unallowed F&As @ 44%		19,426			22,451				
<b>Total</b>	<b>44,150</b>	<b>19,426</b>		<b>31,228</b>	<b>42,247</b>		<b>75,378</b>	<b>61,673</b>	
<b>Project Total</b>			<b>63,576</b>			<b>73,475</b>			<b>137,051</b>
<b>Percentages</b>	<b>69%</b>	<b>31%</b>		<b>43%</b>	<b>57%</b>		<b>55%</b>	<b>45%</b>	



# ELEPHANT BUTTE IRRIGATION DISTRICT

530 S. MELENDRES  
LAS CRUCES, NM 88005

Invoice No.

## INVOICE

### Customer

Name LRGWUO  
Address c/o CLC Utilities P. O. Box 20000  
City Las Cruces State NM ZIP 88004  
Phone \_\_\_\_\_

Date 1/31/2009

Qty	Description			BALANCE
	Proposal for Completion of the Conjunctive Surface water/Groundwater Model in the Southern Rincon Valley sing MF2K-FMP		\$30,081.00	
	SEE ENCLOSURE			

### Payment Details

- Cash  
 Check

SubTotal \$30,081.00

Taxes \_\_\_\_\_

**TOTAL** \$30,081.00

11290

DUE DATE UPON RECEIPT

To P. King for  
EBID submit.

## **Grand Unified Groundwater Model Development for the Lower Rio Grande**

**Submitted to the Lower Rio Grande Water Users Organization**

**On behalf of**

**Elephant Butte Irrigation District (EBID)**

Proposed by J. Phillip King, P.E., Ph.D.

Associate Professor and Associate Department Head

Department of Civil and Geological Engineering

New Mexico State University

January 20, 2005

**Problem Statement:** The City of Las Cruces (CLC) and Elephant Butte Irrigation District (EBID) have, for various reasons, developed MODFLOW-based groundwater models to allow them to examine various groundwater, and related surface water issues in the Mesilla, Rincon, and Jornada aquifer systems. The models have coarse spatial scales, on the order of 1 kilometer cells, and coarse temporal resolution, either annual or two seasons. The State of New Mexico through its Office of the State Engineer (OSE) is developing another model for administration of water rights in the area. While the lineages of the models are related, each has been developing for some time, and are intended to answer questions associated with long-term changes in the surface water – groundwater systems of the Rio Grande Project area. Drought, transfer of water from agricultural to municipal use, water rights adjudication, and potential litigation with downstream users are raising a whole new set of groundwater management questions that CLC and EBID are committed to addressing collaboratively and constructively. Much more sophisticated management tools are necessary to develop conjunctive use strategies to maintain equity within the Rio Grande Project while making water available for increasingly diverse user interests.

EBID and CLC collaborated to develop landmark legislation to facilitate the transfer of EBID water rights from agricultural to municipal use through the mechanism of the Special Water Users Association (SWUA). By creating this new entity, municipalities within the service area of EBID can acquire and hold water rights through purchase or lease. The policies surrounding the SWUAs have certain restrictions on the geographical distribution of water-righted land that municipalities may purchase for municipal use to maintain the historical equity of water access for those EBID constituents who choose to remain in irrigated agriculture. These geographical limitations can be waived by the Board of Directors of EBID if they do not see any hydrologic problem with a given land and water acquisition by the SWUA.

While the development of the SWUA legislation and policy has been a rare success of collaboration in a sea of disputes over water, EBID and CLC have not settled on the analytical basis for evaluating many of the more complex potential transfers. Compounding the complexities of SWUA transfers is the current, and very likely persistent drought with which the region is faced. These factors make it imperative that EBID and CLS have an analytical basis on which both parties agree to evaluate the effect of agriculture to municipal transfers both on the irrigators in the area and the other mutual and domestic water users and to develop strategies for effective conjunctive management of the area's surface and ground water resources. It is clear

that EBID and CLC need a more detailed operations model, which both agencies trust, to evaluate at finer temporal and spatial scales the effect of the two agencies' water use.

The SWUA collaboration has provided leadership for other water using entities in the area. Mutual domestic water users associations, and potentially even environmental groups interested in restoration projects may gain access to surface water through the SWUA mechanism. Clearly, all water users in the area have a strong interest in SWUA policy, and the technical basis for its administration.

**Solution:**

Both the EBID and CLC models covered most of the US portion of the Mesilla Bolson aquifer system. The EBID model extends into the Rincon Valley north of the Mesilla Valley, and the CLC model includes the Jornada Basin aquifer system north and west of the Mesilla Valley, as well as more detail in and around the City in the Mesilla. By combining and reconciling both agencies and other potential SWUAs will have a powerful analytical tool and common basis for evaluating the effect of transfers of water from agriculture to other uses.

Model development and calibration require valid, real-world data. The focus of the project proposed here is the instrumentation of the Southern Rincon pilot study area, sited in the Southern Rincon Valley between Hatch and Selden Canyon, to the west of San Diego Mountain as shown below in Figure 1. This area has been evaluated by the PIs, and it offers several advantages. It has relatively well-defined boundary conditions, the farmers in the area are very interested in the project, and it is a comparatively non-controversial place to start.

The new Farm<sup>1</sup> and Stream-Flow Routing<sup>2</sup> Packages for MODFLOW-2000<sup>3</sup> will be used in the pilot test area within the domain of the Rincon-Mesilla Groundwater Model<sup>4</sup> developed for the New Mexico-Texas Settlement Commission for the Lower Rio Grande of New Mexico. Being linked to the Stream-Flow Routing Package (SFR), the Farm Package (FMP) is able to simulate surface-water supply and farm irrigation demand, as well as to estimate supplemental groundwater use required to sustain the crops growth for historic periods, or to forecast such estimates for different drought scenarios.

Aside from the assessment of hydrogeologic parameters, farm-, farm-well-, and stream/canal-related input data will have to be compiled for a test model (see figure 2).

In order to test for possible weaknesses and errors of the new Farm Package, the objective is to keep uncertainties low, which may – for example – be related to difficulties in defining boundary

<sup>1</sup> Schmid, W.; Maddock, T.; Hanson, R.T.; Leake, S. & King, J.P., 2004, A Farm Package for MODFLOW-2000 (FMP), U.S.G.S. Open File Report (NOT YET PUBLISHED).

<sup>2</sup> Prudic, D.E., Konikow, L.F., and Arlen W. Harbaugh, A.W., 2004, A Streamflow Routing Package (SFR1) to Simulate Stream-Aquifer Interaction with MODFLOW-2000, U.S.G.S., Water-Resources Investigations Report No. ? (NOT YET PUBLISHED).

<sup>3</sup> Harbough, A.W., Banta, E.R., Hill, M.C. and McDonald, M.G., 2000, MODFLOW-2000, the USGS Modular Ground-Water Model – User Guide to Modularization. Concepts and the Ground-Water Flow Process.

<sup>4</sup> Weeden, C. and Maddock, T. III, 1999, Simulation of Groundwater Flow in the Rincon Valley Area and Mesilla Basin, New Mexico and Texas.

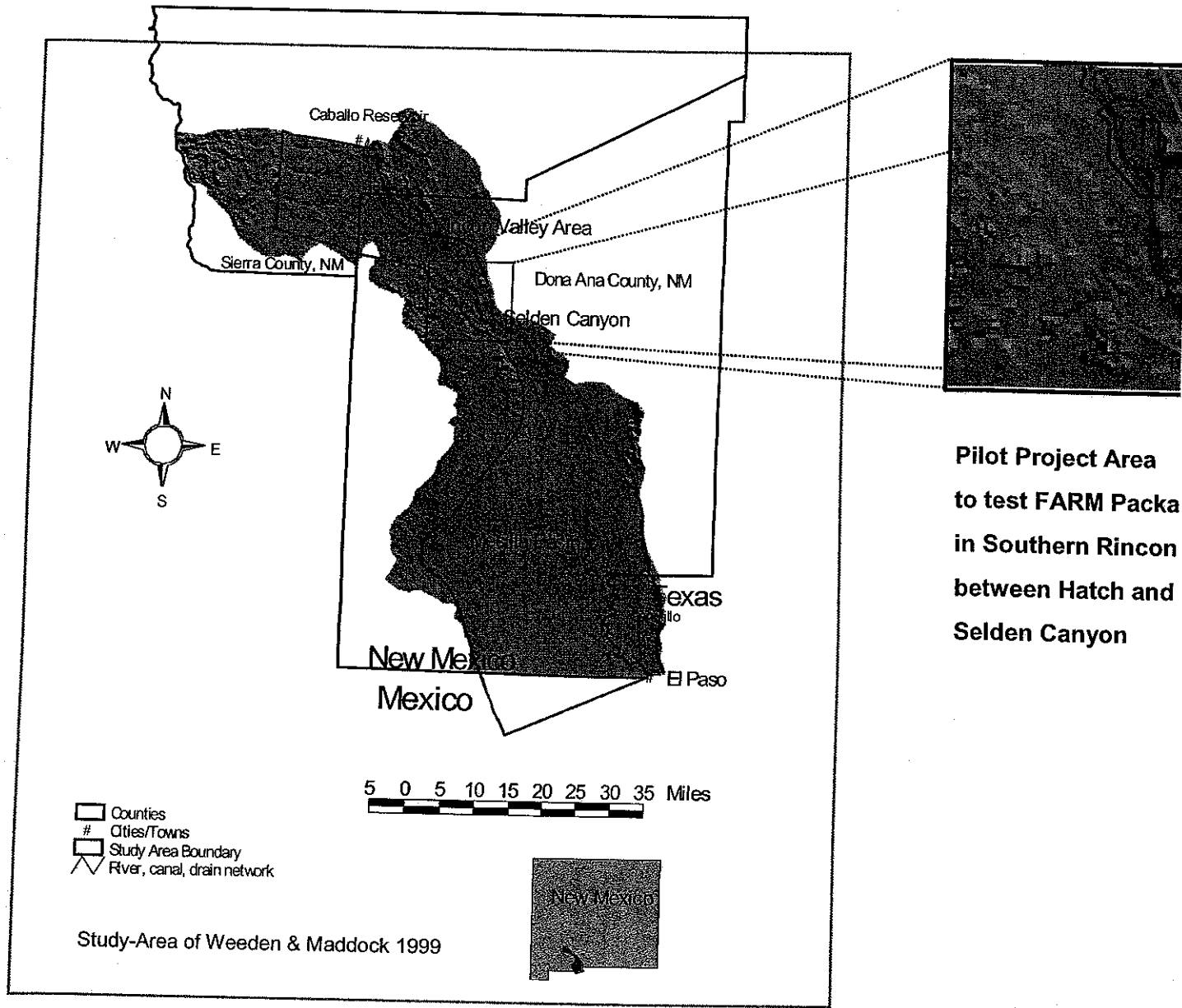
condition. That is why the area is chosen such that the farm irrigation area is laterally mostly adjacent to very low conductive or no-flow boundaries (e.g. Hayner Ranch – Fonglomerates, Eocene Lahars, Upper Santa Fe Alluvium). However some lateral inflow into the modeling domain from the Jornada Basin in the NE of the study area (Camp Rice Formation with ancestral Rio Grande fluvial deposits) or upwelling from a lower confined aquifer (Hayner Ranch formation) through the confining bed (Rincon Valley Formation) into the Alluvial Aquifer should be accounted for in the model, simulated by MODFLOW-2000 with SFR and FMP.

Ultimately the application of the FMP to the entire EBID is desirable. Once the procedure for implementation of the FMP is developed in this project, it will be extended to the rest of the Rincon valley and the Mesilla Bolson aquifer to the south.

**Deliverables:**

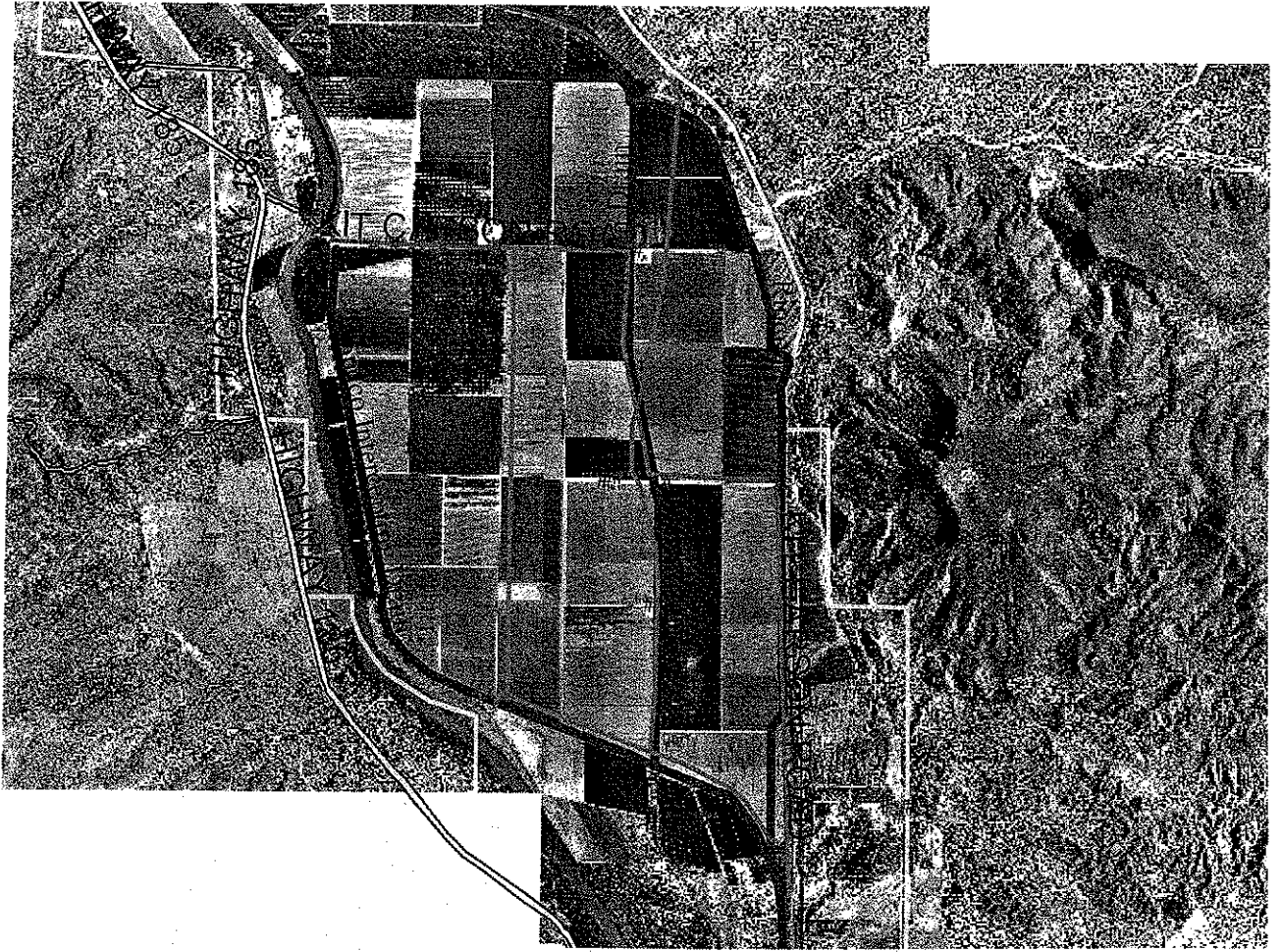
For their portion of the project, EBID will produce the following:

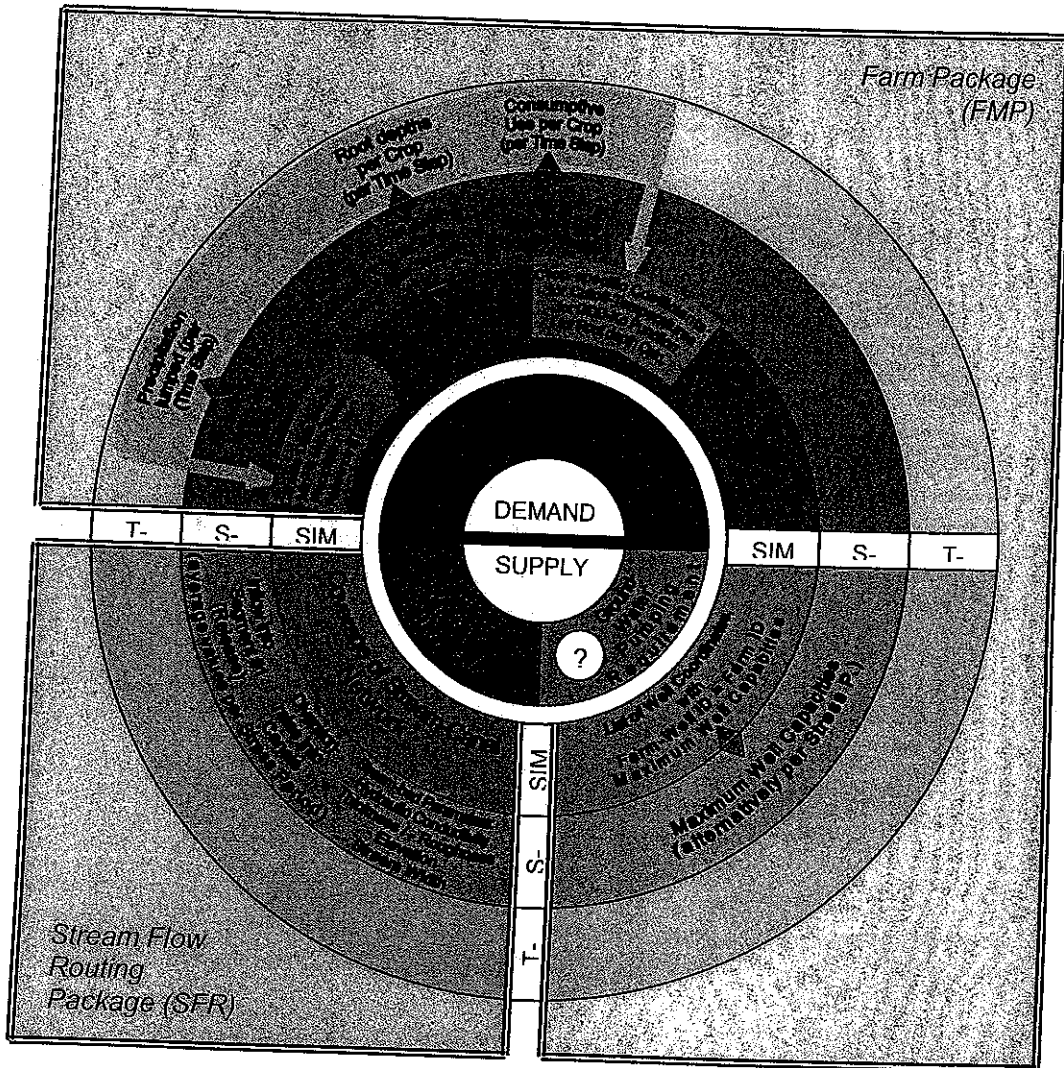
1. Instrumentation to monitor the hydrology of the pilot study area.



**Pilot Project Area  
to test FARM Packa  
in Southern Rincon  
between Hatch and  
Selden Canyon**

**Figure 1: Pilot Study area map.**








- 
**GW Pumping Rate = Estimation Parameter of Interest**  
 Alternative options to input data into SIM, S-PER, T-STP
- 
 Data calculated as T-STP Averages based on Timeseries & Functions specified a priori for entire Simulation.
- 
 Input of Climate data time-series & Crop-specific coefficients for the entire Simulation only needed, if Cons.Use, Precip. & Root depth are to be calculated as Time-step averages!
- SIM:** Simulation  
**S-PER:** Stress Period  
**T-STP:** Time Step

Figure 2: Structure and data needs of Farm Package.

**Elephant Butte Irrigation District (EBID)**

**Budget Request for the Project:**

Grand Unified Groundwater Model Development for the Lower Rio Grande

**Proposed by:**

J. Phillip King, P.E., Ph.D.

Associate Professor and Associate Department Head

Department of Civil and Geological Engineering

New Mexico State University

**For the Period of Performance:**

February 1, 2005 – September 29, 2008

Item	Entity	EBID	
		Request	Match
RTUs (5 @ \$2,500)		\$12,500	
Mini-RTUs (10 @ \$1,250)		\$12,500	
Water Level Sensors (15 @ \$700)		\$10,500	
Turnout Indicators (8 @ \$400)		\$3,200	
Mag-Tube systems (8 @ \$900)		\$7,200	
Installation (Labor, Const., & Supplies)			\$32,000
reporting, QA/QC			\$5,555
Indirect Cost			
<b>Total</b>		<b>\$45,900</b>	<b>\$37,555</b>

**Revision to EBID Rincon Pilot Study Area  
Lower Rio Grande Water Users Organization**

28 May 2009

EBID originally planned to install instrumentation to feed real and near-real time data to the Rincon Pilot Study Area (RPSA) groundwater model developed with LRGWUO funding using the Farm Process Model (FMP), which was developed by Dr. Wolfgang Schmid of the University of Arizona as a new component of the MODFLOW groundwater modeling package. Since the LRGWUO awarded EBID the grant, many developments have occurred that motivated a change in the distribution of funds. Those events are:

1. Due to a metering order by the Office of the State Engineer, the farmers in the area installed well meters before EBID could get to them. Most of the meters are McCrometer brand, which require a digital converter module to couple them to radio telemetry. Therefore, well meters are no longer in the budget, but 8 digital converters are.
2. The Interstate Stream Commission, in partnership with EBID, replaced the shallow monitoring well network that covers the EBID area, and installed additional wells. This will improve the real-time groundwater modeling in the district, including the RPSA, and it will provide local cost share, pending approval from ISC. The data from these monitoring wells will also be monitored real-time and incorporated into the FMP-MODFLOW model of the area.
3. A new version of the FMP has been developed by Dr. Schmid, with the specific needs of the RPSA in mind. With the installation of groundwater well meters by the EBID farmers, the pressing need is to update the RPSA groundwater model to better represent farm hydrologic processes and use the production and monitoring well meter data to calibrate the model and begin expansion of it. Therefore, EBID will contract with Dr. Schmid to update the previous FMP-based MODFLOW model and produce a plan for extending it to the rest of the district.
4. The Rincon/Tonuco drain has been substantially modified in the RPSA. It is a key hydrologic feature of the area. Some of the surface water instrumentation (water level sensors) here will be used to monitor the flow in the drain system in more detail.

The extension of the FMP-based MODFLOW model, based on the experiences of the RPSA work carried out by LRGWUO, appears to be the objective of a larger project by NMSU-WRRI and the US Geological Survey under the Transboundary Aquifer Assessment Act.

The revised budget proposal is as follows:

Item	Request	Match	Match Source
RTUs (5 @ \$2,500)	\$12,500		
Water Level Sensors (5 @ \$600)	3,000		
Turnout Indicators (8 @ \$400)		\$3,200	EBID, farmers
Well digital converters (8 @ \$400)		3,200	EBID, farmers
Installation (Labor, Const., & Data mgmt)		20,000	EBID
Monitoring well installation		4,400	ISC
FMP2 implementation, reporting	30,000		
Reporting, review, QA/QC		6,000	EBID
Total	45,500	36,800	
Project Total	82,300		
Percentages	55%	45%	

**Observation #1**

The grant money was not spent timely. At the time of our review, we noted that grant funding was not spent during the original grant period for the following two grants:

Lower Rio Grande Water Users (XP-986611-01-0) \$1,181,819 Grant Period 10/1/00 to 10/1/04

Due to the complexity of this grant, five extensions have been requested and granted. At this point, the project period is 10/1/00 to 9/30/09. It is anticipated that this grant will be fully completed by the new expiration date.

Recommendation. Going forward, grant funding if possible should be spent during the original grant period. Doing so will demonstrate to the agencies that there was a pressing need for the funding on top of being a good grants management practice.

Management Response.

We agree that funding should be spent during the original period. Through JPA's with the other organizations, the City of Las Cruces is the fiscal agent for the grants and we depend on the other organizations to meet deadlines. We do anticipate being able to close the grant by the new expiration date.

**Observation #2**

Cash or In-Kind matching contributions have not been properly tracked or supported. In addition, an account in the system has not been created to properly track matching contributions.

Lower Rio Grande Water Users (XP-986611-01-0) \$1,181,819 Grant Period 10/1/00 to 10/1/04

As part of the City serving as the overall fiscal agent for this grant, the City is required to report to the agency the matching contributions from all participating organizations. We noted that there were instances when matching requirements from the other participants were not properly supported by actual contributions.

Recommendation – Going forward, we recommend that cash and In-Kind contributions be properly tracked and fully supported by actual supporting documentation and that only actual cash or In-Kind contributions be reported to the agencies. Reported contributions must be fully supported as reporting unsupported or partially supported contributions puts the City at risk. We will also recommend to the City's Accounting Department to consider creating a cost sharing contribution account in order to properly track the City's matching requirements.

Management Response.

We concur and will make the necessary adjustments and notify the other organizations within the LRGWUO that we rely on for billing and providing adequate information.