



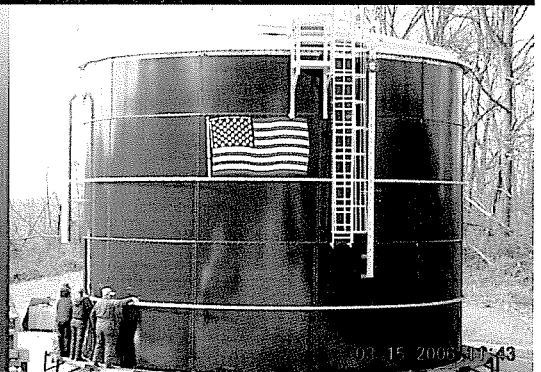
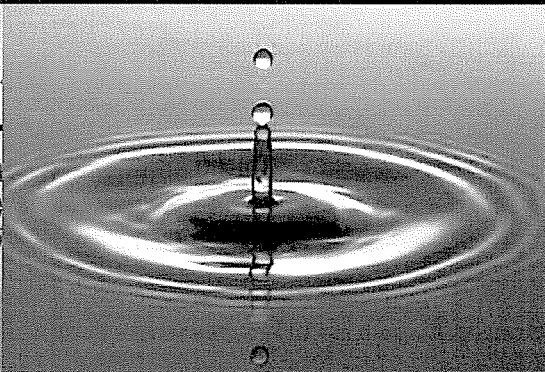
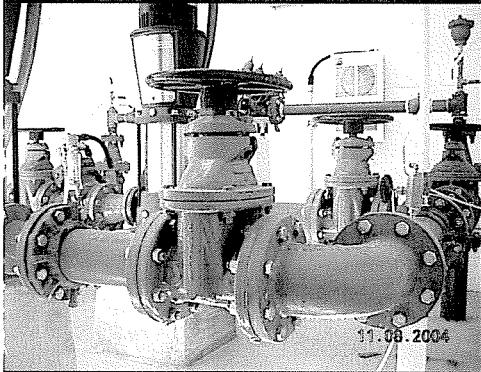
nesbitt engineering, inc.

ORIGINAL

May 2012

Breathitt County Water District South Fork KY 1098 Waterline Extension Phase II

Preliminary Engineering Report Amended To Final Engineering Report



SUBMITTED TO:
Breathitt County Water District

PREPARED BY:
Nesbitt Engineering, Inc.
Offices in Lexington—Prestonsburg

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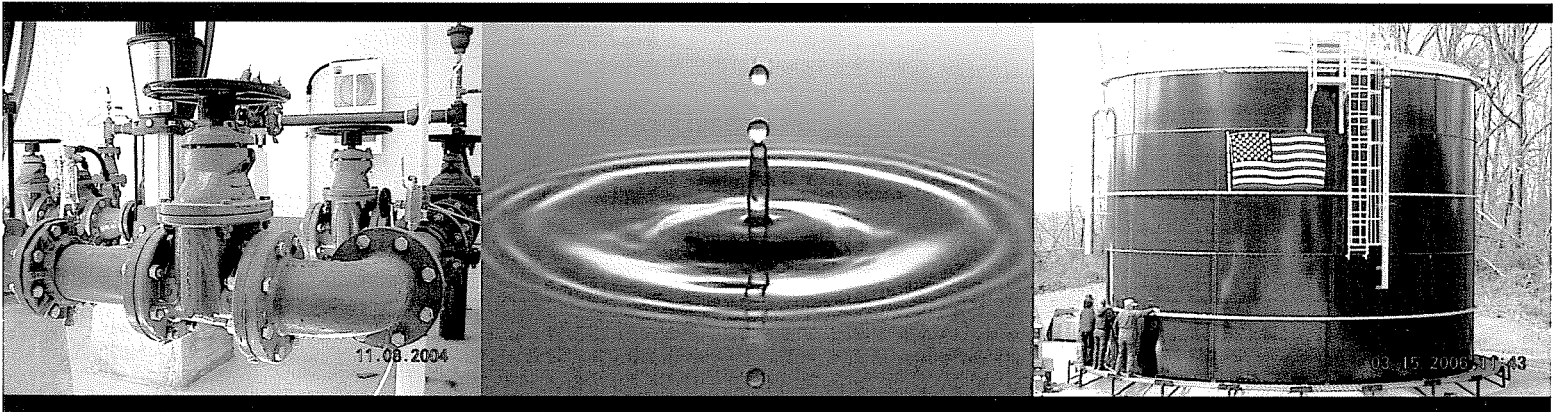
227 North Upper Street
Lexington, KY 40507-1016

May 2012

Breathitt County Water District

South Fork KY 1098 Waterline Extension Phase II

Preliminary Engineering Report Amended To Final Engineering Report



Breathitt County Judge/Executive — Jason Richardson

Breathitt County Water District Commissioners

Bobby Thorpe Jr, Chairman

Sammie Turner, Vice Chairman

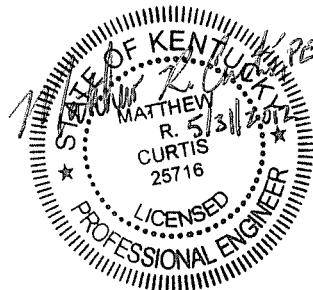
Kash Noble, Treasurer

Eva Fugate, Secretary

Eugene Turner, Member

SUBMITTED TO:
Breathitt County Water District

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General

Breathitt County Water District (BCWD) is a Class "C" Water District organized in August 2003 by the Breathitt County Judge Executive. The County Judge Executive then appointed five commissioners to serve on the Water District's Board. These five commissioners then selected a Chairman from the appointed board.

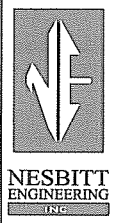
Currently (April/May 2012), the BCWD has approximately 1,196 customers. The completion of the KY 476 Waterline Extension currently under construction could increase the District's customer base to over 1,411 customers.

Jackson, the county seat, operates an independent water system (Jackson Municipal Water Works), drawing water from the North Fork of the Kentucky River. The system currently serves approximately 2,000 households within the Jackson service area. The water treatment plant (WTP), capable of producing 2.5 MGD, is expected to supply the potable water product to the various county water line extensions. Daily production by Jackson Municipal Water Works is currently 800,000 gallons (33% of plant capacity) and their storage capacity is presently 925,000 gallons. This proposed project is a continuation of BCWD's efforts to deliver potable drinking water to all residents of Breathitt County outside Jackson's service area. Jackson's WTP is expected to have more than adequate capacity to supply the needed potable water for this proposed project.

Breathitt County, which encompasses the City of Jackson, is located in the eastern coalfields of Kentucky, approximately 85 miles south and east of Lexington on KY 15, and approximately 34 miles north of Hazard. Jackson, the county seat, is a fourth class city located near the center of Breathitt County. The County borders Wolfe, Lee, Owsley, Perry, Knott, and Magoffin Counties. (See Figure 1)

The 2010 US Census figure for Breathitt County is 13,878 persons. There are 5,494 occupied housing units in Breathitt County and therefore 2.47 persons per household.

Major highways passing through Jackson and/or Breathitt County are KY 15, KY 30, KY 52, KY 315, KY 1110, KY 476 and KY 205. Some of these listed areas are already provided potable water service by Breathitt County Water District (BCWD). The ultimate proposed project will bring potable water to the residents along KY 1098 to the area known as Press as well as other minor roads.



NESBITT ENGINEERING, INC.
ENGINEERS • SURVEYORS • SCIENTISTS

FIGURE 1

LOCATION MAP

BREATHITT COUNTY WATER DISTRICT

DRAWN BY: kr	DISK/FILE NAME: \\PER FIGURE 1.DWG	JOB NO.: 998
DATE: 03/09/09	LAST PLOT DATE:	SCALE: NOT TO SCALE

1. Project Planning Area

The project area for the proposed waterline extension project includes KY 1098 starting at the area known as Press to the intersection of Open Fork and the Press-Howard Fork side road. The construction activities will occur within KTC ROW and/or county ROW.

- a. Location – The location of the proposed project is as indicated on the sections of U.S.G.S. Topographical map included as **Attachment 1**.
- b. Environmental Resources Present – This project is located within the boundaries of Breathitt County.
- c. Growth Areas & Population Trends – According to figures obtained from the Kentucky State Data Center in Louisville, Breathitt County is projected to decrease in population. Thus, the intentions of this project do not take growth into consideration for the design.

2. Existing Facilities

- a. Location Map – Location of the existing water distribution facilities as identified on **Attachment 2**.
- b. History – The City of Jackson owns and operates the only water treatment plant in Breathitt County. Breathitt County Water District has multiple purchase points with master meters located at each purchase point throughout the BCWD's distribution system. All of BCWD distribution system has been constructed in the last 10 years.
- c. Condition of Facilities – The district's existing water distribution system is in excellent condition with all of the system being less than 10 years old. Tanks have been constructed throughout the distribution system to provide adequate pressures and storage within the service area.
- d. Financial Status of any Existing Facilities – The district operates all water infrastructure facilities in a financially solvent manner. Audits are performed on an annual basis and rates are reviewed as necessary by an outside consultant to insure adequate financial resources to operate and maintain the system.

3. Need for Project

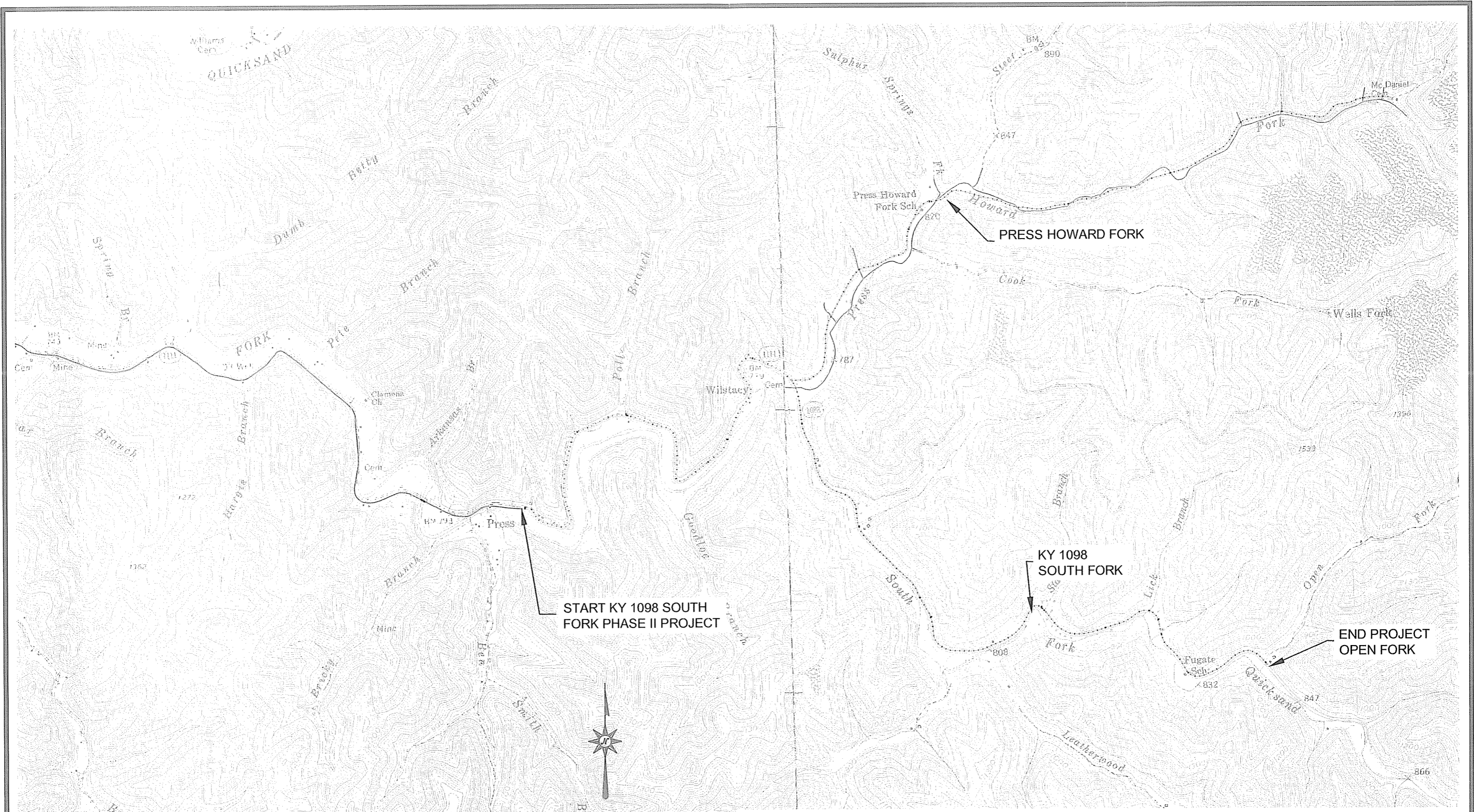
- a. Health, Sanitation & Security – This project intends to extend potable water to existing residents that currently have no access to public potable water. Most of the residents within the project area have well water for domestic use. Well water, in the project area, is extremely hard and contains noticeable amounts of iron. Salty water may be found from 50 feet to several hundred feet below the level of the principal valley bottoms. Where spring supply water, the yield is rarely more than 5 GPM. A more reliable and healthy source for water is needed for the residents.
- b. System O & M – Operation and maintenance of the new water system improvements will be provided by the existing, certified and licensed staff of the Breathitt County Water District.
- c. Growth – Growth is not considered a significant factor in the need for the proposed project.

4. Proposed Project-Project Cost-Rates

- a. Proposed Project – The proposed KY 1098 South Fork Waterline Extension Phase II project consists of pump station rehab, waterlines and appurtenances.
- b. Project Cost – On May 4, 2012 the district received sealed bids for the project. **Attachment 3** displays the certified bid tabulations for the contract. Based upon the low bid that was received **Attachment 4** details the project budget.
- c. Rates – Rates have not been adjusted as a result of this project.

5. Conclusions & Recommendations

It is recommended that the Breathitt County Water District award the KY 1098 South Fork Waterline Extension Project – Phase II Waterline to the low bidder, G & W Construction Company, Inc.



GRAPHIC SCALE: 1" = 2000'

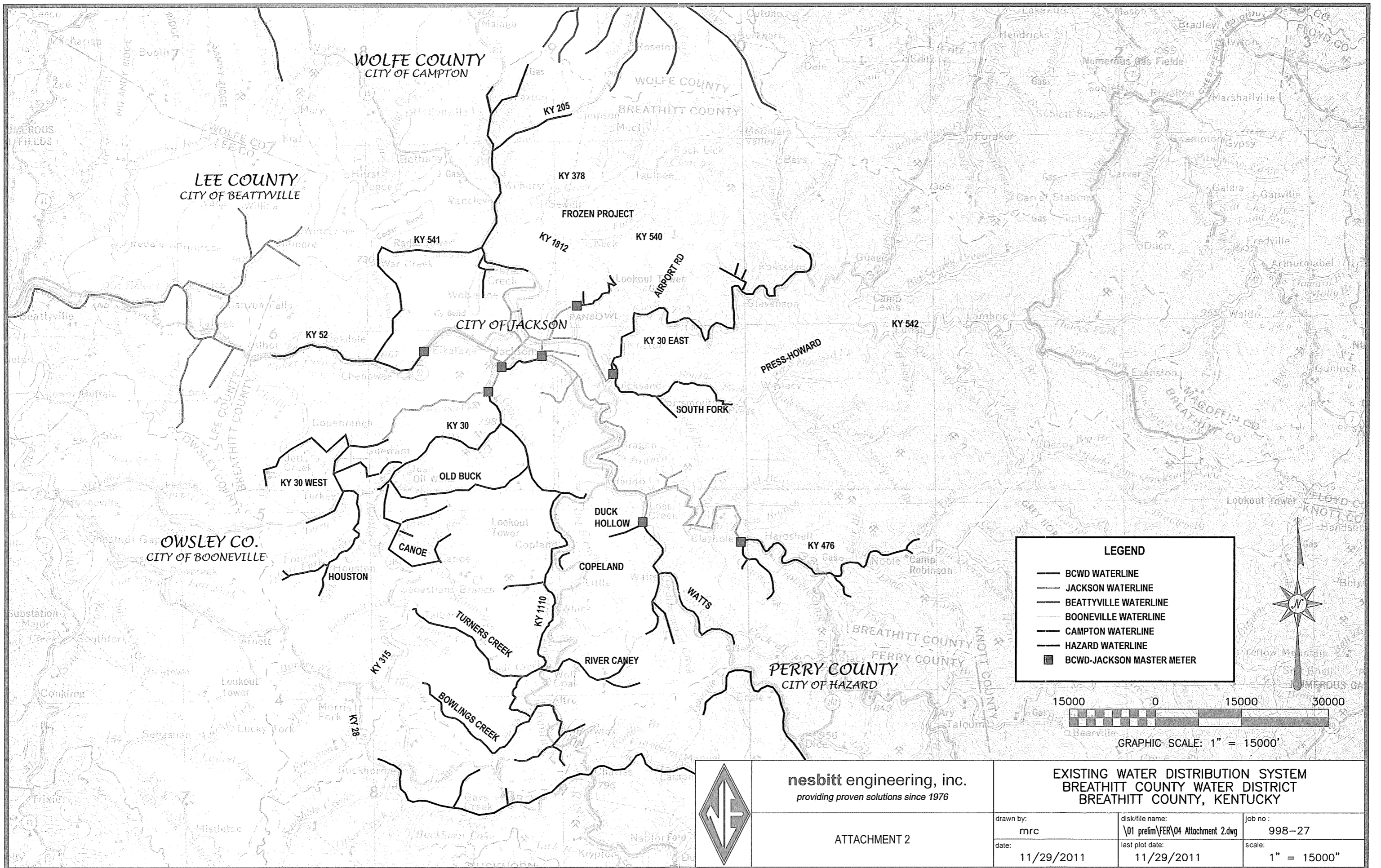


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ATTACHMENT 1

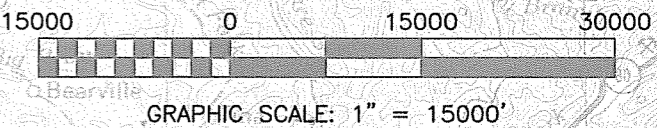
KY 1098 SOUTH FORK WATERLINE PHASE II
BREATHITT COUNTY WATER DISTRICT
BREATHITT COUNTY, KENTUCKY

drawn by: MMS	disk/file name: P:\Breathitt\998-35\97\03\Design\Draw\South Fork Plan\DWG	job no : 998-35
date: 5/8/12	last plot date:	scale: 1" = 2000'



LEGEND

- BCWD WATERLINE
- JACKSON WATERLINE
- BEATTYVILLE WATERLINE
- BOONEVILLE WATERLINE
- CAMPTON WATERLINE
- HAZARD WATERLINE
- BCWD-JACKSON MASTER METER



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**EXISTING WATER DISTRIBUTION SYSTEM
 BREATHITT COUNTY WATER DISTRICT
 BREATHITT COUNTY, KENTUCKY**

ATTACHMENT 2	drawn by:	disk/file name:	job no.:
	mrc	\\01_prelim\FER\04 Attachment 2.dwg	998-27
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May 8, 2012

Mr. Bobby Thorpe, Jr., Chairman
Breathitt County Water District
1137 Main Street
Jackson, KY 41339

RE: Award of Construction Contract –South Fork Waterline Extension Phase II

Dear Mr. Thorpe:

On May 4, 2012, at the Breathitt County Courthouse, bids were received on the above referenced project. A total of three (3) sealed bids were received. After the bids were read aloud a Certified Bid Tabulation was prepared and distributed to all parties involved.

The low bidder for the contract was G & W Construction Company, Inc. Based upon on previous reference checks and recent experience with the low bidder, we conclude that, G & W Construction Company, Inc. qualify as a responsive and responsible bidder. Therefore, NEI recommends that the Breathitt County Water District award the construction contract, as referenced above to G & W Construction Company, Inc. for the amount of \$ 519,464.33.

Issuance of the "Notice of Award" for this contract is recommended pending concurrence of the board and all funding agencies. Please feel free to call me if you have any questions.

Sincerely,

Matthew R. Curtis, P.E.
Project Engineer

C: Estill McIntosh, Superintendent; Jennifer McIntosh – KRADD; Sandy Williams – KIA;
G&W Construction Co., Inc.

p:\breathitt\1998-35 sf2\07 bidding\contract award.docx

Breathitt County Water District South Fork Waterline Extension - Phase II

Certified Bid Tab

May 4, 2012

Item No.	Description	Unit	Qty.	G & W Const Inc Morehead, KY 40351		Akins Excavating Inc Corbin, KY 40701		Pack's Inc Morehead KY 40351	
				Unit Cost	Total Cost	Unit Cost	Total Cost	Unit Cost	Total Cost
1	Tie Into Existing Waterline	LS	1	\$ 948.59	\$ 948.59	\$ 1,250.00	\$ 1,250.00	\$ 1,245.00	\$ 1,245.00
2	Combination Air Release Valve & Box (CARV)	EA	2	\$ 605.75	\$ 1,211.50	\$ 600.00	\$ 1,200.00	\$ 845.00	\$ 1,690.00
3	6" DR 14 PVC Waterline	LF	11,600	\$ 10.30	\$ 119,480.00	\$ 13.00	\$ 150,800.00	\$ 12.45	\$ 144,420.00
4	4" DR 18 PVC Waterline	LF	32,400	\$ 6.32	\$ 204,768.00	\$ 7.00	\$ 226,800.00	\$ 7.98	\$ 258,552.00
5	2" SDR 17 PVC Waterline	LF	250	\$ 6.02	\$ 1,505.00	\$ 5.50	\$ 1,375.00	\$ 5.65	\$ 1,412.50
6	6" D.I.M.J. Gate Valve & Box	EA	3	\$ 806.96	\$ 2,420.88	\$ 925.00	\$ 2,775.00	\$ 745.00	\$ 2,235.00
7	4" D.I.M.J. Gate Valve & Box	EA	12	\$ 650.94	\$ 7,811.28	\$ 760.00	\$ 9,120.00	\$ 545.00	\$ 6,540.00
8	Flushing Hydrant Assembly, Type 1	EA	3	\$ 3,059.55	\$ 9,178.65	\$ 3,725.00	\$ 11,175.00	\$ 2,845.00	\$ 8,535.00
9	Flushing Hydrant Assembly, Type 3	EA	6	\$ 1,618.99	\$ 9,713.94	\$ 2,040.00	\$ 12,240.00	\$ 1,845.00	\$ 11,070.00
10	Creek Crossing, 8" HDPE Directional Drilled	LF	100	\$ 94.74	\$ 9,474.00	\$ 84.00	\$ 8,400.00	\$ 120.00	\$ 12,000.00
11	Creek Crossing, 6" HDPE Directional Drilled	LF	400	\$ 74.59	\$ 29,836.00	\$ 75.00	\$ 30,000.00	\$ 110.00	\$ 44,000.00
12	Hwy Xing, Bore & Jack w. 14" Steel Casing	LF	40	\$ 131.87	\$ 5,274.80	\$ 200.00	\$ 8,000.00	\$ 100.00	\$ 4,000.00
13	5/8 x 3/4 Indiv. Meters (Radio Read Profiler w/ iprv)	EA	25	\$ 800.39	\$ 20,009.75	\$ 640.00	\$ 16,000.00	\$ 985.00	\$ 24,625.00
14	5/8 x 3/4 Indiv. Meters (Radio Read Profiler w/o iprv)	EA	37	\$ 689.89	\$ 25,525.93	\$ 500.00	\$ 18,500.00	\$ 850.00	\$ 31,450.00
15	3/4" Polyethylene class 200 service line	LF	3,100	\$ 3.23	\$ 10,013.00	\$ 5.50	\$ 17,050.00	\$ 5.75	\$ 17,825.00
16	Flow Monitor Pit	EA	2	\$ 1,425.71	\$ 2,851.42	\$ 720.00	\$ 1,440.00	\$ 1,975.00	\$ 3,950.00
17	Waterline Marker	EA	10	\$ 76.39	\$ 763.90	\$ 40.00	\$ 400.00	\$ 75.00	\$ 750.00
18	KY 52 Booster Station Improvements	LS	1	\$ 40,279.00	\$ 40,279.00	\$ 73,000.00	\$ 73,000.00	\$ 56,000.00	\$ 56,000.00
19	KY 52 Booster Station Pipe Coating	LS	1	\$ 2,000.00	\$ 2,000.00	\$ 5,800.00	\$ 5,800.00	\$ 8,000.00	\$ 8,000.00
20	Cecil Clair Railroad Crossing	LS	1	\$ 16,398.69	\$ 16,398.69	\$ 7,700.00	\$ 7,700.00	\$ 16,500.00	\$ 16,500.00
Total Base Bid (items 1 through 20)					\$ 519,464.33		\$ 603,025.00		\$ 654,799.50

Notes;

I hereby certify that the above tabulation accurately represents bids, received, opened and read in the Breathitt County Court House in Jackson, Kentucky on Friday, May 4, 2012.


 Project Engineer - Matthew Curtis, PE

05/10/2012
 Date



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 227 North Upper Street
 Lexington, KY 40507-1016

Corrections from the Bid forms submitted of extensions of unit prices, the resulting Bid Totals or Bid Totals are shown in **Italicized Bold Type**

BREATHITT COUNTY WATER DISTRICT

Breathitt County, Kentucky

Attachment 4 - As-Bid Project Budget¹

KY 1098 South Fork Waterline Phase II

Subtotal - Opinion of Probable Construction Cost =	\$ 519,464
Project Administrative	\$ 15,000
Legal	\$ 4,000
Property Acquisition	\$ -
Engineering - Basic	
Design	\$ 42,343
Construction	\$ 10,586
Resident Observation	\$ 37,834
Engineering - Additional Services	
Permits	\$ 2,000
Project Contingencies	\$ 52,947
Total - Opinion of Probable Project Costs¹ =	\$ 684,173
Funding Sources	
DWSRF KIA Loan	\$ 684,173
Total - Funding Available	\$ 684,173

Notes:

1. All dollars are based upon lowest bids received on May 4, 2012 and read aloud at 10:00 am at the Fiscal Court Room at the Breathitt County Courthouse.



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 227 North Upper Street
 Lexington, KY 40507-1016



KENTUCKY INFRASTRUCTURE AUTHORITY

1024 Capital Center Drive, Suite 340
Frankfort, Kentucky 40601
Phone (502) 573-0260
Fax (502) 573-0157
<http://kia.ky.gov>

Steven L. Beshear
Governor

John E. Covington III
Executive Director

August 12, 2011

Mr. Bobby Thorpe, Jr., Chairman
Breathitt County Water District
1137 Main Street, Suite 305
Jackson, KY 41339

**KENTUCKY INFRASTRUCTURE AUTHORITY
FEDERALLY ASSISTED DRINKING WATER REVOLVING LOAN FUND
RESTATED CONDITIONAL COMMITMENT LETTER (F11-07)**

Dear Chairman Thorpe:

The Kentucky Infrastructure Authority ("the Authority") commends your efforts to improve public service facilities in your community. On July 7, 2011, the Authority approved your loan and, subsequently, on August 4, 2011, approved a modification to your loan for the Canoe Road, Hwy 1098 (South Fork) and Houston Water Line Extensions project subject to the conditions stated below. The total cost of the project shall not exceed \$2,775,000 of which the Authority loan shall provide \$2,500,000 of the funding. Other anticipated funding for the project is reflected in Attachment A. The final loan amount will be equal to the Authority's portion of estimated project cost applied to the actual project cost. Attachment A incorporated herein by reference fully describes the project.

An Assistance Agreement will be executed between the Authority and the Breathitt County Water District upon satisfactory performance of the conditions set forth in this letter. A period of twelve months from the date of the original Conditional Commitment Letter dated July 14, 2011 (7/13/12), will be allowed for you to meet the conditions set forth in this letter and enter into an Assistance Agreement. A one-time extension of up to six months may be granted for applicants that experience extenuating circumstances. Funds will be available for disbursement only after execution of the Assistance Agreement.

The Assistance Agreement and this commitment shall be subject, but not limited to, the following terms:

1. The Authority project loan shall not exceed \$2,500,000.



2. The loan shall contain principal forgiveness in the amount of 40% (previously 35%). Actual amortized loan and forgiveness amounts will be based on actual project costs drawn from the Authority.
3. The loan shall bear interest at the rate of 1% per annum commencing with the first draw of funds.
4. The loan shall be repaid over a period not to exceed 20 years from the date the loan is closed.
5. Interest shall be payable on the unforgiven amount of actual funds received. The first payment shall be due on June 1 or December 1 immediately succeeding the date of the initial draw of funds, provided that if such June 1 or December 1 shall be less than three months since the date of the initial draw of funds, then the first interest payment date shall be the June 1 or December 1 which is at least six months from the date of the initial draw of funds. Interest payments will be due each six months thereafter until the loan is repaid.
6. Full principal payments will commence on the appropriate June 1 or December 1 within twelve months from initiation of operation. Full payments will be due each six months thereafter until the loan is repaid.
7. A loan servicing fee of 0.25% of the annual outstanding loan balance shall be payable to the Authority as a part of each interest payment.
8. Loan funds will be disbursed after execution of the Assistance Agreement as project costs are incurred.
9. The Authority loan funds must be expended within six months of the official date of initiation of operation.
10. Fund "F" loan funds are considered to be federal funds. OMB Circular A-133, "Audits of States, Local Governments and Non-Profit Organizations, requires that all recipients and subrecipients **expending \$500,000 or more in a year in federal awards must have a single or program-specific audit conducted for that year** in accordance with the Circular. If the federal amount expended plus all other federal funds expended exceeds the threshold, you are required to arrange for an A-133 audit to be performed by an independent, licensed CPA, or in special cases, the Auditor of Public Accounts of the Commonwealth of Kentucky. The Authority requires an annual audit to be preformed for the life of the loan.

The following is a list of the standard conditions to be satisfied prior to execution of the Assistance Agreement or incorporated in the Assistance Agreement. Any required documentation must be submitted to the party designated.

1. The Authority to Award (bid) package must be submitted to the Division of Water for approval within 14 days of bid opening.
2. The Assistance Agreement must be executed within six (6) months from bid opening.
3. The Borrower must agree to expend all Authority loan funds within six months of the date of initiation of operation.
4. Documentation of final funding commitments from all parties other than the Authority as reflected in the credit analysis shall be provided prior to preparation of the Assistance Agreement and disbursement of the loan monies. Rejections of any anticipated project funding shall be immediately reported and may cause this loan to be subject to further consideration.
5. The loan must undergo review by the Capital Projects and Bond Oversight Committee of the Kentucky Legislature prior to the state's execution of the Assistance Agreement. The committee meets monthly on the third Tuesday. At this time we know of no further submission required for their review; however, they may request information as needed.
6. Any required adjustment in utility service rates shall be adopted by ordinance, municipal order or resolution by the appropriate governing body of the Borrower. Public hearings as required by law shall be held prior to the adoption of the service rate ordinance, order, or resolution. Any required approvals by the Kentucky Public Service Commission shall be obtained.
7. All easements or purchases of land shall be completed prior to commencement of construction. Certification of all land or easement acquisitions shall be provided to the Division of Water.
8. The Borrower must complete and return to the Authority the attached "Authorization For Electronic Deposit of Vendor Payment" Form.
9. The Authority to Award Package documentation shall be submitted to and approved by DOW.

10. An environmental review shall be conducted by the Division of Water for all construction projects receiving DWSRF funds, within the term of this binding commitment and prior to project bid.
11. Technical plans and specifications and a complete DWSRF specifications checklist shall be approved by the Division of Water prior to project bid.
12. A clear site certificate shall be obtained and DOW representatives shall be notified for attendance of the pre-construction conference.
13. Project changes or additions shall require a complete environmental and change order review before they can be included in the DWSRF loan project.

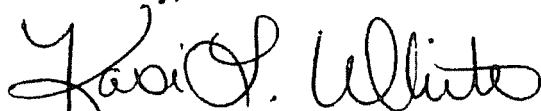
The following is a list of additional conditions to be satisfied prior to execution of the Assistance Agreement or incorporated in the Assistance Agreement. Any required documentation must be submitted to the party designated.

1. The Borrower shall require all contractors to pay wages pursuant to applicable prevailing wage rates (federal or state) for all work relating to the subject Project. The Borrower shall, if applicable, comply with all Davis Bacon related monitoring and reporting.
2. The project shall comply with the reporting requirements of the Transparency Act, and shall complete the attached Transparency Act Reporting Information Form and provide to the Authority no later than 30 days after the KIA Board approval date of your loan.
3. If the project has a "Green Reserve" component, the Borrower must submit a Business Case, if required.

Any special conditions listed below and/or stated in Attachment A must be resolved.

Please inform the Authority of any changes in your financing plan as soon as possible. We wish you every success for this project which will benefit both your community and the Commonwealth as a whole.

Sincerely,



Kasi L. White
Financial Analyst

Chairman Bobby Thorpe
August 12, 2011
Page 5

Attachments

cc: Jennifer McIntosh, Kentucky River Area Development District
Matt Steen, Nesbitt Engineering, Inc.
Division of Water
Dirk Bedarff, Peck, Shaffer & Williams LLP
State Local Debt Office, DLG
Borrower File - Breathitt County Water District - F11-07

Please sign and return a copy of this letter indicating your acceptance of this commitment and its terms. Also attach the completed "Authorization For Electronic Deposit of Vendor Payment" Form.

Accepted

Date

**KENTUCKY INFRASTRUCTURE AUTHORITY
DRINKING WATER REVOLVING LOAN FUND (FUND "F")
BREATHITT COUNTY WATER DISTRICT, BREATHITT COUNTY
PROJECT REVIEW
WX21025015, WX21025020 and WX21025021**

I. PROJECT DESCRIPTION

The Breathitt County Water District is requesting a Fund "F" loan in the amount of \$2,500,000 to extend water service in various areas. The request is comprised of three components. The projects will provide an adequate water supply to areas that currently have contaminated drinking water sources. Selective testing indicates that contaminants include iron, sulfur, manganese, sodium chloride as well as pathogens that usually include fecal coliform bacterial contamination at various levels.

The first project is the installation of approximately 78,330 linear feet of PVC and ductile iron pipe in various sizes to service KY 315 north of 1933 (Turner's Creek) and the remaining side roads off of Canoe Road including Canoe, Spicer Branch, Butter Point, Buzzard Fork, Stamper Fork and Lick Branch. The project will also install a service line via railroad bore to Cecil Clair on HWY 52 and upgrade the HWY 52 and Town Hill pump stations. In addition, approximately 46,247 linear feet of 6", 4" and 2" PVC of new lines will be constructed to serve the area of South Fork from Swift Branch to Open Fork and Press Howard Fork and the Short Fork Road area. Lastly, approximately 25,000 linear feet of 4" and 2" line will be constructed to extend service from KY 1114 to Walter Combs' House at the end of Houston Road. Approximately 340 customers will be added as a result of the projects.

II. PROJECT BUDGET

	<u>Total</u>
Administrative Expenses	\$ 40,839
Legal Expenses	18,700
Land & Easements	4,699
Engineering Fees	355,554
Construction	2,117,200
Contingency	238,008
Total	\$ 2,775,000

III. PROJECT FUNDING

	<u>Amount</u>	<u>%</u>
Fund F Loan	\$ 2,500,000	90%
HB1 (No CPBOC approval)	275,000	10%
Total	\$ 2,775,000	100%

**EXECUTIVE SUMMARY
KENTUCKY INFRASTRUCTURE AUTHORITY
FUND F, FEDERALLY ASSISTED DRINKING WATER
REVOLVING LOAN FUND**

Reviewer: Kasi White
Date: July 7, 2011
KIA Loan Number: F11-07
WRIS Number: WX21025015, WX21025020
WX21025021

BORROWER:	BREATHITT COUNTY WATER DISTRICT
	BREATHITT COUNTY

BRIEF DESCRIPTION:

This request is comprised of three primary components. These projects will provide an adequate water supply to a community that currently has contaminated drinking water sources. Selective testing indicates that contaminants include iron, sulfur, manganese, sodium chloride as well as pathogens that usually include fecal coliform bacterial contamination at various levels.

The first project is the installation of approximately 78,330 linear feet of PVC and ductile iron pipe in various sizes to service KY 315 north of 1933 (Turner's Creek) and the remaining side roads off of Canoe Road including Canoe, Spicer Branch, Butter Point, Buzzard Fork, Stamper Fork and Lick Branch. The project will also install a service line via railroad bore to Cecil Clair on HWY 52 and upgrade the HWY 52 and Town Hill pump stations. In addition, approximately 46,247 linear feet of 6", 4" and 2" PVC of new lines will be constructed to serve the area of South Fork from Swift Branch to Open Fork and Press Howard Fork and the Short Fork Road area. Lastly, approximately 25,000 linear feet of 4" and 2" line will be constructed to extend service from KY 1114 to Walter Combs' House at the end of Houston Road. Approximately 340 customers will be added as a result of the projects.

PROJECT FINANCING:		PROJECT BUDGET	
Fund F Loan	\$ 2,500,000	Administrative Expenses	\$ 40,839
HB1	275,000	Legal Expenses	18,700
		Land, Easements	4,699
		Engineering Fees	355,554
		Construction	2,117,200
		Contingency	238,008
TOTAL	\$ 2,775,000	TOTAL	\$ 2,775,000

REPAYMENT		Est. Annual	
Rate	1.00%	Payment	\$ 86,687
Term	20 years	1st Payment	6 Mo. after first draw

PROFESSIONAL SERVICES	
Engineer	Nesbitt Engineering, Inc.
Bond Counsel	Peck, Shaffer, & Williams

PROJECT SCHEDULE	
Bid Opening:	August, 2011
Construction Start:	October, 2011
Construction Stop:	November, 2012

DEBT PER CUSTOMER	
Existing:	\$ 560
Proposed:	\$ 1,432

OTHER DEBT	See Attached
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OTHER STATE-FUNDED PROJECTS LAST 5 YRS	See Attached
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RESIDENTIAL RATES		<u>Users</u>	<u>Avg. Bill</u>
Current	1,105	\$ 39.80	(for 4,000 gallons)
Additional	342	\$ 39.80	(for 4,000 gallons)

REGIONAL COORDINATION	This project is consistent with regional planning recommendations.
------------------------------	--

CASHFLOW	Cash Available for		Income after Debt	
	Debt Service	Debt Service	Service	Coverage Ratio
Audited 2006	(15,725)	0	(15,725)	n/a
Audited 2007	6,578	0	6,578	n/a
Audited 2008	(39,715)	45,070	(84,785)	(0.88)
Audited 2009	(43,548)	56,427	(99,975)	(0.77)
Preliminary 2010	34,564	574,181	(539,617)	0.06
Projected 2011	47,467	31,781	15,686	1.49
Projected 2012	152,030	44,118	107,912	3.45
Projected 2013	134,600	116,160	18,440	1.16
Projected 2014	126,208	116,003	10,206	1.09

Affordability Index (Rate/MHI) 2.5%

VII. DEMOGRAPHICS

In 2000, the County's population was 13,500 with a Median Household Income (MHI) of \$19,155, which is less than 80% of the MHI for the Commonwealth (\$33,672), thus qualifying the District for a 1% interest rate on the proposed loan.

VIII. 2010 CAPITALIZATION GRANT EQUIVALENCIES

- 1) Green Project Reserve - This project does not qualify for Green Project Reserve (GPR) funding.
- 2) Additional Subsidization – This project qualifies for additional subsidization in the amount of \$1,000,000.

IX. FINANCIAL ANALYSIS (See Exhibit 1)

Financial information for the utility was obtained audited financial statements for the years ended December 31, 2006 through 2009. Amounts for 2010 are based on preliminary financial statements.

HISTORICAL

The Breathitt County Water District (BCWD) was created in 2003 to provide water service to unserved residences in Breathitt County. The customer base has increased from about 100 in 2006 to approximately 1,100 today. Since its inception the District has extended the water supply to numerous areas throughout the County.

Revenues have increased 461% from \$88,609 in 2006 to \$497,238 in 2010. Operating expenses and purchased water costs have increased 339% from \$105,449 to \$463,023 during the same period. Cash available for debt service has been negative in all years but 2007 due to customer hookups from extension projects being realized a little later after project completion than expected. The debt coverage ratio in 2010 was 0.06. Reserve funds and a portion of operating cash were utilized to fund the required \$572,000 in debt service from the ARRA loan.

The 2010 operating cash balance represents about 1.5 months of operating expenses and purchased water cost. There are minimal restricted reserve funds to support total capital assets of \$23.5 million. Large unexpected expenses could stress the District's finances given these combined factors.

Financing for the District's capital expansion has involved a combination of grants, fiscal court contributions and credit facilities. The District's long term debt is minimal and is comprised of Series 2009 Revenue Bonds and a note to KIA. Total debt to equity is approximately 4%. Days' sales in accounts receivables are 35.9 which reflects an efficient collection process.

IV. KIA DEBT SERVICE

Construction Loan	\$ 2,500,000
Less: Principal Forgiveness (40%)	<u>1,000,000</u>
Amortized Loan Amount	\$ 1,500,000
Interest Rate	1.00%
Loan Term (Years)	20
Estimated Annual Debt Service	\$ 82,937
Administrative Fee (0.25%)	<u>3,750</u>
Total Estimated Annual Debt Service	\$ 86,687

V. PROJECT SCHEDULE

Bid Opening:	August, 2011
Construction Start:	October, 2011
Construction Stop:	November, 2012

VI. RATE STRUCTURE

The district purchases all water for distribution from the City of Jackson at a rate of \$1.90 per 1,000 gallons. There is a minimum purchase required of 400,000 gallons per month.

A. Customers

<u>Customers</u>	<u>Current</u>	<u>Proposed</u>	<u>Total</u>
Residential	1,100	342	1,442
Commercial	5	0	5
Industrial	0	0	0
	<u>1,105</u>	<u>342</u>	<u>1,447</u>

The Canoe Road project is expected to add 220 customers while the Highway 1,098 project will add 122 customers.

B. Rates

Rates were last increased in October, 2005.

First 2,000 gallons (minimum)	\$ 19.90
Rate Per Additional 1,000 Gallons	<u>9.95</u>
Cost for 4,000 gallons	\$ 39.80

XII. CONTACTS

Applicant

Name Breathitt County Water District
Address 1137 Main Street
 Jackson, Kentucky 41339

County Breathitt County
Contact Bobby Thorpe, Jr.
Phone (606) 666-3800, extension 250
Email breathittwater@yahoo.com

Engineer

Name Matt Steen
Firm Nesbitt Engineering, Inc.
Address 227 North Upper Street
 Lexington, Kentucky 40507

Phone (859) 233-3111
Email msteen@nei-ky.com

Applicant Contact

Name Kentucky River Area Development District
Address 917 Perry Park Road
 Hazard, KY 41701

Contact Jennifer McIntosh
Phone (606) 436-3158
Email Jennifer@kradd.org

XIII. RECOMMENDATIONS

KIA staff recommends approval of the loan with the standard conditions.

PROJECTED

Projections are based on the following assumptions:

- Revenues have been adjusted to include the additional 340 customers that will be added in 2012 as a result of the project.
- Customer growth outside of planned service area expansions will be 2% per year.
- Operating expenses and purchased water costs are projected to increase by 4% annually
- Average water use was calculated at 3,600 gallons per month per customer based on historical usage.
- The replacement reserve is \$6,250 for this project and \$7,250 annually in total (includes KIA loan F2 09-05).
- Debt service on the new KIA loan will be \$86,687 annually beginning in June 2013.

Based on the above assumptions the Breathitt County Water District will meet the required cash flow through the projected years with a debt coverage ratio of 1.16 in 2013. Debt to equity will increase from 4% to 11% upon completion of the project.

REPLACEMENT RESERVE

Based on the information provided in the application the annual replacement cost is \$6,250. This amount should be added to the replacement account each December 1 until the balance reaches \$62,500 and maintained for the life of the system.

X. DEBT OBLIGATIONS

	<u>Outstanding</u>	<u>Maturity</u>
Series 2009 Revenue Bonds	\$350,000	2049
KIA (F2 09-05)	257,630	2030
Total	\$607,630	

XI. OTHER STATE OF FEDERAL FUNDING IN PAST FIVE YEARS

<u>Project Title</u>	<u>Funding Source</u>	<u>Amount</u>	<u>Type</u>
Watts Extension	HB608	\$1,600,000	Grant
Watts Extension	CDBG	\$1,000,000	Grant
Ext on Hwy 205/1812 to Wolfe County	HB380	\$1,200,000	Grant
Highway 30 West Project	HB608	\$750,000	Grant
Highway 30 East Extension	CDBG, USDA, RD, ARC, CST	\$1,200,000	Grant

**BREATHITT COUNTY WATER DISTRICT
BALANCE SHEETS (DECEMBER)**

ASSETS	Audited 2006	Audited 2007	Audited 2008	Audited 2009	Preliminary 2010	Project Completion
Current Assets						
Cash	38,002	32,149	40,788	119,763	19,287	19,287
Accounts Receivable	5,905	15,236	20,945	26,998	48,881	46,740
Inventory					6,799	7,500
Other Current Assets (Construction Receivables)					151,460	25,000
Total Current Assets	43,907	47,385	61,733	146,761	226,427	98,527
Restricted Assets						
Restricted for Construction	40,332	43,005	14,475	89,114	163	10,000
Debt Service Reserve Fund	0	0	0	369,833	34,551	34,551
KIA R&M Fund						3,000
Total Restricted Assets	40,332	43,005	14,475	458,947	34,714	47,551
Utility Plant						
Land, System, Building and Equipment	6,375,640	9,329,214	13,881,781	19,863,658	23,537,096	26,312,096
Less Accumulated Depreciation ()	(184,865)	(387,566)	(670,809)	(1,028,825)	(1,592,024)	(2,763,524)
Net Fixed Assets	6,190,775	8,941,648	13,210,972	18,834,833	21,945,072	23,548,572
Total Assets	6,275,014	9,032,038	13,287,180	19,440,541	22,206,213	23,694,650
LIABILITIES						
Current Liabilities						
Accounts Payable	1,195	5,622	9,919	20,798	16,884	20,900
Accrued Liabilities	1,184	2,226	478	838	10,012	15,000
Construction Related Payables	0	0	0	0	151,460	25,000
Current Portion Long Term Debt	0	0	0	500,000	28,804	17,649
Current Portion Proposed KIA Loan						68,106
Total Current Liabilities	2,379	7,848	10,397	521,636	207,160	146,655
Long Term Liabilities						
Long Term Debt	0	0	1,267,334	350,000	590,103	554,926
KIA - Proposed Loan						1,431,894
Total Long Term Liabilities	0	0	1,267,334	350,000	590,103	1,986,819
Total Liabilities	2,379	7,848	1,277,731	871,636	797,263	2,133,475
Retained Earnings:						
Invested in Capital Assets Net of Related Debt	6,190,775	8,941,648	11,943,638	17,984,833	21,326,165	21,466,325
Restricted for Construction	40,332	43,005	14,475	89,114	163	10,000
Restricted for Debt Service	0	0	0	369,833	34,551	34,551
Restricted for R&M	0	0	0	0	0	3,000
Unrestricted	41,528	39,537	51,336	125,125	48,071	47,300
Total Retained Earnings	6,272,635	9,024,190	12,009,449	18,568,905	21,408,950	21,561,176
Total Liabilities and Equities	6,275,014	9,032,038	13,287,180	19,440,541	22,206,213	23,694,651
Balance Sheet Analysis						
Current Ratio	18.46	6.04	5.94	0.28	1.09	0.67
Debt to Equity	0.00	0.00	0.11	0.05	0.04	0.10
Working Capital	41,528	39,537	51,336	(374,875)	19,267	(48,128)
Percent of Total Assets In Working Capital	0.66%	0.44%	0.38%	-1.93%	0.09%	-0.20%
Days Sales in Accounts Receivable	24.3	30.5	28.2	23.7	35.9	25.0

EXHIBIT 1

BREATHITT COUNTY WATER DISTRICT DECEMBER

CASH FLOW ANALYSIS

	Audited	%	Audited	%	Audited	%	Audited	%	Preliminary	Projected	Projected	Projected	Projected
	2006	Change	2007	Change	2008	Change	2009	Change	2010	2011	2012	2013	2014
Operating Revenues													
Charges for Services	51,597	148%	128,026	59%	203,781	49%	304,003	39%	421,912	480,776	565,884	652,927	668,611
Tap Fees	0		54,550	-55%	24,750	135%	58,093	-52%	27,802	5,000	69,000	5,000	5,000
Other	37,012	-100%	25	169276%	42,344	26%	53,533	-11%	47,524	47,524	47,524	47,524	47,524
Total Revenues	88,609	106%	182,601	48%	270,875	53%	415,629	20%	497,238	533,300	682,408	705,451	721,141
Operating Expenses													
Purchased Water	13,946	158%	36,029	2%	36,709	92%	70,497	62%	114,289	120,055	143,381	167,180	173,851
Operating Expenses	91,503	54%	141,024	94%	274,150	42%	388,935	-10%	348,734	364,078	380,097	396,821	414,289
Depreciation	121,135	67%	202,701	40%	283,242	26%	358,016	57%	563,199	577,500	594,000	610,900	796,800
Replacement Reserve									0	2,000	7,250	7,250	7,250
Total Expenses	226,584	68%	379,754	56%	594,101	38%	817,448	26%	1,026,222	1,063,633	1,124,728	1,182,151	1,392,181
Net Operating Income	(137,975)	43%	(197,153)	64%	(323,226)	24%	(401,819)	32%	(528,984)	(530,333)	(442,320)	(476,700)	(671,040)
Non-Operating Income and Expenses													
Interest on Investments	1,115	-8%	1,030	-74%	269	-5%	255	37%	349	300	350	400	450
Total Non-Operating Income & Expenses	1,115	-8%	1,030	-74%	269	-5%	255	37%	349	300	350	400	450
Add Non-Cash Expenses													
Depreciation	121,135	67%	202,701	40%	283,242	26%	358,016	57%	563,199	577,500	594,000	610,900	796,800
Cash Available for Debt Service	(15,725)	-142%	6,578	-704%	(39,715)	10%	(43,548)	-179%	34,564	47,467	152,030	134,600	126,200
Debt Service (enter as positive #'s)													
Existing Principal	0		0		0		0		557,057	5,500	5,500	6,000	6,000
Existing Interest	0		0		45,070		56,427		10,387	9,188	9,044	8,899	8,744
KIA (F2 09-05)									6,737	14,593	14,574	14,574	14,574
Proposed KIA Loan										2,500	15,000	86,687	86,687
Total Debt Service	0		0		45,070		56,427		574,181	31,781	44,118	116,160	116,000
Income After Debt Service	(15,725)		6,578		(84,785)		(99,975)		(539,617)	15,686	107,912	18,440	10,200
Debt Coverage Ratio	n/a		n/a		(0.88)		(0.77)		0.06	1.49	3.45	1.16	1.09

STEVEN L. BESHEAR
GOVERNOR



LEONARD K. PETERS
SECRETARY

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE, 4TH FLOOR
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

February 21, 2012

Mr. Bobby Thorpe, Jr., Chairman
Breathitt County Water District
1137 Main St., Ste. 305
Jackson, KY 41339

RE: Breathitt Co Water District
AI # 45303, APE20120001
KIA Loan Number F11-07
PWSID # 0131012-12-001
South Fork WLE Project -Phase II Permit
Breathitt County, KY

Dear Mr. Thorpe Jr.:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of approximately 11,600 LF of 6-inch, 32,400 LF of 4-inch and 250 LF of 2-inch WLE. This is to advise that plans and specifications for the above referenced project are APPROVED with respect to sanitary features of design, as of this date with the requirements contained in the attached construction permit. The following conditions also apply to this project:

1. You are hereby authorized to advertise for bids to construct this project. In addition to other notices, you shall advertise the bid for seven (7) to twenty-one (21) days prior to the Bid Opening date in the newspaper with the largest circulation in your area. Please provide the bid opening date to Buddy Griffin at the Division of Water, SRF Section. Buddy Griffin may be reached at (502) 564-3410, extension 4971 or e-mail at Buddy.Griffin@ky.gov.
2. You are cautioned not to advertise unless you have a proper wage decision. The Federal Davis-Bacon wage rates are applicable for this project. Please contact all other funding sources for their requirements.
3. A set of AS-BID plans and specifications (with any APPROVAL conditions addressed) and a copy of the Advertisement shall be submitted to the Division of Water when the project is advertised. These items will be reviewed as part of the Authority to Award process.
4. The attached Project Review and Cost Summary form is to be completed and signed after bids have been received and then submitted along with the supporting documents indicated on the form. Your signature on this form will certify that all the information to be retained by the recipient has been secured and is available for review by the Division at the pre-construction conference. The complete bid package should be submitted to the Division of Water within fourteen (14) days after the bid opening.

Kentucky 

5. Upon approval of the bid documents, the Division of Water will authorize you to award the construction contract, and arrange for a pre-construction conference. Division of Water staff **must** be present at this pre-construction conference.
6. You are cautioned that the advertisement and award of this contract will be subject to the laws and regulations that govern the DWSRF process and the conditions of your KIA loan agreement.
7. Please be advised that the construction contract is subject to the Equal Employment Opportunity requirements contained in Executive Order 11246. Equal Employment opportunity affirmative action by the prime contractor and all subcontractors is mandated throughout the duration of the contract. Documentation of efforts to comply with Executive Order 11246, Equal Employment Opportunity in accordance with the EPA Special Notice to Bidders is required.
8. Documentation of compliance with the DBE Fair Share Policy in accordance with 40 CFR 31.36(e) is required and must be submitted to the Division of Water within fourteen (14) days of the bid opening.
9. If sanitary features of the approved plans are to be changed during construction, the engineer shall submit the revision to the Division of Water for approval prior to implementation of the modification. Written approval from the Division of Water must be granted prior to on-site work dedicated to the adjustment.
10. When this project is completed, the owner shall submit a written certification to the Division of Water that the above referenced water facilities have been constructed and tested in accordance with the approved plans. Such certification shall be signed by a licensed professional engineer.
11. When this project is completed, the engineer shall submit as-built drawings to the Division of Water.

If you have any questions concerning this project, please contact Mr. Abbas Pourghasemi at 502-564-3410 x4833.

Sincerely,



Mark Rasche, P.E.
Supervisor, Engineering Section
Water Infrastructure Branch
Division of Water

MER: AGP

Enclosures

C: Nesbitt Engineering Inc
Breathitt County Health Department
Public Service Commission
Division of Plumbing
KIA

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20120001

Page 1 of 7

GACT0000000020 (South Fork WLE Project Phase II) 11,600 LF of 6-inch, 32,400 LF of 4-inch and 250 LF of 2-inch WLE:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Depth	A continuous and uniform bedding shall be provided in the trench for all buried pipe. Backfill material shall be tamped in layers around the pipe and to a sufficient height above the pipe to adequately support and protect the pipe. Stones found in the trench shall be removed for a Depth ≥ 6 in below the bottom of the pipe. [Recommended Standards for Water Works 8.5.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-2	Depth	All water lines shall be covered to a Depth ≥ 30 in to prevent freezing. [Recommended Standards for Water Works 8.5.3, 401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Diameter	All water lines shall have Diameter ≥ 3 in. [Recommended Standards for Water Works 8.1.4] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-4	Diameter	Water lines with Diameter < 6 in shall not have fire hydrants. [Recommended Standards for Water Works 8.1.5] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-5	Diameter	All new and existing water lines serving fire hydrants or where fire protection is provided shall have Diameter ≥ 6 in. [Recommended Standards for Water Works 8.1.2] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-6	Distance	Water lines shall have a sufficient quantity of valves so that inconvenience and sanitary hazards will be minimized during repairs. A valve spacing Distance ≤ 1.0 mi should be utilized. [Recommended Standards for Water Works 8.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-7	Distance	Hydrant drains shall not be connected to sanitary sewers or storm drains and shall be located a Distance > 10 ft from sanitary sewers and storm drains. [Recommended Standards for Water Works 8.3.4] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-8	Distance	Except when not practical, water lines shall be laid a horizontal Distance ≥ 10 ft from any existing or proposed sewer. The distance shall be measured edge to edge. In cases where it is not practical to maintain a 10 foot separation, water lines may be installed closer to a sewer provided that the water lines shall be laid in a separate trench or on an undisturbed shelf located on one side of the sewer at such an elevation that the bottom of the water line is at least 18 inches above the top of the sewer. [Recommended Standards for Water Works 8.6.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20120001

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GACT0000000020 (continued):

Limitation Requirements:

Condition No.	Parameter	Condition
L-9	Distance	<p>When water lines and sewers cross,</p> <ol style="list-style-type: none">1) water lines shall be laid such that either<ol style="list-style-type: none">a) the the top of the water line is a vertical Distance ≥ 18 in below the bottom of the sewer line orb) the bottom of the water line is a vertical Distance ≥ 18 in above the top of the sewer line,2) 1 full length of the water pipe shall be located so that both joints of the water pipe will be as far from the sewer as possible, and3) special structural support for the water and sewer pipes may be required. [Recommended Standards for Water Works 8.6.3] <p>This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.</p>
L-10	Distance	<p>The open end of an air relief pipe from automatic valves shall be extended a Distance ≥ 1.0 ft above grade and provided with a screened, downward-facing elbow. The pipe from a manually operated valve shall be extended to the top of the pit. Use of manual air relief valves is recommended wherever possible. [Recommended Standards for Water Works 8.4.2] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.</p>
L-11	Pressure	<p>Pipes shall not be installed unless all points of the distribution system remain designed for ground level Pressure ≥ 20 psi under all conditions of flow. [Recommended Standards for Water Works 8.1.1] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.</p>
L-12	Pressure	<p>Pressure ≥ 30 psi must be available on the discharge side of all meters. [401 KAR 8:100 Section 4(2)] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.</p>
L-13	Residual Disinfection	<p>New or relocated water lines shall be thoroughly disinfected (in accordance with AWWA Standard C651) upon completion of construction and before being placed into service. To disinfect the new or relocated lines use chlorine or chlorine compounds in such amounts as to produce an initial disinfectant concentration of at least 50 ppm and a Residual Disinfection ≥ 25 ppm at the end of 24 hours. Follow the line disinfection with thorough flushing and place the lines into service if, and only if, Coliform monitoring applicable to the line does not show the presence of Coliform. If Coliform is detected, repeat disinfection and flushing as if the line has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [401 KAR 8:150 Section 4(1), Recommended Standards for Water Works 8.5.6] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.</p>

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20120001

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GACT0000000020 (continued):

Limitation Requirements:

Condition No.	Parameter	Condition
L-14	Velocity	Each blow-off, fire hydrant, or flush hydrant shall be sized so that Velocity \geq 2.5 ft/sec can be achieved in the water main served by the blow-off or hydrant during flushing. [Recommended Standards for Water Works 8.1.6.b, 401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.

Monitoring Requirements:

Condition No.	Parameter	Condition
M-1	leaks	The presence or absence of leaks monitored by physical testing as needed shall be determined in all types of installed pipe. Pressure testing and leakage testing shall be in accordance with the latest edition of AWWA Standard C600. [Recommended Standards for Water Works 8.5.5] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-1	Additional Limitations: Water line installation shall be in accordance with AWWA standards or manufacturer recommendations. [Recommended Standards for Water Works 8.5.1]
T-2	Additional Limitations: Pipes, fittings, valves and fire hydrants shall conform to the latest standards issued by the AWWA or NSF (if such standards exist). PVC and PE piping used must be certified to ANSI/NSF Standard 61. [Recommended Standards for Water Works 8.0.1]
T-3	Additional Limitations: At high points in water lines, where air can accumulate, provisions shall be made to remove the air by means of hydrants or air relief valves. Automatic air relief valves shall not be used in situations where manhole or chamber flooding may occur. [Recommended Standards for Water Works 8.4.1]

Distribution-Major Construction

Breathitt Co Water District

Facility Requirements

Activity ID No.: APE20120001

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GACT0000000020 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-4	<p>Additional Limitations: All tees, bends, plugs and hydrants shall be provided with reaction blocking, tie rods or joints designed to prevent movement. [Recommended Standards for Water Works 8.5.4]</p>
T-5	<p>Additional Limitations: For lines that dead end, a fire hydrant or blow-off shall be required at the end of each 6 inch or larger diameter line and a flush hydrant or blow-off shall be required at the end of each line that is less than 6 inches in diameter. [Recommended Standards for Water Works 8.1.6]</p>
T-6	<p>Additional Limitations: For each fire or flush hydrant, auxiliary valves shall be installed in the hydrant lead pipe. [Recommended Standards for Water Works 8.3.3]</p>
T-7	<p>Additional Limitations: No flushing device, blow-off, or air relief valve shall be directly connected to any sewer. Chambers, pits or manholes containing valves, blow-offs, meters, or other such appurtenances shall not be directly connected to any storm drain or sanitary sewer. Such chambers, pits or manholes shall be drained to absorptions pits underground or to the surface of the ground where they are not subject to flooding by surface water. [Recommended Standards for Water Works 8.1.6, Recommended Standards for Water Works 8.4.3]</p>
T-8	<p>Additional Limitations: If water lines are installed or replaced in areas of organic contamination or in areas within 200 ft of underground or petroleum storage tanks, ductile iron or other nonpermeable materials shall be used in all portions of the water line installation or replacement. [401 KAR 8:100 Section 1(5)(d)6, Recommended Standards for Water Works 8.0.2]</p>
T-9	<p>Additional Limitations: No water pipe shall pass through or come in contact with any part of a sewer manhole. [Recommended Standards for Water Works 8.6.6]</p>
T-10	<p>Additional Limitations: If a fire sprinkler system is to be installed, a double check detector assembly approved for backflow prevention shall be utilized. The double check detector assembly of the system shall be accessible for testing. [401 KAR 8:100 Section 1(7)]</p>
T-11	<p>Additional Limitations: If water lines cross a stream or wetland, the provisions in the attached Water Quality Certification shall apply. If you have any questions please contact the Water Quality Certification Supervisor of the Water Quality Branch at (502) 564-2225. [401 KAR 8:100 Section 1(7)]</p>

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20120001

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GACT0000000020 (continued):

Narrative Requirements:

Subfluvial Pipe Crossings:

Condition No.	Condition
T-12	<p>Subfluvial Pipe Crossings: For subfluvial pipe crossings, a floodplain construction permit will not be required pursuant to KRS 151.250 if the following requirements of 401 KAR 4:050 Section 2 are met.</p> <ol style="list-style-type: none">1) No material may be placed in the stream or in the flood plain of the stream to form construction pads, coffer dams, access roads, etc. during construction of pipe crossings.2) Crossing trenches shall be backfilled as closely as possible to the original contour.3) All excess material resulting from construction displacement in a crossing trench shall be disposed of outside the flood plain.4) For erodible channels, there shall be at least 30 inches of backfill on top of all pipe or conduit points in the crossing.5) For nonerodible channels, pipes or conduits in the crossing shall be encased on all sides by at least 6 inches of concrete with all pipe or conduit points in the crossing at least 6 inches below the original contour of the channel. [401 KAR 8:100 Section 1(7)]
T-13	<p>Subfluvial Pipe Crossings: For subfluvial pipe crossings greater than 15 feet in width,</p> <ol style="list-style-type: none">1) the pipe shall be of special construction, having flexible, restrained, or welded watertight joints, and2) valves shall be provided at both ends of water crossings so that the section can be isolated for testing or repair. <p>Valves shall</p> <ol style="list-style-type: none">a) be easily accessible,b) not be subject to flooding, andc) if closest to the supply source, be in a manhole with permanent taps made on each side of the valve to allow insertion of a small meter to determine leakage and for sampling purposes. [Recommended Standards for Water Works 8.7.2]

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

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PORT0000000033 (South Fork WLE Project Phase II) 11,600 LF of 6-inch, 32,400 LF of 4-inch and 250 LF of 2-inch WLE:

Monitoring Requirements:

Condition No.	Parameter	Condition
M-1	Coliform	The presence or absence of total Coliform monitored by sampling and analysis as needed shall be determined for the new or relocated water line(s). Take samples at connection points to existing lines, at 1 mile intervals, and at dead ends without omitting any branch of the new or relocated water line. Sample bottles shall be clearly identified as "special" construction tests. [401 KAR 8:100 Section 1(7), 401 KAR 8:150 Section 4, Recommended Standards for Water Works 8.5.6] This requirement is applicable during the following months: All Year. Statistical basis: Instantaneous determination.

Submittal/Action Requirements:

Coliform:

Condition No.	Condition
S-1	Coliform For new construction projects, the distribution system, using the most expedient method, shall submit Coliform test results to the Cabinet: Due immediately following disinfection and flushing. [401 KAR 8:150 Section 4(2)]

Condition No.	Condition
S-2	For proposed changes to the approved plan, submit information: Due prior to any modification to the Cabinet for approval. Changes to the approved plan shall not be implemented without the prior written approval of the Cabinet. [401 KAR 8:100 Section 1(8)]
S-3	The person who presented the plans shall submit the professional engineer's certification: Due when construction is complete to the Division of Water. The certification shall be signed by a registered professional engineer and state that the water project has been constructed and tested in accordance with the approved plans, specifications, and requirements. [401 KAR 8:100 Section 1(8)]

Distribution-Major Construction

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PORT0000000033 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-1	Additional Limitations: Chlorinated water resulting from disinfection of project components shall be disposed in a manner which will not violate 401 KAR 5:031. [401 KAR 8:020 Section 2(20)]
T-2	This project has been permitted under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the applicant from the responsibility of obtaining any other approvals, permits or licenses required by this Cabinet and other state, federal and local agencies. Further, this permit does not address the authority of the permittee to provide service to the area to be served. [401 KAR 8:100 Section 1(7)]
T-3	Unless construction of this project is begun within 2 year from the issuance date of this permit, the permit shall expire. If this permit expires, the original plans and specifications may be resubmitted for a new comprehensive review. If you have any questions concerning this project, please contact the Drinking Water Branch at 502/564-3410. [401 KAR 8:100 Section 1(9)]
T-4	Final approval of facility. Upon completion of construction, the person who presented the plans shall certify in writing that the project has been completed in accordance with the "approved" plans and specifications. The public water supply shall operate the facility consistent with the approved plans and specifications. Any proposed change to the approved plan shall be submitted to the cabinet for approval. The public water supply shall not implement any change to the approved plan without the prior written approval of the cabinet. [401 KAR 8:100 Section 401 KAR 8:100(1)(8)]
T-5	During construction, a set of approved plans and specification shall be available at the job site at all times. All work shall be performed in accordance with the approved plans and specifications. [401 KAR 8:100 Section 1(7)(a)]

Breathitt County Water District
 KY 1098 South Fork Phase II Waterline Extension
 998-35

ATTACHMENT # 7

Electrical Rates - AEP (Tariff 215-Medium General Service)

Monthly Basic Fee	\$ 13.50
Usage Rate	\$ 0.09862 per KWH for first 200 KWH
	\$ 0.08460 per KWH after first 200 KWH
Demand Factor	\$ 1.64 per KWH

Existing Pump Data (KY 30 East)

Average Flow Rate	456 gpm
Horsepower	40
Efficiency	75%
Hours of Operation	6.00 hours/day

Demand of Customers

Existing Customers (KY30 East)	113	Homes
Estimated Customers (South Fork Phase I)	123	Homes
Estimated Customers (South Fork Phase II)	62	Homes
New - Total Estimate Flow	44,700	gallons/day

Opinion of Probable Cost of Operation						
Proposed Operating Conditions						
New Production Cost						
Purchase Price per 1,000 gallons (Purchased from the City of Jackson)						\$ 2.90
Total - Proposed Annual Cost of Purchased Water						\$ 47,314.95
Operation Costs						
Pumping Costs						
River Caney Booster Station Electric Consumption	265	KWH per Day	96,814	KWH per year		
Total Project Electric Consumption	265	KWH per Day	96,814	KWH per year		
	Monthly Basic Fee (\$13.50 x 12 months)				\$	162.00
	Usage Rate (200 KW x \$0.09862 + ((80,679 KW - 200 KW) x \$0.0846))				\$	9,547.82
	Demand Charge (61.43 KW x \$1.64 x 12 months)				\$	1,208.94
Total - Proposed Annual Pumping Cost						\$ 10,918.76
Total - Proposed Annual Production & Operation Costs						\$ 58,233.71