

United States Department of Agriculture



Natural Resources Conservation Service
P.O. Box 2890
Washington, D.C. 20013

August 12, 2009

Kenneth Nelson
528 Main Street, P.O. Box 165
Courtland, KS 66939

Dear Kenneth Nelson:

This letter is to notify you that the Natural Resources Conservation Service (NRCS) has finished evaluating the Agriculture Water Enhancement Program (AWEP) proposals for fiscal year 2009. The agency received a number of excellent proposals that would likely meet the objectives of AWEP to conserve and/or improve the quality of ground and surface water. Unfortunately, not all proposals could be approved. Regrettably, your project was not selected, but the NRCS Chief would encourage you to consider submitting your proposal next fiscal year.

We greatly appreciate your commitment to natural resources conservation, and thank you for the time and effort taken to submit your proposal.

If you have questions, contact Mark Parson, National AWEP Manager, at (202) 720-1840 or mark.parson@wdc.usda.gov.

Sincerely,

Lincoln E. Burton
Deputy Chief for Programs

PREC.	GLH
SECY	BP
TREAS.	MD
SUPT.	KN

cc:

- Dave White, Chief, NRCS, Washington, D.C.
- Virginia (Ginger) L. Murphy, Associate Chief, NRCS, Washington, D.C.
- Leonard Jordan, Regional Conservationist-East, NRCS, Washington, D.C.
- Thomas Christensen, Regional Conservationist-Central, NRCS, Washington, D.C.
- Diane E. Gelburd, Regional Conservationist-West, NRCS, Washington, D.C.
- Lincoln E. Burton, Acting Deputy Chief for Programs, NRCS, Washington, D.C.
- Andree DuVarney, Acting Associate Deputy Chief for Programs, NRCS, Washington, D.C.
- Gregory Johnson, Director, Financial Assistance Programs Division, NRCS, Washington, D.C.
- Tim Beard, Branch Chief, Environmental Incentives Programs, Financial Assistance Programs Division, NRCS, Washington, D.C.
- Mark Parson, EQIP Specialist, Environmental Incentives Programs, Financial Assistance Programs Division, NRCS, Washington, D.C.
- Eric Banks, KS State Conservationist, NRCS

KANSAS BOSTWICK IRRIGATION DISTRICT NO. 2

Phone (785) 374 – 4514

Fax (785) 374 – 4305

E- Mail: kbid@courtland.net

528 Main Street

PO Box 165

Courtland KS 66939-0165

GARY L. HOUSHOLDER , PRES.
Scandia, KS 66966
Phone 785-335-2895

MONTY D. DAHL, TREAS.
Courtland KS 66939
Phone 785-278-3185

BRAD D. PETERSON, SEC.
Courtland KS 66939
Phone 785-374-4330

KENNETH E. NELSON, SUP'T.
Courtland, KS 66939
Home Phone 785-374-4283
Bus. Phone 785-374-4514

DOUGLAS G. SIMMS, ATTORNEY
Belleville, KS 66935
Phone 785-527-5316

27 February 2009

Eric B. Banks
NRCS
760 South Broadway
Salina KS 67401

Dear Mr. Banks

I am Kenneth Nelson, Superintendent of the Kansas Bostwick Irrigation District (KBID) a political sub division of the State of Kansas. We are controlled by a 3 person elected Board of Directors who are owners of classified irrigable acres in the district. Kansas Bostwick is financed by the collection of users taxes on the classified irrigable acres. We contract with the United States through the Bureau of Reclamation (BOR) for water delivery to 42,500 acres of classified irrigable acres of surface irrigation in Republic and Jewell Counties. There are approximately 450 landholders that include landowners and tenants. The water is stored in Harlan County Reservoir in Nebraska on the Republican River and in Lovewell Reservoir in Kansas on the White Rock Creek a tributary of the Republican River. The delivery method is a series of canals and laterals to the farms. Our system was built with app. 100 miles of main canals and 150 miles of laterals. We are under repayment contract with the BOR until 2040 for the repayment of the construction of the canal and lateral system. All of the laterals were constructed on easements remaining titled to the local landowner.

We are requesting to become a partner with the Natural Resource Conservation Service (NRCS) through the Agricultural Water Enhancement Program (AWEP) for the burial of laterals within KBID. In the past several years, we have aggressively buried laterals in our system. Initial laterals to be buried were ones of particular maintenance problems and were accomplished 100% from KBID O&M funds collected from all irrigators in the district. In early years, when an irrigator requested a lateral to be buried, he was required to furnish the pipe and the district would stand the cost of labor and equipment. In the 90's the district developed a plan called 70-30, whereby the person or persons making a request would pay for 70% of the cost of the pipe and the district would pay the other 30% plus the cost of labor and equipment to install. This plan was based upon the average lateral losing 30% of its water to evaporations, seepage, and other loses,


therefore the entire district saved and should contribute to those costs. Labor and equipment were always justified to offset annual maintenance expenses of open lateral upkeep versus buried pipe annual upkeep. As time went on the majority of lateral requiring small pipe 10-12" range, have been buried. As we struggled with an avenue to afford larger laterals, we were successful with a 2025 conservation initiative grant from the BOR for \$300,000 involving seven laterals requiring large pipelines up to 24". The 2025 funds would match up to 50% of the project but we chose to only use them for about 33% in order to have assistance on more projects. The price of pipe escalated to all time heights during this time frame making it more difficult to accomplish the goals leaving a greater burden on the irrigators of the district. As of the end of 2008, we have buried 69 of the 150 miles of laterals.

The 30% savings is probably even greater on the larger laterals with all of them having a control spillway at the end of the lateral, which is eliminated when the lateral is buried. These laterals also provide a quality benefit that is easy to measure. We no longer have to treat the laterals with chemicals to control vegetation or to treat the water for algae problems. All pipelines are screened in the main canals to prevent trash and fish from entering the pipeline and plugging gates and nozzles making for better distribution throughout the system. Fish and crawdads are no longer marooned in the fields and have the opportunity to pass through the canal system and return Lovewell Reservoir or to the river via terminal spillways.

The Republican River is a hot bed of water shortage controversy. Depletions of the river have caused extreme shortages to the supply reservoirs. We have been proactive in water conservation for many years with a greater emphasis in the later years. The irrigators of this district have invested heavily in conversion from flood to pivot irrigation. The need for additional savings by burial of these larger more expensive laterals is great. The conservation created both in quality and quantity is also great and to the benefit of all the producers the vast majority who are EQIP eligible. We have the crew and equipment to design and install these projects but lack the funding to move forward in a productive manner. Therefore, we request the NRCS to accept us as an AWEP partner and to fund the district for these projects as the producers of the Kansas Bostwick Irrigation District. The proposal is submitted with this letter.

If I can be of assistance or further explain this effort please contact me at the address on this letterhead.

For the Board of Directors


Kenneth Nelson
Superintendent

CONSERVATION AND QUALITY PROPOSAL

AGRICULTURAL WATER ENHANCEMENT PROGRAM

NATURAL RESOURCE CONSERATION SERVICE

MARCH 2, 2009

BY

KANSAS BOSTWICK IRRIGATION DISTRICT NO. 2

COURTLAND, KANSAS

DESCRIPTION OF THE KANSAS BOSTWICK IRRIGATION DISTRICT

The Kansas Bostwick Irrigation District is a political sub division of the State of Kansas contracted with the United States Bureau of Reclamation for water service. The district delivers water to 450 landholders in Jewell and Republic Counties irrigating a total of 42,500 acres. The landowners of the classified irrigable acres within the district elect a 3 person Board of Directors to set policy and govern the operations of the district. The district is managed by a Superintendent and operates with a 12 to 15-person work crew, which delivers water to the farms and operates and maintains the canal and lateral system. The district is financed by users taxes on the classified irrigable acres as assessed to the landowner and paid with his real estate taxes.

The district's canal and lateral system consist of approximately 100 miles of main canals and 150 miles of laterals. The landowners are assessed a repayment charge to pay for the construction of the canal and lateral system which will be paid off in 2040. All of the laterals in the Kansas Bostwick system are constructed on easement grounds and remain under the ownership of the landowner.

The water source for the district is the Republican River and the White Rock Creek a tributary of the Republican. The district has storage space in both Harlan County Reservoir in Nebraska and Lovewell Reservoir in Kansas. Releases from the reservoirs are moved through the canal and lateral system by the district employees and delivered to the farms as surface irrigation. The district holds 2 water rights with the State of Kansas for these purposes.

All operations and maintenance responsibilities of the canal and lateral system belong to the district and are accomplished by the district staff.

The district began full-scale operations in 1958. In the late 70's and early 80's the district became aware of possible shortage problems on the Republican River. Initial conservation efforts in those early years were to bury laterals in pipe that were a particular maintenance problem to the district. These were funded totally with operations and maintenance funds collected by the district. There were also some individuals who wished to bury laterals across their property and were willing to furnish the pipe if the district would furnish the labor and equipment to bury it. A few miles were buried under these programs.

In the early 90's, as depletion problems became evident on the Republican River and the States took up the issue through the Republican River Compact and later in the courts, the district created a conservation plan including a program it call the 70-30 plan. Under this plan the district recognized a savings of 30% of the flows that would normally be lost in an open lateral due to seepage, evaporation, and so on by converting the lateral

to buried pipe. Therefore, the district began committing 30% of the cost of the material as well as the labor and equipment to bury the lateral if the involved landowners would contribute the remaining 70% of the cost of the material. This program was very popular and remains popular today with the irrigators if the size of the pipe can be 12" or less. When sizes larger than 12" are required the projects often become more expensive than the irrigators can afford.

In 2006, the district applied for and was successful in receiving a 2025 Challenge Grant from the Interior Department through the Bureau of Reclamation. Seven laterals were identified to be buried under this plan for a total expense of \$1,055,477. The size of the grant was \$300,000. The grant was capable of paying up to 50% of the cost but the district chose to utilize less in order to complete more projects. This left \$755,477 committed to be paid by the district irrigators through their operations and maintenance assessments.

Also in the 90's as shortages became more apparent, the Board of Directors adopted a policy to ease the ability of our irrigators to convert from gravity to pivot irrigation. As time went by the program has been extremely successful and the district now has 185 pivots irrigating 18,000 acres in operation within its system. Laterals running across the farms have been a detriment to pivot installation. Improved head pressure along with eliminating the open lateral will encourage pivot installation.

To address quality issues, all pipelines are screened where they receive water from the main canal. This keeps fish, crawdads, and other creatures from entering the pipeline allowing them to pass downstream in the canal to Lovewell Reservoir or to terminal spillways and back to tributaries of the river. Chemical spaying of the open laterals is eliminated and the need to treat water from algae in those areas as well. Additional pressure is delivered to the field turnouts allowing irrigators to convert to or better use gated pipe. The screened water and additional pressure is favorable to pivot conversion as well.

At the end of 2008, the district has buried 69 of the 150 miles of laterals in the district. With the completion of the 2025 project an additional 5.5 miles will be added to the total. The district identified alternative 2025 projects for which funds could be substituted in case the original plans did not work out. When the 2025 projects are done, the alternatives and other projects will be considered and additional funding will be needed. The utilization of \$300,000 will be helpful and \$450,000 could easily be used to advance projects.

All but a handful of the irrigators are in the farm program and irrigate the land on an annual basis. The names of all irrigators – members of Kansas Bostwick Irrigation District can be produced. They would all be benefactors of the project and qualify for EQIP funding. The district can produce the contract and receive the payment for the project on their behalf. We in essence would be the producer and contractor on the project.

PARTNERSHIP CAPACITY as outlined on page 2043 of the Federal Register

- a. The irrigation district is contracted for water service in perpetuity. The benefits and savings from these projects will continue in the longest possible terms.
- b. Producers directly associated with the particular pipeline will receive the quality benefits. All producers in the district will share equally in quantity benefits.
- c. The district collects operations and maintenance funds from all the irrigators and is used for these projects. They are collected annually with the real estate tax on the property.
- d. Daily records are kept of the districts diversions and deliveries to irrigators. Annual records show a steady decline in total use from storage. Quality improvements are demonstrated in irrigator's ability to use less water per acre due to more consistent delivery with less plugging of nozzles and gates.
- e. The district keeps district improvements records as well as water use records. Annual reports will be available.
- f. In Kansas Bostwick Irrigation District's case, all irrigators will benefit equally from quantity savings. All producers should rank equally.
- g. With Kansas Bostwick Irrigation District and NRCS as the partners, the district shall keep NRCS informed of the particular producers involved and the progress of the projects. The particular producers involved in a project will also contribute financially to the project as part of district policy. The district will communicate with the Bureau of Reclamation and information regarding 2025 projects will be available upon request.
- h. All benefits of quantity and quality savings should be applied in the year the pipeline is put to use. Cleaner water, better pressure and quantity savings will be immediate. Producers in some cases may choose to install pivot irrigation because of the project will make it more attractive to them. Additional head pressure will reduce energy cost not only for new or future installations but also to existing ones.
- i. The White Rock Extension 11.9 project and the Courtland West Pump 4 projects will be constructed within 2 years. Each project will require substantial material and reimbursing payments as the material is purchased would be beneficial. Final payments could be made as the total cost of the project is computed on an annual basis.
- j. The remaining 2025 projects have a commitment of \$150,000 from the Bureau of Reclamation. The remaining estimated costs of these projects is \$537,010 – \$150,000 Bureau 2025 funds = \$387,124 available for EQIP cost share. We have also identified 4 alternative projects, which would run in the \$150,000 each range for \$600,000 with no 2025 commitment.
- k. As described above we would want the maximum amount of funding possible towards the \$387,124 to complete the 2025 projects and as much as possible for \$600,000 additional projects without 2025 commitments.
- l. The White Rock Extension 11.9 project could be completed in the spring summer of 2009, the Pump 4 projects in the fall-winter of 2009 and the winter-spring of 2010, the 44.2 project and other projects fall of 2010

LANDS TO BE TREATED

- a. Map attached includes 42,500 acres of irrigable acres within the district in Jewell and Republic Counties of Kansas
- b. The irrigation district holds rights of beneficial use for surface water from the State of Kansas from the Republican River and storage rights in two reservoirs. By working with the district for all the irrigators in the district, water conservation is realized for all lands of the district. Quality is more centered in the areas where the laterals are being buried.
- c. Wildlife is enhanced through these projects. The ability to pass fish through the system without stranding them in laterals and farm fields enhances the project. Improved irrigation eliminates waste out the ends of the fields and conserves soil on the fields
- d. All the acres in the district 42,500 benefits from quantity savings by these projects.
- e. Screening the water is an enhancement.
- f. Increased head pressure encourages pivot installation and reduces energy cost to existing pumps.

PRODUCER INFORMATION

- a. The Kansas Bostwick Irrigation District identifies 450 landholders with interest in the district as reported to the Bureau of Reclamation for Reclamation Reform Act reporting. The vast majority of these (probably 99%) belong to the farm program.
- b. All 450 the producers are located in the project area. Almost all acres of the district are irrigated annually. During years of shortage some stacking of water on less acres occurred to deal with shortages.
- c. The members of the irrigation district and producers as defined by NRCS are the same persons. The Kansas Bostwick Irrigation District can contract on behalf of all member producers to the benefit of all member producers and receive payment for the project on behalf of all member producers

PLAN OF ACTION

Immediately upon being approved for funding, the White Rock Extension 11.9 proposal will begin. Material will be purchased and construction by the district work crew will begin. All pipe is buried in accordance with manufactures specifications. High-pressure valves are installed at each farm turnout and meter installations that meet Kansas Department of Resources guidelines are installed for each farm. At the upstream, beginning of the pipeline, 24" screens will be installed in the main canal and connected to the pipeline to assure cleaner water delivery and meter accuracy. The pipeline will be properly vented and constructed with no less than 80-psi pipe. Immediately upon completion of the 11.9 project, work will begin on the Pump 4 projects scheduled to begin in the fall of 2009 and be completed by summer of 2010. This work will follow the same procedure for the 11.9 project. When Pump 4 is complete the work will begin on 44.2 and other projects in the fall of 2010.

All turnouts are metered and water use is recorded on a daily basis in an Access file by the district. Irrigators water use is recorded and monitored on a daily, monthly, and annual basis. Comparisons to past and present use can easily be made. Overall quantity savings will be monitored more by monthly and annual diversions from the reservoirs and drawing comparisons to past diversions in similar years. Losses for evaporation, seepage, and operational spills continue on open laterals and do not exist on pipe laterals. The final performance report will describe the amount of laterals buried and a savings factor based upon past losses. Quality improvements will be measured by improved practices the irrigators have gained by the buried pipelines and practices they may install because of the pipeline.

WATER 2025 LATERAL PROJECTS

PROJECT	ACRES	LENGTH	TASK	INSTALLATION	MATERIAL	TOTAL
11.9	376.0	9,500.0	1. 15,000.00 2. 21,250.00 3. 10,000.00			
				46,250.00	86,931.00	133,181.00
44.2	91.0	3,300.0	1. 15,000.00 2. 7,950.00 3. 2,000.00			
				24,950.00	35,195.00	60,145.00
PUMP 4 - 0.2	728.0	9,200.0	1. 26,000.00 2. 19,900.00 3. 16,000.00			
				61,900.00	113,764.00	175,664.00
PUMP 4 W.	462.0	7,000.0	1. 25,000.00 2. 21,850.00 3. 15,000.00			
				61,850.00	106,284.00	168,134.00
PUMP 1 S.	517.0	7,200.0	1. 25,000.00 2. 19,100.00 3. 15,000.00			
<i>Complete 2008</i>				59,100.00	98,888.00	157,988.00
21.8	312.0	7,800.0	1. 30,000.00 2. 23,000.00 3. 20,000.00			
<i>Complete 2008</i>				73,000.00	187,021.00	260,021.00
23.3	164.0	5,400.0	1. 15,000.00 2. 13,850.00 3. 10,000.00			
<i>Complete 2008</i>				38,850.00	61,494.00	100,344.00
TOTAL	2,650.0	49,400.0 / 9.3 mi.		365,900.00	689,577.00	1,055,477.00
Task 1.	Design, environmental contingency, and prepare					
Task 2.	Trench and lay					
Task 3.	Backfill and complete					