



FINAL ENGINEERING REPORT

**WATER SYSTEM REHABILITATION PROJECT
WHITLEY COUNTY WATER DISTRICT NO. 1
WILLIAMSBURG, WHITLEY CO, KENTUCKY**

2010-00200

RECEIVED

MAY 14 2010

**PUBLIC SERVICE
COMMISSION**

PROJECT No. 2006205

DECEMBER 2009

Kenvirons, Inc.

Civil & Environmental Engineering and Laboratory Services

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MAY 14 2010

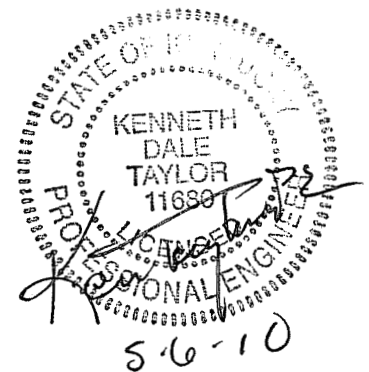
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WATER SYSTEM REHABILITATION PROJECT WHITLEY COUNTY WATER DISTRICT

I. INTRODUCTION

The Whitley County Water District (WCWD) was originally formed to provide a safe, dependable supply of potable water to the citizens in the rural areas of Whitley County. Since its inception, the WCWD has grown until it now serves more than 3,300 customers over a large portion of Whitley County. WCWD intends to eventually make treated water available to every citizen within its boundary.

II. PROPOSED FACILITIES AND SERVICES

General Description. The proposed project consists of approximately 6.6 miles (35,000 ft.) of water line and distribution system appurtenances such as gate valves, air release valves, blow-off valves, meters, etc. One (1) booster pump station is also included in the project. The distribution lines will be primarily of PVC. Some small sections of ductile iron and PE pipe will be used in special areas, i.e., stream crossings, past gas tanks, etc. The facilities have been designed to provide the customers with a minimum pressure of 30 psi at the meter at peak flow conditions. Where static pressures exceed 90 psi, individual pressure regulators will be provided to protect fixtures from high pressures.

The booster pumping station is designed to allow WCWD to feed the portion of the system currently being supplied water purchased from Jellico, TN with water purchased from Williamsburg, KY at a significant cost savings. The booster pump station will maintain appropriate operating levels in an existing tank. This will require pumping to begin when the water level in the tank drops to the minimum operating level; pumping will continue until the tank is refilled to just below the overflow level. This procedure will provide adequate pressure stabilization of the system.

The District currently purchases water from Corbin City Utilities at \$2.20 per 1,000 gallons, City of Williamsburg Water and Sewer at \$2.20 per 1,000 gallons, Jellico (TN) Electric and Water at \$3.80 per 1,000 gallons for the first 2,700,000 gallons and \$4.50 per 1,000 gallons above 2,700,000 gallons and McCreary Co. Water District at \$3.48 per 1,000 gallons. Jellico has notified WCWD of its intent to increase their rate each year until it reaches \$5.06 per 1,000 gallons for the first 2,700,000 gallons and \$6.00 per 1,000 gallons above 2,700,000 gallons in 2013.

WCWD currently purchases approximately 3,890,000 gallons of water each month from Jellico at a cost of \$15,615.00. The proposed rate increase will cost WCWD approximately \$5,187.00 per month at the current monthly consumption rate. The booster pump station and associated water line proposed in the project will allow WCWD to purchase additional water from Corbin and/or Williamsburg so Jellico can be eliminated as a source. The savings will amount to approximately \$7,057.00 per month at the current Corbin/Williamsburg verses Jellico rates and \$12,244.00 per month at the current Corbin/Williamsburg rate verses the proposed 2013 Jellico rate.

The project will also allow WCWD to replace approximately 30,180 linear feet of existing water distribution line that is undersized, contains asbestos and/or has been prone to excessive leaking. Much of the line to be replaced was initially installed by private home owners 20 plus years ago to serve only the residences that existed at the time and was never intended to serve growth or be extended. This work should also significantly lower WCWD's high water loss.

No new customers will be served by the project however 181 existing underserved customers will directly benefit from improved service and WCWD's entire customer base will benefit financially from lower costs.

The locations of the major elements of the project are shown on the attached U.S.G.S. topographic maps.

Land. The acquisition of land by deed was not required for any of the proposed facilities. The booster pump station will be constructed on unused property owned by the Kentucky Department of Highways.

Rights. Easements have been required for the water distribution lines where necessary but most of the distribution lines will be on State and County road right-of-way. Encroachment permits for the lines have been obtained from the Kentucky Department of Highways and a motion approved by the Whitley Co. Fiscal Court for the use of the County right of way.

A permit has been obtained from the Ky. Division of Water for the construction of the project and approval will be requested from the Kentucky Public Service Commission.

III. COST AND FUNDING

Attached to this report are copies of the certified bid tabs, as-bid budget and estimated Operating Budget for the first year of operation.

IV. CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- A. The proposed facilities will allow the WCWD to provide more reliable service to its customers at a reduced cost.
- B. The financial feasibility indicates that the WCWD can service the proposed loan on the existing rates without jeopardizing the financial integrity of the operations. The existing rates are sufficient to cover operating expenses, debt service, debt service coverage, and provide some net unobligated monies. The revenues are not sufficient to cover the full amount of depreciation allowed in the rate base.

Recommendations

The project, as presented herein, is feasible with the indicated funding and the existing rates. The District should proceed with construction of the project once approval is received from the KY Public Service Commission.



Kenvirons, Inc.

452 Versailles Road • Frankfort, KY 40601 • Phone: (502) 695-4357 • Fax: (502) 695-4363
Civil & Environmental Engineering and Laboratory Services

November 12, 2009

Mr. Walter Estes, Chairman
Whitley County Water District
19 South Highway 25W
Williamsburg, Kentucky 40769

RE: Whitley County Water District
Water System Rehabilitation Project

Dear Mr. Estes:

Bids were received for the referenced project on October 29, 2009. Three (3) bids were received with the low bidder being Akins Excavating Co., Inc. Attached for your reference is a tabulation of the received bids. Please refer to the table for a summary of project costs.

It is hereby recommended to award the contract to Akins Excavating Co., Inc. in the amount of \$680,618.00. We are very familiar as is the District with Akins' work and are sure they have the personnel, equipment and experience to complete the project in a timely professional manner.

Sincerely,

Kenneth D. Taylor, PE
Associate

Cc: Tim Schwendeman, CVADD

Attachment

KENVIRONS, INC.
 452 VERSAILLES ROAD
 FRANKFORT, KENTUCKY 40601
 TEL (502) 895-4357
 FAX (502) 895-4363

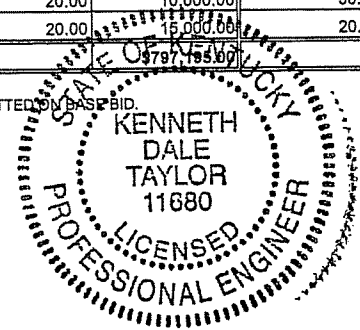
BID TABULATIONS
 PROJECT: Water System Rehabilitation Project
 LOCATION: Whitley County Water District
 BID DATE: October 29, 2009 at 2:00 P.M. Local Time

Base Bid				Akins Excavating Co., Inc. 182 Busy Lane Corbin, KY 40701		Clay Pipeline, Inc. 70 Fox Hollow Road Manchester, KY 40862		Laurel Construction Co., Inc. 5209 Somerset Road London, KY 40741	
ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST
1	6" PVC SDR 17 Pipe	LF	4,000	\$12.00	\$48,000.00	\$11.15	\$44,600.00	\$14.50	\$58,000.00
2	6" PVC SDR 21 Pipe	LF	860	11.30	9,718.00	10.60	9,116.00	13.70	11,782.00
3	4" D.I. CL 350 Pipe	LF	980	18.75	18,375.00	19.75	19,355.00	20.00	19,600.00
4	4" PVC SDR 17 Pipe	LF	1,300	9.90	12,870.00	13.55	17,815.00	13.00	16,900.00
5	4" PVC SDR 21 Pipe	LF	8,200	9.55	78,310.00	13.30	109,080.00	12.70	104,140.00
6	3" PVC SDR 17 Pipe	LF	5,700	9.20	52,440.00	13.00	74,100.00	12.30	70,110.00
7	3" PVC SDR 21 Pipe	LF	14,000	9.00	126,000.00	12.80	179,200.00	11.00	154,000.00
8	Bored Encasement for 6" Pipe	LF	325	90.00	29,250.00	78.00	24,700.00	230.00	74,750.00
9	Open Cut Encasement for 6" Pipe	LF	160	45.00	7,200.00	41.00	6,560.00	40.00	6,400.00
10	Bored Encasement for 4" & 3" Pipe	LF	90	64.00	5,760.00	65.00	5,850.00	100.00	9,000.00
11	Open Cut Encasement for 4" & 3" Pipe	LF	345	40.00	13,800.00	37.00	12,765.00	30.00	10,350.00
12	4" & 3" Creek Crossing	LF	40	15.00	600.00	83.00	3,320.00	40.00	1,600.00
13	4" & 3" Directional Bore Creek Crossing	EA	2	1,500.00	3,000.00	1,155.00	2,310.00	3,000.00	6,000.00
14	8" x 6" Tapping Sleeve and Valve	EA	1	2,150.00	2,150.00	1,537.00	1,537.00	2,500.00	2,500.00
15	8" x 4" Tapping Sleeve and Valve	EA	1	1,850.00	1,850.00	1,333.00	1,333.00	2,500.00	2,500.00
16	8" x 3" Tapping Sleeve and Valve	EA	1	1,885.00	1,885.00	1,205.00	1,205.00	2,000.00	2,000.00
17	6" x 6" Tapping Sleeve and Valve	EA	2	1,970.00	3,940.00	1,524.00	3,048.00	2,000.00	4,000.00
18	4" x 3" Tapping Sleeve and Valve	EA	1	1,650.00	1,650.00	990.00	990.00	2,000.00	2,000.00
19	3" x 3" Tapping Sleeve and Valve	EA	1	1,650.00	1,650.00	980.00	980.00	2,000.00	2,000.00
20	6" Gate Valve	EA	3	785.00	2,295.00	825.00	2,475.00	550.00	1,650.00
21	4" Gate Valve	EA	6	635.00	3,810.00	580.00	3,480.00	480.00	2,880.00
22	3" Gate Valve	EA	32	575.00	18,400.00	530.00	16,960.00	430.00	13,760.00
23	4" Tie-In	EA	2	1,200.00	2,400.00	388.00	776.00	1,500.00	3,000.00
24	3" Tie-In	EA	1	1,200.00	1,200.00	355.00	355.00	1,000.00	1,000.00
25	Leak Detection Meter	EA	5	600.00	3,000.00	555.00	2,775.00	800.00	4,000.00
26	3" Blow-Off Assembly (Type 1)	EA	4	1,025.00	4,100.00	920.00	3,680.00	1,000.00	4,000.00
27	3" Blow-Off Assembly (Type 2)	EA	15	475.00	7,125.00	860.00	12,900.00	900.00	13,500.00
28	Reconnect Meter Service	EA	172	345.00	59,340.00	250.00	43,000.00	600.00	103,200.00
29	Relocate Meter Service	EA	9	500.00	4,500.00	350.00	3,150.00	700.00	6,300.00
30	Service Tubing	LF	6,000	6.25	37,500.00	5.50	33,000.00	6.00	36,000.00
31	Booster Pump Station	LS	1	81,000.00	81,000.00	132,000.00	132,000.00	90,000.00	90,000.00
32	Free Bore (All Sizes)	LF	500	30.00	15,000.00	20.00	10,000.00	30.00	15,000.00
33	Pavement Replacement	LF	750	30.00	22,500.00	20.00	15,000.00	20.00	15,000.00
TOTAL BASE BID					\$680,618.00		\$797,155.00		\$866,922.00

* DENOTES AN ARITHMETIC ERROR WAS MADE ON BASE BID, AMOUNT HAS BEEN CORRECTED TO REFLECT UNIT PRICE SUBMITTED ON BASE BID.
 THE ABOVE IS A TRUE AND COMPLETE TABULATION OF BIDS RECEIVED UNTIL 2:00 P.M. Local Time on October 29, 2009.

BY: Kenneth D. Taylor
 Kenneth D. Taylor, P.E.

11-2-09
 DATE



PROJECT BUDGET

Whitley Co. Water District - Underserved Areas

WX/SX Number:

WX21235434

Grant ID #

Line Item	Project Cost	Total
1	Administrative	14,000.00
2	Legal	7,500.00
3	Land, Appraisals, Easements, Rights of Way	7,500.00
4	Relocation Expense	
5	Planning	5,000.00
6	Engineering Fees - Design	51,680.00
7	Engineering Fees - Construction	12,920.00
8	Engineering Fees - Inspection	44,100.00
9	Construction	680,618.00
10	Equipment	
11	Contingency	24,682.00
12	Other	
	Total Project Cost	848,000.00

Funding Sources

1	KIA Fund B Loan	\$848,000.00
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
	Total Funding Cost	848,000.00

Enter Dates:

Preliminary	
As Bid	10/29/2009
Revised	

Whitley County Water District

XXXII. PROPOSED OPERATING BUDGET (WATER SYSTEM)

(1st Full Year of Operation)

Year Ending Dec.31, 2011

A. Operating Income:

Water Sales	\$1,750,000
Disconnect/Reconnect/Late Charge Fees	38,000
Other (Describe)	0
Less Allowances and Deductions	()
Total Operating Income	\$1,788,000

B. Operation and Maintenance Expenses:

(Based on Uniform System of Accounts prescribed by National Association of Regulatory Utility Commissioners)

Source of Supply Expense	\$684,000
Pumping Expense	16,000
Water Treatment Expense	0
Transmission and Distribution Expense	350,000
Customer Accounts Expense	280,000
Administrative and General Expense	70,000
Total Operating Expenses	\$1,400,000
Net Operating Income	\$422,000

C. Non-Operating Income:

Interest on Deposits	\$ 3,000
Other (Identify)	0
Total Non-Operating Income	\$ 3,000

D. Net Income \$ 391,000

E. Debt Repayment:

RUS Interest	\$155,000
RUS Principal	60,000
Non-RUS Interest and Principal	47,000
Total Debt Repayment	\$262,000

F. Balance Available for Coverage \$129,000

CASE NO: 2010-00200

CONTAINS

LARGE OR OVERSIZED

MAP(S)

RECEIVED ON: May 14, 2010