SF 424
Application for Federal Assistance

CALFED WATER USE EFFICIENCY GRANT PROGRAM

FLOW MEASUREMENT SCADA SYSTEM

, California

May 29, 2007

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Part I -- EXECUTIVE SUMMARY (See RFP Section IV.C.2.5)

A. General Project Information

A.1

Date: May 29, 2007

Applicant Name:

City, County, State:

A.2

Project Name: Flow Measurement SCADA System

A.3

2007 Funding Request Summary *[Use * to denote an in-kind contribution]*

FUNDING SOURCE	FUNDING AMOUNT
Non-Federal Entities:	
	$20,000
Non-Federal Subtotal:	
Reclamation Funding:	$20,000
TOTAL PROJECT FUNDING:	$40,000

A.4

One paragraph project summary:

The Flow Measurement SCADA System would add continuous real-time flow measurement from the installation of state-of-the-art water level sensors and radio telemetry at the The Canals are the District's two largest lateral reaches off the Canal, the primary conveyance facility. The project would provide District managers with remote and accurate flow rate measurement of approximately 65,000 acre-feet per year, allowing for timely management of flows and deliveries while reducing over-deliveries and spill flows. Multiple benefits include water conservation, a greater reliability of supply, reduced environmental impacts from canal chemical treatments due to better containment of treated flows, and improved operational efficiency. The District estimates a water conservation benefit of at least 400 acre-feet per year. Conserved water provided by the project would increase water availability and allow to consider entering into agreements with cities in which have expressed serious interest in additional water supplies. The installation of the SCADA system would modernize the District's flow measurement program and also facilitate plans for further improvements to conveyance facilities, such as automatic control gates and additional remote water measurement equipment.

A.5

This project is consistent with CALFED Bay Delta Program Goals #1, #2, #3, #4. Identify how this project contributes to accomplishment of this goal.

Goal #1: "Reduce existing irrecoverable losses." Improved flow management provided by the project will reduce operational spill flows, which leave District conveyance facilities, enter regional drainage canals, and eventually discharge into the Sacramento River.

Goal #2: "Achieve multiple benefits." Benefits afforded by the project include water conservation and a greater availability of supply, greater flexibility with local and regional water use management, improved measurement accuracy, increased operational efficiency, and better water quality during chemical treatment periods.

Goal #3: "Preserve local flexibility." The project would increase water availability and create opportunities for to lease conserved water to urban users, effectively decreasing the dependence on the Bay-Delta system as a water source for cities.

Goal #4: "Build on existing water use efficiency programs." The District's annual Rehabilitation and Betterment Plan identifies approved water use efficiency projects and facility upgrades. The proposal builds upon the Spill Measurement SCADA system, installed in 2006 and 2007. Other related programs are Ag Meter Replacements, Pump Efficiency Testing, Pipeline Replacement, Canal Lining, Drainage Recovery Systems and On-farm Water Conservation Services.

A.6

Summarize reports and studies prepared for the proposed water use efficiency project or explain what has been done to determine the project's feasibility.

The project is supported by the ""*Water Supply Availability" report," and the "Spill Reduction Feasibility Study*," both prepared by The Water Supply Availability report summarizes current annual water supplies, reviews the District's commitments to users, and proposes opportunities to increase water supplies. The Spill Reduction Feasibility Study investigates operational canal spill flows and suggests options to reduce irrecoverable losses. Both studies identify remote, real-time flow measurement as a feasible and recommended conservation practice, and a step towards future automation of facilities.

See attachments #D,E.

A.7.

Contact for Further Information:

Name:
Title: Irrigation Specialist
Telephone:
E-mail:

Part II -- TECHNICAL PROPOSAL (See RFP Section IV.C.2.6)	
A	**Background Data** Include the following information about the applicant. (See RFP Section IV.C.2.6.1)
A.1	**Location (state, county, and direction from nearest town):** California, , including portions of cities and surrounding areas of
A.2	**Applicant's average annual water supply (in acre feet):** 140,000, including groundwater sources, recovery pumping of drain water, and supplies for municipal/industrial users.
A.3	**Describe water use (i.e. municipal, irrigation, etc.):** 126,000 acre-feet annually delivered to farmers, and 14,000 acre-feet delivered to municipal and industrial users.
A.4	**If water is primarily used for irrigation, describe major crops, total acres served, major irrigation methods:** 60,000 acres are served. Major crops include tomatoes, alfalfa, grapes, corn, walnuts, almonds, nursery stock, pasture, and wheat
A.5	**Describe the applicant's water supply facilities, including miles of canals, miles of laterals, existing irrigation improvements (type, miles, acres), canal and lateral seepage losses and on-farm efficiency, etc.:** The , is the primary water conveyance facility for the The is concrete lined and 33 miles in length. The has five lateral reaches, including the Canal and Canal. distribution system consists of gravity diversions from the and pumped diversions to the service areas. The distribution system includes approximately 110 miles of open canals, 190 miles of pipelines and 70 miles of open drainage channels. The District has six reservoirs, several tail-water recovery systems, and has a conjunctive use program in place to utilize District owned deep wells to supplement water demand if needed. Improvements to facilities are part of the District's Annual Rehabilitation and Betterment Plan, which include pipeline replacement, canal piping, canal lining, drainage recovery systems, and flow measurement projects. Additional recent improvements include reservoir cleaning, deep well installations, and the implementation of a pump efficiency test program. The District recently completed studies that addressed operational spill losses, seepage losses, and water supply opportunities. The "Spill Reduction Feasibility Study," and "Water Supply Availability" report were completed by ., in 2005 and 2006. The District serves as the lead agency for the Conservation Committee. The Committee actively works with farmers to

	implement water conservation measures. Services provided to farmers include free irrigation evaluations, soil moisture monitoring, pump efficient testing, irrigation workshops, newsletters, local CIMIS weather station support, and irrigation scheduling. See Attachment #A, District Map See Attachment #B, Rehabilitation and Betterment Plan See Attachment #C, Photograph of Weayand Canal headworks
A.6	**State how the project affects the California-Bay Delta.** is located in one the fast growing regions of California. Participating agencies of the have for years entered into agreements with each other to reduce regional conflicts and achieve the most effective use of combined water supplies. These agencies are the cities of and special districts Existing water supplies available include the groundwater, State Water Project and reclaimed water. Water conservation accomplished by the project will make available an estimated 400 acre-feet per year. Greater water availability provided by the project improves the District's flexibility with local and regional water use management and decreases the dependence on the Bay-Delta system as a water source for cities. Water conservation measures such as the proposed project are supported by the Agency's Integrated Regional Water Management Plan (IRWMP), as assisting the Region in meeting water supply objectives. The project will contribute a benefit towards water quality in the region. Drainage and operational spill flows leave District facilities and enter regional drainage canals that flow eastward and eventually discharge into the Sacramento River. Real time flow information will enable District managers to better contain deliveries in the canal system, especially during chemical treatment periods. By reducing treated spill flows, an increase in water quality is expected, as well as compliance with water quality standards.

A.7	**Describe any other relevant background information:** The is located in , California, approximately of Sacramento. Formed in 1948, is a Special District with an elected Board of Directors, formed under the Water Code of the State of California. The District provides irrigation water for over 60,000 acres of irrigable soils and manages the key water source for a population of 200,000 and thousands of businesses. Annual water diversions reach 151,000 acre-feet. The official representative of the District is the General Manager. is a diverse organization performing a variety of water resource related functions, not typical of most irrigation districts. A review of the major functions are as follows: The District operates and maintains the under a contract with the holds the contract for water on behalf of users, with the USBR. The is comprised of the Dam, and the Canal, all owned by the federal government. employees deliver water from the Project when ordered by its customers, which include is represented as a member of Board of Directors, along with seven cities and the County Board of Supervisors, and two other agricultural water purveyors The District owns and operates the Power Plant at the base of the The Plant was the first hydro-project owned by a local agency at the base of a federal dam. Energy produced at the Plant is sold owns and operates an agricultural water delivery system of about 370 miles of pipe, canals, and ditches. In addition to surface water deliveries from Project facilities, the District owns about 33 wells used to supplement surface water supplies. Approximately 126,000 acre-feet of water is delivered annually to farmers, covering 60,000 acres. Domestic water customers include agreements with the cities of and businesses, about 1000 rural customers, partnerships in the with City, and in the . Domestic water sales from allocation of Project supplies average 14,000 acre feet annually.

	The District has 97 full time employees and a general fund budget of million dollars annually. The District charges farmers $ acre-ft. for lands , and $ /acre-ft. for lands above . The District charges landowners $ of assessed land value, and charges a standby charge for lands 5 acres or larger. sources of revenue include water sales ( ), assessment (, and standby charge ( ). Other revenue sources are payments from for water supplies, and interest income. contractual agreements include reimbursements from
B	**Consistency with State or Local Water Plan** (See RFP Section IV.C.2.6.2)
B.1	**State whether the proposed project is consistent with the state or local water plan. Yes _X__ No ___** **If yes, identify the applicable plan**: Integrated Regional Water Management Plan (IRWMP), and 5-Year Water Management Plan
C	**Project Description** (See RFP Section IV.C.2.6.3)
C.1	**Describe in detail the work and approach to be used to carry out the proposed project. This description shall be in sufficient detail to permit a comprehensive evaluation of the proposal.** For the proposed project the District would purchase PSI transducers/sensors to monitor, log, and transmit flow data. Components to be purchased for each spill site are Programmable Logic Controllers (PLC's), Ethernet radios, antennas, and solar panels. The District estimates an equipment cost of $6593 for each monitoring site, and $7256 at the repeater site. The District's electronics technician and electrician would install the components at each site, perform testing, and maintain equipment for a total cost of $800 over a two year period. The District intends to contract with to install the master computer, perform programming, and install the related master radio, PLC unit, and antenna at District offices. Radio path surveys, planning and design will be performed. The cost estimate for software programming and services is $5,000. Additional required tasks include construction and installation of security enclosures, mounting poles, and sensor housings at a cost of $600. Construction and installation would commence during 2007. anticipates a one year period for installation and a ten year period for data analysis and application of the data towards operations management. The District is requesting funding to assist with component equipment purchases during the first year, during the implementation phase of the

	project. Initial data acquisition and application towards operational management may occur late in the first year. During the second year, anticipates full implementation of the system and the derived water conservation. The District expects to gain flexibility towards regional water demands during the second year of the project. expects to increase conserved water supplies in future years, as well increase its marketing flexibility as District staff improves its operational management of delivery flows with further experience with the SCADA systems. The project is an expansion of the District's new SCADA system, installed in 2006, which currently measures spill flows at eight canal sites. Data acquisition, programming, and monitoring at canal spills support the proposed project and provide baseline data that will enable a comprehensive evaluation of the project's outcomes. Assessment of the project's outcomes and attainment of goals will be the responsibility of the project manager, who is Water & Power Operations Manager. will analyze data, maintain the database, and evaluate the performance and success of the system at a cost of $ over the two year period of the project. Operational monitoring of flow data to manage flows and deliveries will be the responsibility of the Agricultural Operations Supervisor, , at a cost of $ over the two year duration of the project. Agricultural Water Conservation Coordinator, , will submit interim and annual reports fiscal and programmatic reports and will submit a comprehensive final report at the end of the project. Information sharing, outreach with interested parties, and oversight of the project's budget will also be managed by the Conservation Coordinator. Labor and overhead costs are estimated at $ over the two year period **See attachment #C Photograph of Weyand Canal Headworks**
C.2	**Provide an estimated project schedule demonstrating the stages and duration of the proposed work, including major milestones and dates.** Project Schedule August 2007 - Design system, perform radio surveys, purchase components, begin installation, and perform tests. September 2007 - Complete installation, begin initial data collection. April 2008-December 2008 - Evaluate data, maintain database, monitor flows as a part of daily water delivery operations and flow management to provide conservation and improve canal chemical treatment applications.
C.3	**Discuss any deviations from the proposed September 30, 2007, start date and 24-month project duration.**

	The District will begin the project in August 2007 with District funding as part of its Rehabilitation and Betterment Plan.
C.4	**Briefly describe any engineering plans, designs and analyses prepared in connection with the proposed work and include it in the Appendix of the proposal.** The District plans to contract with , a Control Integration Contractor, to design the system, perform radio surveys and tests, install radio and PLC components, perform programming, and train District staff, at a cost of $
D	DEMONSTRATED RESULTS (See RFP Section IV.C.2.6.4)
D.1	**Briefly describe how the project contributes to CALFED QO's and targeted benefits. Explain how this project will benefit the California-Bay Delta.** The project meets CALFED Targeted Benefits TB#52: "Improved Water Quality," TB# 53: "Generate Additional Water Through the Reduction in Application Through Improved Irrigation Systems," and CALFED Record of Decision (ROD) Water Use Efficiency page 5 of the PSP: "Reduce Irrecoverable Losses/Achieve Multiple Benefits." The project will conserve water which can be applied to the demands of cities, and reduce the dependence on the Bay-Delta as a water source. The project contributes a benefit towards water quality in the region, as more efficient operational management of canal system, provided by the real-time flow rate monitoring, will help the District minimize impacts from chemical treatments required to maintain the delivery system.
D.2	**Describe the degree to which the proposal increases conservation and/or efficiency overall, and the degree to which it increases conservation or efficiency with regard to any individual facilities (e.g., headgate or canal) improved. In your response, please include the following information:** **a) For proposals that conserve water, the amount of water conserved in acre-feet per year and address the fate of the conserved water (i.e, remain in stream, used for other purposes, etc);** **(b) For projects involving improvements to individual facilities (e.g., a head gate, canal or ditch), state the average annual water supply that is ran through the effected facility and the estimated water savings or quantities that will be better managed or managed differently , in acre-feet, as a result of facility improvement;** **(c) For proposals that improve water management through measurement, automation, or irrigation management, etc., state the amount of water expected to be better managed, in acre-feet per year.** The project will provide vastly improved measurement accuracy and greater flow management for the approximately 65,000 acre-feet per year that is delivered annually through the headworks. Real-time flow monitoring will enable managers to respond quickly to

	fluctuations in water demand and adjust deliveries to minimize spill flows and irrecoverable losses. The District estimates water conservation of at least 400 acre-feet per year. The conserved water would remain in the Canal, where it can increase the District's flexibility towards meeting regional and urban water demand. Flow information received at the District office will allow managers to compile data for baseline analysis of deliveries, operational losses, seepage losses, and evaluation of facilities. The project will decrease operational costs, especially labor and fuel costs, by reducing repetitive trips to measure flows and adjust headgates. The District estimates a cost reduction of $ per year.
	Provide the following information regarding project benefits: **(a) Identify all direct project benefits to the California Bay-Delta (i.e, amount of water conserved, water quality, improvement of instream flows, etc); indicate the number of years such benefits will continue (e.g, the life of any physical improvements, and/or the term of any contractual arrangements); and, whether such benefits will occur year-round, or only during certain months of the year (if so, state which months of the year):** 400 acre-feet per year is expected to be conserved. The direct benefits include increased carryover storage and supply reliability for the District's customers and municipal partners, increased operational efficiency, and improved water quality in the regional drainage system during chemical treatment periods. Direct benefits will be derived during the entire life of the project, expected to be 20 years for the SCADA components. The District expects future benefits beyond 20 years, as the project becomes the foundation for additional facility improvements and the expansion of its SCADA systems. Environmental and operational benefits will occur during the irrigation delivery season, usually from April 1 – October 15th. Benefits resulting from increased available water supplies will occur year-round. **(b) Identify any indirect benefits such as increased carryover storage, increased irrigation season during drought, improved reliability of water supply. (If the time period that such benefits will continue is different from the time period indicated above in response to (a), please explain):** Indirect benefits include an increase in water availability which can be applied to the demands of the regions cities and reduce the dependence on the Bay-Delta as a water source. The project contributes an environmental benefit towards water quality in the region, as spill flows enter regional drainage canals and eventually discharge into the Sacramento River. By monitoring delivery flows on a real time basis, the District can improve containment of treated water within the canal system and limit spill flows during critical periods.

	The District expects quantifiable benefits to begin the second year, when the project is fully implemented. Benefits related to conserved supplies will be seen throughout the year. Environmental benefits are expected primarily during the delivery season, from April – October. **(c) Discuss other benefits from the proposed project which are not included above. Any expected benefits that cannot be quantified should be described in a detailed narrative.** The project will allow the District to quantify flows with greater accuracy. Managers plan to compare post-project flow data with current baseline flow data as a performance measure for the project and to improve operations. **(d) Provide documentation and support for how estimates of direct project benefits and any indirect project benefits were made (calculations, measurements and references):** The District referred to the "Spill Reduction Feasibility Study," and "Water Supply Availability" report for analysis of project benefits.
E	**Performance Measures and Project Monitoring** (See RFP Section IV.C.2.6.5)
E.1	**Provide a detailed plan on how performance measures and project monitoring will be used to demonstrate, verify and report project performance and results. Post-project data verification needs to be included. Visit http://www.usbr.gov/mp/watershare for suggested performance measures.** The District plans to compare pre-project flow volume diverted through the headworks and the corresponding downstream customer demand, with post-project diversions and corresponding customer demand. Currently, flows are recorded manually by staff gauge measurement, at various intervals during the day. Post project flow will be recorded continuously, and data will be logged at the District master SCADA computer for reference and analysis. Success of the project will be determined by the improvement in the ratio of diversions compared to downstream user demand.
F	**Need for Project and Community Involvement** (See RFP Section IV.C.2.6.6)
F.1	**Explain the need for the proposed project. Include:** **(a) The urgency of the project;** **(b) The negative consequences or potential impacts if not implemented;** **(c) Other information relevant to the need of the proposed project.** Like much of California, increasing water demands, dry year shortages and water quality challenges face . The Water Agency and its member cities and irrigation districts, such as have identified and prioritized water resource needs in its Integrated Regional Water Management Plan (IRWMP), and in Strategic Plan, which lists actions required of to best allocate its financial and

	staffing resources to meet its needs. Primary concerns addressed in the IRWMP are calls for cooperative means to improve water supply, water supply reliability, and water quality to meet the increasing water demands that face agencies. proposed project will conserve water which can be applied to the demands of cities, and reduce the dependence of the Bay-Delta as a water source. The project also contributes a benefit towards water quality in the region, as improved operational management of canal distribution system, provided by the availability of real-time flow rate monitoring, will help the District reduce environmental impacts from chemical treatments required to maintain the delivery system.
F.2	**Describe any public outreach that the District has provided to the groups or individuals that may be affected by the project. Include how other local agencies might be involved in the project, third party impacts and any opposition to the proposed project.** The District is willing to share project results with any interested parties and its umbrella agency, the The District would be willing to contribute articles to be published in water conservation newsletters. It is anticipated that other irrigation districts and water agencies will express interest, as the project demonstrates the application of SCADA systems towards operational flow management.
G	**Environmental and Regulatory Compliance** **Please answer the following questions to the best of your knowledge. If any question is not applicable to your project, please explain why. If you have any questions, please contact your local Reclamation office.** (See RFP Section IV.C.2.6.7)
G.1	**Will the proposed work impact the surrounding environment (i.e. soil (dust), air, water (quality and quantity), animal habitat, etc.)?** No. **If so, please explain the impacts and any steps that could be taken to minimize the impacts.**
G.2	**Are there wetlands in the project area?** No. **If so, please estimate how many acres of wetlands there are, and any impact the proposed work will have on the wetlands.**
G.3	**When was the irrigation water distribution system constructed?** 1959 - 1964
G.4	**If the project will affect individual features of the irrigation system (e.g., headgates, canals or flumes), state when those features were constructed and describe any extensive alterations or modifications to those features, including when such alterations or modifications took place.** Conveyance facilities affected by the project include concrete lined canals, and graveled canal roads constructed in 1959. The project consists of

	installations of water level sensors in the canals, and placement of enclosures on the canal roads which house the related radio and PLC units. A solar panel and antenna will be mounted above each enclosure. The installation will be small in area and create no environmental impacts.
G.5	**Are any buildings, structures, or features in your irrigation district listed or eligible for listing on the National Register of Historic Places?** No. **Your local Reclamation office can assist you in answering this question.**
G.6	**Are there any known archeological sites in the proposed project area?** No.
G.7	**State whether any permits or approvals are required, and explain the applicant's plan for obtaining such permits or approvals.** No permits are required at this time. The District will comply with regulatory permitting when required.
G.8	**State whether a line item for environmental compliance costs has been included in the budget.** **Yes ___ No X___** **If no, please explain why.** The District does not anticipate any environmental compliance costs.

Part III – Funding Plan (See RFP Section IV.D)	
A	**Describe how the Applicant will make its contribution to the cost share requirement, including a description of monetary and in-kind contributions, and identification of the source funds contributed by the applicant (e.g., reserve account, tax revenue and/or assessments)**: is contributing $20,000 or 50% of the total project cost towards the proposed SCADA system. cost share consists of monetary expenditures for the implementation of the Project, approved by its Board of Directors on January 29, 2007. The source of the funds is the District's Rehabilitation and Betterment Plan, from the Ag Meter Replacement Project #D.2.7, and the Spill Recorder SCADA System, #H.5.1.
B	**If project funding is being provided by funding partners, not including the applicant or Reclamation, please provide the following information**: N/A **(a) Identify the funding partners and state the amount of funding to be provided by each**: **(b) Are letters of commitment from all cost-sharing partners included with the proposal? Yes ___**
C	**Describe any other Federal funding requested or received for the proposed work. Note, Federal funding may not be counted towards the applicant's 50% cost share requirement**. N/A
D	**Discuss what lesser amount would be acceptable if Reclamation is unable to provide your total funding request. Discuss any decrease in project size or other problems due to decreased Federal funding**. A Federal cost share of 40% or $16,000 may be acceptable, pending approval by the District.
E	**Does the budget identify direct, indirect, environmental and contingency costs? Yes _X__ No ___. If not, explain why.**

Applicant:

THE TABLES ARE FORMATTED WITH FORMULAS:

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Step 2- Attachment 6- Table 1 Project Costs

Section A projects must complete Life of investment, column VII. Do not use 0.

	Tasks/subtasks (I)	Year 1 $	Year 2 $	Total $	Contingency % (III)	Cost + Contingency $ (IV)	Applicant cost share,$ (V)	State Share,$ (VI)	Life of investment, year (VII)	Annualized Costs (IX)
(a)	**Task 1- Administration/ management[1]**									
	subtask 1- Operations & analysis	$1,730	$5,190	$6,920	10%	$7,612	$7,612	$0		-----
	subtask 2- Reporting	$200	$600	$800	10%	$880	$880	$0		-----
	Subtotal, Administration Costs	$1,930	$5,790	$7,720		$8,492	$8,492	--		$0
(b)	**Task 2- Water level sensors**									
	subtask 1- KPSI sensors	$2,442		$2,442	10%	$2,686	$1,828	$858	10	$365
	subtask 2-			-		-		-		-----
	subtotal, Task 2	$2,442	--	$2,442		$2,686	$1,828	$858		$365
(c)	**Task 3-(SCADA communcations equipment)**									
	subtask 1- (4)radios, (2)plc's	$13,336		$13,336	10%	$14,670		$14,670	10	$1,993
	subtask 2-panels	$1,764		$1,764	10%	$1,940		$1,940	10	$264
	subtotal, Task 3	$15,100	--	$15,100		$16,610	--	$16,610		$2,257
(d)	**Task 4- SCADA supporting equipment**									
	subtask 1- antennas	$633		$633	10%	$696		$696	10	$95
	subtask 2- solar panels	$1,669		$1,669	10%	$1,836		$1,836	10	$249
	Subtotal, Task 4	$2,302	--	$2,302		$2,532	--	$2,532		$344
(e)	**Task 5- Mounting equip**									
	subtask 1- materials	$600		$600	10%	$660	$660	$0	10	$90
	subtask 2- installation & maintenance	$800		$800	10%	$880	$880	$0		-----
	subtotal, Task 5	$1,400	--	$1,400		$1,540	$1,540	--		$90
(f)	**Task 6-SCADA software**									
	subtask 1-software	$2,400		$2,400	10%	$2,640	$2,640	$0	10	$359
	subtask 2-			-		-		-		-----
	subtotal, Task 6	$2,400	--	$2,400		$2,640	$2,640	--		$359
(g)	**Task 7- Engineering**									
	subtask 1- design,	$5,000		$5,000	10%	$5,500	$5,500	$0		-----
	subtask 2-			-		-		-		-----
	Subtotal, Task 7	$5,000	--	$5,000		$5,500	$5,500	--		$0
(h)	**Task 8-**									
	subtask 1-			-		-		-		-----
	subtask 2-			-		-		-		-----
	subtotal, Task 8	--	--	--		--	--	--		$0
(i)	**Task 9-**									
	subtask 1-			-		-		-		-----
	subtask 2-			-		-		-		-----
	Subtotal, Task 9	--	--	--		--	--	--		$0
(j)	**Task 10-**									
	subtask 1-			-		-		-		-----
	subtask 2-			-		-		-		-----
	subtotal, Task 10	--	--	--		--	--	--		$0
(k)	**TOTAL**	$30,574	$5,790	$36,364		$40,000	$20,000	$20,000		
(l)	Cost Share -Percentage						50%	50%		**$3,414**

1- excludes administration O&M.

Applicant: _____

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Table 2: Annual Operations and Maintenance Costs (dollars / year)

(to be paid by applicant)

Operations (1) (I)	Maintenance (II)	Other (III)	Total (IV) (I + II + II)
5790	400		$6,190

(1) Include annual O & M administration costs here.

Table 3: Total Annual Project Costs

Annual Project Costs (I)	Annual O&M Costs (2) (II)	Total Annual Project Costs (III) columns (I + II)
$3,414	$6,190	$9,604

(1) From Table 1, row (k) column (IX)
(2) From Table 2, column (IV)

Applicant:

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Table 4 Project Annual and Total Local Monetary Benefits (in Dollars)

ANNUAL LOCAL BENEFITS, I	ANNUAL QUANTITY of Benefit, II	UNIT OF MEASUREMENT, III	Value of Benefit $/unit IV	ANNUAL MONETARY BENEFITS ($ / yr) V	DURATION (Y), VI	Net Present Value of Monetary Benefits, VII
(a) Avoided Water Supply Costs (Current or Future Source)	400	a-ft	$17.60	$7,040.00	10	51,815.01
(b) Avoided Energy Costs				$0.00		0.00
(c) Avoided Waste Water Treatment Costs				$0.00		0.00
(d) Avoided Labor Costs	50	hours	$40	$2,000.00	10	14,720.17
(e) Other (describe)				$0.00		0.00
(f) Total [(a) + (b) + (c) + (d) + (e)]				$9,040.00		$66,535

[4] Examples include avoided cost of current water supply (or future supply if available), energy savings, labor savings, waste water treatment.

Table 5 Project Costs and Monetary Benefits

	NOT Locally Cost Effective
(a) Total annnual monetary benefits [Table 5, row (f), column V]	$9,040
(b) Total annual project cost [Table 3, column III]	$9,604
(c) Cost/Benefit Ratio [(b) / (a)]	1.06

BUDGET NARRATIVE

Salaries and Wages

The manager for the project will be the District's Water and Power Operations Manager, will analyze data, maintain the database, and assess the project's performance and feasibility. It is estimated that the project will require two hours per month during the irrigation season, or 34 hours during the 17 month duration of the project, at a cost of $.

The District Agricultural Operations Supervisor, will utilize the data to manage water deliveries and canal flows. The project will require two hour/week during the 34 weeks/year irrigation season at a 17 month labor and overhead cost of $.

Electronic Technician will install SCADA components, water level sensors, mounting poles, security enclosures, and perform maintenance at the (2) headworks sites. He will be assisted by District utility staff. The combined materials, labor and overhead costs are estimated to be $

The District Water Conservation Coordinator will be responsible for preparing interim, annual and final reports, and will also manage outreach efforts. Salary and overhead costs are estimated to be $.

Fringe Benefits

Fringe benefits such as retirement packages (CalPers), medical/dental coverage, life insurance, vacation, and sick leave are considered as overhead costs and are included in wage costs listed in the proposed budget forms.
is a Special District and a member agency of the and does not have a federally approved benefit agreement.

Travel

There are no travel requirements involved with the project.

Equipment

Each headworks site will require a digital water level sensor, radio, Programmable Logic Controller PLC/ remote terminal unit (RTU), antenna, tower, battery, and solar panel. A repeater site requiring two radios to receive and transmit data will be installed. At the District office, software programming will be performed. The District has determined component types and manufacturers based on consultation with its SCADA contractor, ., and its own experience with SCADA systems being installed throughout its distribution system.

Cost estimates include $ for the PSI sensor/transducers to be installed at each of the headworks. The other components will be PLC/RTU units combined with Ethernet radios at a total system cost of $ antennas at a cost of $, and Solar panels at a cost of $.

Supplies

Some supplies will be required and are included in equipment costs, listed above.

Contractual/Construction

The District plans to contract with , to design the system, perform radio surveys and tests, install master components, perform programming, and train District staff, at a cost of $.

Environmental and Regulatory Compliance Costs

The planned work is to be performed on District distribution conveyance facilities, which are comprised of cement lined canals, and graveled canal roads. The District does not anticipate any environmental or regulatory compliance costs.

Other Costs & Indirect Costs

A contingency of 10% has been applied to the estimated direct costs, and the District considers this contingency cost to be appropriately applied to Indirect Costs. Costs such as salary overhead, fringe benefits, and consultation are not in this category, but included in the categories of Salary Costs.

Total Costs

The total project costs are budgeted at $40,000. is planning to contribute $20,000 or 50% of the total project cost towards the proposed SCADA system. cost share consists of monetary expenditures for the implementation of the Project, approved by its Board of Directors on January 29, 2007. The source of the funds is the District's Rehabilitation and Betterment Plan for Spill Recorder SCADA Systems, and Ag Meter Replacements.

BUDGET INFORMATION - Non-Construction Programs

OMB Approval No. 0348-0044

SECTION A - BUDGET SUMMARY

Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. SCADA System		$ 20,000.00	$ 20,000.00	$	$	$ 40,000.00
2.						0.00
3.						0.00
4.						0.00
5. Totals		$ 20,000.00	$ 20,000.00	$ 0.00	$ 0.00	$ 40,000.00

SECTION B - BUDGET CATEGORIES

6. Object Class Categories	GRANT PROGRAM, FUNCTION OR ACTIVITY (1)	(2)	(3)		Total (5)
a. Personnel	$ 8,520.00	$	$	$	$ 8,520.00
b. Fringe Benefits					0.00
c. Travel					0.00
d. Equipment	22,844.00				22,844.00
e. Supplies					0.00
f. Contractual	5,000.00				5,000.00
g. Construction					0.00
h. Other					0.00
i. Total Direct Charges *(sum of 6a-6h)*	36,364.00	0.00	0.00	0.00	36,364.00
j. Indirect Charges	3,636.00				3,636.00
k. TOTALS *(sum of 6i and 6j)*	$ 40,000.00	$ 0.00	$ 0.00	$ 0.00	$ 40,000.00
7. Program Income	$	$	$	$	$ 0.00

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SECTION C - NON-FEDERAL RESOURCES				
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8.	$	$	$	$ 0.00
9.				0.00
10.				0.00
11.				0.00
12. TOTAL *(sum of lines 8-11)*	$ 0.00	$ 0.00	$ 0.00	$ 0.00

SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	$ 20,000.00	$ 20,000.00	$	$	$
14. Non-Federal	20,000.00	14,210.00	1,930.00	1,930.00	1,930.00
15. TOTAL *(sum of lines 13 and 14)*	$ 40,000.00	$ 34,210.00	$ 1,930.00	$ 1,930.00	$ 1,930.00

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT				
(a) Grant Program	FUTURE FUNDING PERIODS (Years)			
	(b) First	(c) Second	(d) Third	(e) Fourth
16.	$	$	$	$
17.				
18.				
19.				
20. TOTAL *(sum of lines 16-19)*	$ 0.00	$ 0.00	$ 0.00	$ 0.00

SECTION F - OTHER BUDGET INFORMATION	
21. Direct Charges:	22. Indirect Charges:
23. Remarks:	

Attachment A- Project Benefits Sheet

Please provide the appropriate water management benefits for agricultural or urban measures that you anticipate addressing in your proposal. Where available, please provide an estimate of the benefit in units (i.e. Acre Feet, $, %)

Partner: _____

Reduce Leaks and Seepage	_____	Acre Feet/Year
Reduces System Spills	400	Acre Feet/Year
Makes More Water Available for Crop Use	400	Acre Feet/Year
Reduces Diversions	400	Acre Feet/Year
Reduces Operation Costs	2000	$/Year
Reduces Energy Cost	_____	$/Year
Reduces Waste Treatment Cost	_____	$/Year
Improves Crop Yield	_____	Percent/Year
Reduces On-Farm Costs	_____	$/Year
Reduces Per Capita Use	_____	Gals/Capita/Day
Provides Technical Training	_____	# of People
Provides Water Conservation Education	_____	# of People
Improves Water Supply Reliability	1	Frequency (Yrs)*
Reduces Drainage Induced Erosion	_____	Tons/year
Improves Water Quality	5	%Reduction of aquatic herbicides
Enhances Aquatic/Riparian Habitat	_____	Acres
Endangered Species	_____	Yes/No

*Estimate of how often the improvement will occur (i.e. 1 = each year, 2 = 1 in 2 years etc.)

Location Map

Rehabilitation & Betterment Plan & Budget

Canal photos

Water Supply Availability Report