



OFFICE OF THE BREATHITT COUNTY ATTORNEY

BRENDON D. MILLER

1149 MAIN STREET
JACKSON, KENTUCKY 41339
E-mail: bdmiller@setel.com

STANLEY T. TURNER
SAMUEL BRUCE HERALD
ASSISTANT COUNTY ATTORNEYS

PHONE: (606) 666-3809
FAX: (606) 666-4422
CHILD SUPPORT: (606) 666-5927

October 19, 2011

Mr. Jeff Derouen
Executive Director
Public Service Commission
P.O. Box 615
Frankfort, Kentucky 40602

RECEIVED

OCT 24 2011

PUBLIC SERVICE
COMMISSION

RE: Breathitt County Water District
Case No. 2011-_____

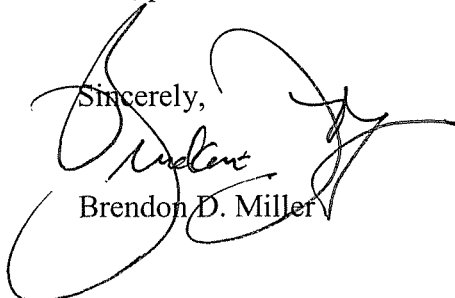
Dear Mr. Derouen:

Enclosed please find the original and ten (10) copies of the Application of the Breathitt County Water District for a Certificate of Public Convenience and Necessity to construct and finance pursuant to KRS 278.020.

Also enclosed are eleven (11) copies of the exhibits required pursuant to 807 KAR 5.069.

If you need any additional information or documentation, please let me know.

Sincerely,


Brendon D. Miller

Enclosures
CC: Distribution List

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION
CASE NO. 2011-_____**

RECEIVED

OCT 24 2011

PUBLIC SERVICE
COMMISSION

In the Matter of:

**THE APPLICATION of the BREATHITT COUNTY WATER DISTRICT
of BREATHITT COUNTY, KENTUCKY, for a CERTIFICATE of PUBLIC
CONVENIENCE and NECESSITY to CONSTRUCT and FINANCE,
PURSUANT TO KRS 278.020.**

APPLICATION

This Application of the Breathitt County Water District (“Applicant”) of Breathitt County, Kentucky, respectfully shows:

1. That the Applicant is a water district of Breathitt County, Kentucky, created and existing under and by virtue of Chapter 74 of the Kentucky Revised Statutes.
2. That the post office address of the Applicant is:
Breathitt County Water District
1137 Main Street
Jackson, Kentucky 41339
3. That Applicant pursuant to the provisions of KRS 278.020, seeks (i) a Certificate of Public Convenience and Necessity, permitting Applicant to construct a waterworks construction project, consisting of extensions, additions, and improvements (the “Project”) to the existing waterworks system of Applicant; and (ii) approval of the proposed plan of financing said project.
4. That the KY 1114 “Houston Road” Project consists of the construction and installation of approximately 22,300 linear feet of 4-inch waterline, 3,000 linear feet of 2-inch waterline, and a hydro pneumatic pump station.
5. That Applicant proposes to finance the construction of the KY 1114 “Houston Road” Project through a combination of Grant and Loan funds. The Grant portion of the funding is as through a grant of Coal Severance funds in the amount of \$275,000.00. The balance of the funding is through a Kentucky Infrastructure Authority loan in the amount of \$66,000.00, (which is 40% forgiveness). This amount is for this project only. The KIA loan (in the entirety of \$2,500,000.00 including funds for

other projects) is currently under review for approval of acceptance by this Agency.

6. That Applicant does not contemplate having the project constructed with any deviation from minimum construction standards of this Public Service Commission.
7. That Applicant files herewith the following Exhibits pursuant to 807 KAR 5:069 in support of this Application.
 - A. Copies of the funding Agreements are attached: Revised Kentucky Infrastructure Authority - State Revolving Fund Loan, "Exhibit A"; and Coal Severance Commitment which is currently in the process of approval by the Department for Local Government, "Exhibit B".
 - B. Project has not been bid, bid tabulations will be supplemented upon receipt and acceptance of bids for project.
 - C. Copy of the Preliminary Engineering Report, which will be amended to the FER, based on bids received when project is bid. "Exhibit C".
 - D. Certified statement from the Chairperson of the Applicant, based upon statements of the Engineers for Applicant, concerning the following:
 1. The proposed plans and specifications for the Project have been designated to meet the minimum construction and operating requirements set out in 807 KAR 5:066, Section 4 (3) and (4); Section 5 (1); Sections 6 and 7; Section 8 (1) through (3); Section 9(1) and Section 10.
 2. All other state approvals have already been obtained, including a drinking water construction permit from the Kentucky Division of Water, "Exhibit D".
 3. The Existing rates of Applicant shall produce the total revenue requirements set out in the engineering reports, therefore no rate increase is necessary, and
 4. Setting out the date of December 1, 2011, when it is anticipated that construction will begin and April 1, 2012, when it is anticipated to end.
8. The foregoing constitutes the documents necessary to obtain the approval of the Kentucky Public Service Commission in accordance with Section 278.020 of the KRS and in accordance with the "Filing Requirements" specified in 807 KAR 5:609, Section 1.

- a. A Certificate of Public Convenience and Necessity permitting Applicant to construct a waterworks project consisting of extensions, additions, and improvements of the existing waterworks system of Applicant.
- b. An order approving the financing arrangements made by Applicant, viz. through agreements made with the Department for Local Government as Administrator of the Coal Severance Funds, and the Kentucky Infrastructure Authority, Administrator of the State Revolving Fund.

BREATHITT COUNTY WATER DISTRICT

By: _____

BOBBY THORPE, JR. Chairperson



HON. BRENDON D. MILLER

Breathitt County Attorney
Counsel for Applicant
1149 Main Street
Jackson, Kentucky 41339
(606) 666-4400

VERIFICATION

The undersigned, BOBBY THORPE, JR., being duly sworn, deposes and states that he is the Chairperson of the Board of Commissioners of the Breathitt County Water District, Applicant, in the above proceedings; that he has read the foregoing Application and has noted the contents thereof; that the same is true of his own knowledge, except as to matters which are therein stated on information or belief, and as to those matters, he believes same to be true.

IN TESTIMONY WHEREOF, witness the signature of the undersigned on this the 19th day of October, 2011.

BREATHITT COUNTY WATER DISTRICT

By: _____

BOBBY THORPE, JR., Chairperson

COMMONWEALTH OF KENTUCKY

COUNTY OF BREATHITT

The foregoing was subscribed and sworn to before me by Bobby Thorpe, Jr.,
Chairperson of the Board of Commissioners of the Breathitt County Water District, on
this the 19th day of October, 2011.



NOTARY PUBLIC

Commission Expires: 10/6/2014

CERTIFICATE of CHAIRPERSON of BREATHITT COUNTY
WATER DISTRICT, as to STATEMENT REQUIRED by
SECTION 1 (5) OF 807 KAR 5:06

I, BOBBY THROPE, JR., hereby certify that I am the duly qualified and acting Chairperson of the Breathitt County Water District, and that said District is in the process of arranging to finance the construction of extensions, additions and improvements to the existing waterworks system of the District (the "Project"), in cooperation with Nesbitt Engineering, Inc., Lexington, Kentucky, the Engineers for the District (the "Engineers").

Based on information furnished to me by said Engineers for the District, I hereby certify as follows:

1. The proposed plans and specifications for the Project have been designated to meet the minimum construction and operating requirements set out in 807 KAR 5:066, Section 4 (3) and (4); Section 5 (1); Sections 6 and 7; Section 8 (1) through (3); Section 9 (1) and Section 10.
2. All other state approvals have already been obtained, including the approval of the Kentucky Division of Water.
3. The Existing rates of the District filed with the Public Service Commission of Kentucky are contemplated to produce total revenue requirements set out in the Engineering Reports, prepared by the Engineers and filed with the Public Service Commission.
4. That it is now contemplated that construction of the KY 1114 "Houston Road" Project will begin on or about December 1, 2011, and will end on or about April 1, 2012.

IN TESTIMONY WHEREOF, witness my signature this 19th day of October, 2011.

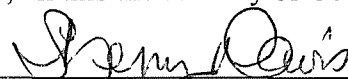
BREATHITT COUNTY WATER DISTRICT

By: 
BOBBY THORPE, JR., Chairperson

STATE OF KENTUCKY

COUNTY OF BREATHITT

Subscribed and sworn to before me by Bobby Thorpe, Jr., Chairperson of the Board of Commissioners of the Breathitt County Water District, on this the 19th day of October, 2011.


NOTARY PUBLIC
Commission Expires: 4/6/2014

DISTRIBUTION LIST

Case No. 2011-_____

Re: Breathitt County Water District Application

District Officials

Mr. Bobby Thorpe, Jr., Chairperson

Mr. Estill McIntosh, Manager

Breathitt County Water District

1137 Main Street

Jackson, Kentucky 41339

Telephone: (606) 666-3800

Fax: (606) 666-2860

Engineer

Mr. Paul Nesbitt

Nesbitt Engineering, Inc.

227 North Upper Street

Lexington, Kentucky 40507

Telephone: (859) 233-3111

Fax: (859) 259-2717

Local Counsel

Hon. Brendon D. Miller

Breathitt County Attorney

1149 Main Street

Jackson, KY 41339

Telephone: (606) 666-4400

Fax: (606) 666-4422

KIA Loan and Coal Severance Administrator

Ms. Jennifer McIntosh

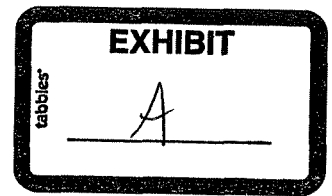
KRADD

917 Perry Park Road

Hazard, Kentucky 41701

Telephone: (606) 436-3158

Fax: (606) 436-2144



Steven L. Beshear
Governor

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

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.

Chairman Bobby Thorpe
August 12, 2011
Page 4

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.

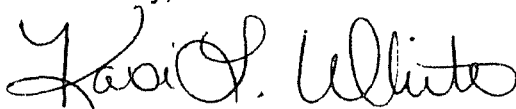
The following is a list of additional conditions to be satisfied prior to execution of the Assistance Agreement or incorporated in the Assistance Agreement. Any required documentation must be submitted to the party designated.

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

ATTACHMENT A

**Breathitt County Water District
F11-07**

EXECUTIVE SUMMARY		Reviewer:	Kasi White	
KENTUCKY INFRASTRUCTURE AUTHORITY		Date:	July 7, 2011	
FUND F, FEDERALLY ASSISTED DRINKING WATER		KIA Loan Number:	F11-07	
REVOLVING LOAN FUND		WRIS Number	WX21025015, WX21025020 WX21025021	
BORROWER:	BREATHITT COUNTY WATER DISTRICT			
	BREATHITT COUNTY			
BRIEF DESCRIPTION:	<p>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.</p> <p>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.</p>			
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			
OTHER STATE-FUNDED PROJECTS LAST 5 YRS	See Attached			
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

Reviewer: Kasi White
 Date: July 7, 2011
Amended: August 4, 2011
 Loan Number: F11-07

**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%

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

Customers	Current	Proposed	Total
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

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.

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

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.

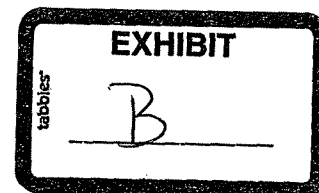
EXHIBIT 1

**BREATHITT COUNTY WATER DISTRICT DECEMBER
CASH FLOW ANALYSIS**

	Audited 2006	% Change	Audited 2007	% Change	Audited 2008	% Change	Audited 2009	% Change	Preliminary 2010	Projected 2011	Projected 2012	Projected 2013	Projected 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	668,616
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	721,140
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	414,281
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	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	1,392,182
Net Operating Income	(137,975)	43%	(197,153)	64%	(323,226)	24%	(401,819)	32%	(528,984)	(530,333)	(442,320)	(476,700)	(671,042)
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	126,208
Debt Service <i>(enter as positive #'s)</i>													
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	8,742
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	116,003
Income After Debt Service	(15,725)		6,578		(84,785)		(99,975)		(539,617)	15,686	107,912	18,440	10,206
Debt Coverage Ratio	n/a		n/a		(0.88)		(0.77)		0.06	1.49	3.45	1.16	1.09

**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%	0.39%	-1.93%	0.09%	-0.20%
Days Sales in Accounts Receivable	24.3	30.5	28.2	23.7	35.9	25.0



MEMORANDUM OF AGREEMENT

between the

**COMMONWEALTH OF KENTUCKY
KENTUCKY INFRASTRUCTURE AUTHORITY
and the**

**BREATHITT COUNTY FISCAL COURT
WX21025020**

THIS MEMORANDUM OF AGREEMENT (hereinafter "the Agreement"), by and between the Commonwealth of Kentucky, Kentucky Infrastructure Authority (hereinafter "KIA"), with address at 1024 Capital Center Drive, Suite 340, Frankfort, Kentucky 40601 and the Breathitt County Fiscal Court, with address of 1137 Main Street, Jackson, Kentucky 441339, (hereinafter "the Recipient") is made and entered into as of the date last executed by the parties thereto as evidenced by the dates written below.

WHEREAS, the 2010 General Assembly enacted House Bill 1 authorizing the certain projects for local administration through a local grant program; and

WHEREAS, one of the local grant program projects authorized by House Bill 1 is described as follows: –Houston Waterline Extension project (hereinafter "the Project") and is to be funded in an amount not to exceed \$275,000.00 dollars during FY 2012, and

WHEREAS, KIA has been duly designated to administer the local grant for the Project; and

WHEREAS, the Recipient has agreed to serve as the beneficiary of the grant money from KIA for the Project as provided in House Bill 1 under the terms and conditions enumerated herein and has further agreed to effectuate the completion of the Project in accordance with those terms and conditions.

NOW, THEREFORE, in consideration of the mutual covenants, commitments, and conditions contained herein, KIA and the Recipient agree as follows:

1 - OBLIGATIONS OF KIA

KIA covenants and agrees, conditioned upon the timely performance by the Recipient of its obligations herein, to undertake the following obligations:

- A. KIA shall, subject to the availability of appropriate funds, pay the Recipient a sum not to exceed \$275,000.00 dollars.
- B. KIA may, but is not required to, make periodic inspections of the Project and may send inspection reports to the Recipient. Deficiencies identified in an inspection

report shall be corrected by the Recipient and their correction reported in writing to KIA within two weeks of receipt of the inspection report.

- C. KIA shall cooperate fully with the Recipient in order to facilitate the obligations set out in this memorandum.
- D. KIA shall close out the Project upon satisfactory completion of the Project by the Recipient in accordance with the terms and conditions of this Agreement and submission of an acceptable project completion report in the form prescribed by KIA.

2 - OBLIGATIONS OF THE RECIPIENT

The Recipient covenants and agrees to undertake the following obligations:

- A. The Recipient shall, before any funds are released, sign and submit the Agreement, and complete and include the following Attachments which are incorporated herein and made a part hereof:
 - 1. **Before the Project is bid**, the Recipient shall complete and submit to the Authority the following:
 - a) Project profile and estimated project budget, as **Attachment A**, as an accurate description and cost estimate of the proposed project.
 - b) Original copy of the Recipient's resolution, as **Attachment B**, accepting the Agreement, amending its budget to allow for receipt and expenditures of these funds, and authorizing a designated individual to execute the Agreement and all other documentation related to the Project.
 - 2. **After the Project is bid**, the Recipient shall complete and submit to the Authority a revised Project Profile and Project Budget based on Project bids.

The Recipient may request funds after completion of Attachments A and B by executing a Request for Payment and Project Status Report as **Attachment C**, as provided by the Authority, and attaching appropriate documentation, including, but not limited to, invoices and receipts.

- B. The Recipient agrees to adopt and use the Kentucky Uniform System of Accounting and Cost-Based Rates (KUSoA) and assure that rates and charges for service are based upon the cost of providing such service, if applicable to the Project. These rates and charges shall be in place no later than within 12 months of the end of the Recipient's current fiscal year.
- C. The Recipient shall receive Project funds via Electronic Fund Transfer (EFT) with the EFT to be implemented by use of the form provided by the Authority as **Attachment D**.

- D. The Recipient shall perform and/or cause to be performed all necessary acts to plan, design and construct the Project including, but not limited to: the procurement of land, easements and rights of way; professional services; and equipment and/or materials.
- E. The Recipient shall obtain all necessary permits, licenses and approvals from the appropriate federal, state, and/or local governmental entities prior to construction of the Project. Further, the Recipient shall require all construction contractors to pay wages pursuant to applicable prevailing wage rates (federal or state) for all work relating to the subject Project.
- F. The Recipient shall comply with all applicable federal and state statutes, executive orders, regulatory requirements, and policies relating to the planning and construction of the Project.
- G. The Recipient shall provide to the Authority access to all records related to the Project for review in determining compliance with the Agreement and all applicable laws and regulations. The Recipient shall retain all records, including all invoices, relating to the Project for three years after full execution of the Certificate of Completion as **Attachment E**.
- H. The Recipient shall cooperate fully with the Authority and provide any documentation requested by the Authority in order to facilitate the obligations set out in this Agreement.
- I. Any unauthorized or improper expenditure of funds, or expenditure of funds other than in accordance with the terms of this Agreement, shall be deemed a default of this Agreement by the Recipient.
- J. The Recipient will proceed expeditiously with and complete the Project in accordance with the approved final design, plans and specifications or amendments thereto, prepared by the Project Engineer for the Recipient and as approved by the appropriate state and federal agencies.
- K. The Recipient agrees that throughout the reasonable life of the infrastructure facilities developed under this Project it will retain ownership of, operate, and maintain these facilities, and all appurtenances thereto, keeping them in good and sound repair and good operating condition at its own expense so that the completed Project will continue to provide the services for which it was designed. Change of ownership or disposal of the Project facilities may occur only with written approval of the Authority.
- L. The Recipient agrees that it will at all times impose, charge and collect sufficient customer Rates and Charges.
- M. The Recipient shall, within 3 months of initiation of construction of the Project, submit to the Authority, Final Design Plans in an AutoCAD Drawing File Format

(DWG), referenced to the appropriate (North or South) Kentucky State Plane Coordinate System (NAD83-Survey Feet) on a Compact Disc (CD). If there is a significant deviation from the Final Design Plan during construction, As-built plans shall also be provided to the Authority, within three months of construction completion, in the same format.

- N. No project shall be considered closed out until the Authority has received, and approved, the Recipient's Certificate of Completion, referenced above as **Attachment E**.

3 - MUTUALITY OF OBLIGATIONS

- A. The parties agree that the obligations imposed upon them are for the benefit of the parties and the timely fulfillment of each and every obligation in accordance with this Agreement is necessary. The failure of any party to fulfill its obligations under this Agreement or the failure of any event to occur by a date established by this Agreement shall constitute a breach of it unless the fulfillment of such obligation is waived or modified by written Agreement of the parties.
- B. In the event of default by the Recipient, including the failure to meet any time deadlines set out in this memorandum, KIA may declare this Agreement void from the beginning without further obligation to the Recipient and may commence appropriate legal or equitable action to enforce its rights under this Agreement including action for recovery of funds expended hereunder.
- C. Except as may otherwise be provided herein, the parties to this Agreement shall be solely responsible for any costs incurred in fulfilling their obligations under this Agreement and no party shall have any claim against the other party for reimbursement of costs whether or not a party is in default.

4 - MISCELLANEOUS PROVISIONS

- A. This Agreement may be signed by each party upon a separate copy, and in such case one counterpart of this Agreement shall consist of a sufficient number of such copies to reflect the signature of each party hereto. This Agreement may be executed in two or more counterparts each of which shall be deemed an original, and it shall not be necessary in making proof of this Agreement or the terms and conditions hereof to produce or account for more than one of such counterparts.
- B. The headings set forth in this Agreement are for convenience or reference only, and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction or meaning of the provisions of this Agreement.
- C. The terms and conditions of this Agreement shall be binding upon and shall inure to the benefit of the successors and assigns, respectively, of the parties. This provision shall not be construed to permit assignment by any party of any of its

rights and duties under this Agreement which assignment shall be prohibited except with the prior written consent of all parties hereto.

- D. This Agreement sets forth the entire understanding of the parties with respect to the subject matter hereof, supersedes all existing agreements among them concerning the subject matter hereof, and may be modified only by a written instrument duly executed by each of the parties hereto.
- E. Time is of the essence in the performance of each of the terms and conditions of this Agreement.
- F. The parties agree that any suit, action, or proceeding with respect to this Agreement may only be brought in or entered by, as the case may be, the courts of the Commonwealth of Kentucky situated in Frankfort, Franklin County, Kentucky or the United States District Court for the Eastern District of Kentucky, Frankfort Division.
- G. All notices, requests, demands, waivers, and other communications given as provided in this Agreement shall be in writing, and shall be addressed as follows:
 - If to KIA: Kentucky Infrastructure Authority
1024 Capital Center Drive, Suite 340
Frankfort, Kentucky 40601
 - If to the Recipient: Honorable Harvey Jason Richardson
Judge/Executive, Breathitt County Fiscal Court
1137 Main Street
Jackson, Kentucky 41339
- H. KIA may audit or review all documentation and records of the Recipient relating to this project pursuant to the provisions of KRS 45A.150.
- I. The parties agree that this Agreement is not entered into under the provisions of KRS 56.8161 et seq.
- J. Duly executed copies of Attachments A and B submitted pursuant to paragraphs 3(A)(1)(a) and (b) shall be incorporated into this Agreement as though set forth fully herein. These incorporated attachments shall not be amended except pursuant to section 5(D).

5 - MOA STANDARD TERMS AND CONDITIONS

Cancellation clause:

Either party may cancel the contract at any time for cause or may cancel without cause on 30 days' written notice.

Funding Out Provision:

The state agency may terminate this contract if funds are not appropriated to the contracting agency or are not otherwise available for the purpose of making payments without incurring any obligation for payment after the date of termination, regardless of the terms of the contract. The state agency shall provide the contractor thirty (30) calendar days written notice of termination of the contract.

Access to Records

The state agency certifies that it is in compliance with the provisions of KRS 45A.695. "Access to contractor's books, documents, papers, records, or other evidence directly pertinent to the contract." The contractor, as defined in KRS 45A.030(9) agrees that the contracting agency, the Finance and Administration Cabinet, the Auditor of Public Accounts, and the Legislative Research Commission, or their duly authorized representatives, shall have access to any books, documents, papers, records, or other evidence, which are directly pertinent to this contract for the purpose of financial audit or program review. Records and other prequalification information confidentially disclosed as part of the bid process shall not be deemed as directly pertinent to the contract and shall be exempt from disclosure as provided in KRS 61.878(1)(c). The contractor also recognizes that any books, documents, papers, records, or other evidence, received during a financial audit or program review shall be subject to the Kentucky Open Records Act, KRS 61.870 to 61.884

Effective Date:

All Memorandum of Agreements are not effective until the secretary of the Finance and Administration Cabinet or his authorized designee has approved the contract and until the contract has been submitted to the government contract review committee.

However, Memoranda of Agreements \$50,000 or less are exempt from review by the committee and need only be filed with the committee within 30 days of their effective date for informational purposes only as provided under KRS 45A.700.

KRS 45A.695(7) Payments on personal service contracts and memoranda of agreements shall not be authorized for services rendered after government contract review committee disapproval, unless the decision of the committee is overridden by the secretary of the Finance and Administration cabinet or agency head, if the agency has been granted delegation authority by the secretary.

Violation of tax and employment laws

KRS 45A.485 requires the contractor to reveal to the Commonwealth, prior to the award of a contract, any final determination of a violation by the contractor within the previous five (5) year period of the provisions of KRS chapters 136, 139, 141, 337, 338, 341, and 342. These statutes relate to the state sales and use tax, corporate and utility tax,

income tax, wages and hours laws, occupational safety and health laws, unemployment insurance laws, and workers compensation insurance laws, respectively.

To comply with the provisions of KRS 45A.485, the contractor shall report any such final determination(s) of violation(s) to the Commonwealth by providing the following information regarding the final determination(s): the KRS violated, the date of the final determination, and the state agency which issued the final determination.

KRS 45A.485 also provides that, for the duration of any contract, the contractor shall be in continuous compliance with the provisions of those statutes which apply to the contractor's operations, and that the contractor's failure to reveal a final determination as described above or failure to comply with the above statutes for the duration of the contract, shall be grounds for the Commonwealth's cancellation of the contract and the contractor's disqualification from eligibility for future state contracts for a period of two (2) years.

Contractor must check one:

_____ The contractor has not violated any of the provisions of the above statutes within the previous five (5) year period.

_____ The contractor has violated the provisions of one or more of the above statutes within the previous five (5) year period and has revealed such final determination(s) of violation(s). A list of such determination(s) is attached

The Kentucky General Assembly may allow for a reduction in contract worker hours in conjunction with a budget balancing measure for some professional and non-professional service contracts. If under such authority the agency is required by Executive Order or otherwise to reduce contract hours, the contract will be reduced by the amount specified in that document.

IN WITNESS WHEREOF, KIA and the Recipient have executed this memorandum as of the dates written below.

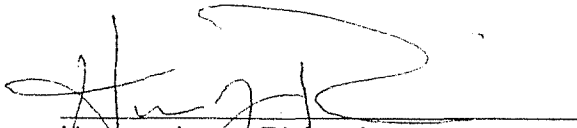
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Recipient

Kentucky Infrastructure Authority

DATE: 8-5-11

DATE: _____

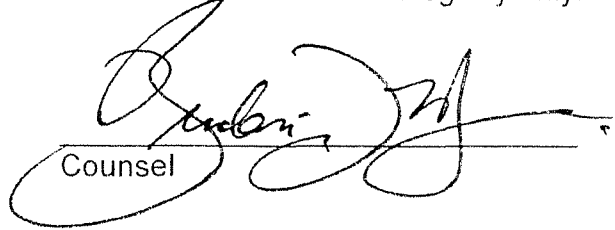


Harvey Jason Richardson
Judge/Executive
Breathitt County Fiscal Court

John E. Covington, III
Executive Director

Examined as to form and legality only:

Examined as to form and legality only:



Counsel

Counsel, Department for
Local Government

EXHIBIT
C
ORIGINAL

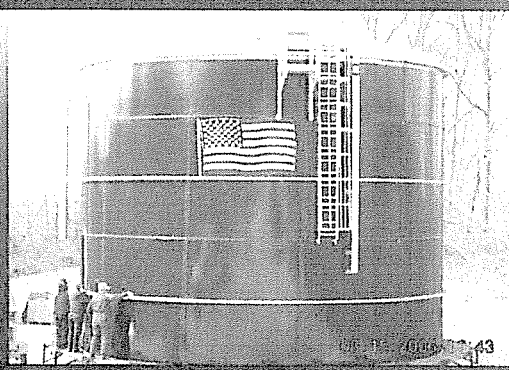
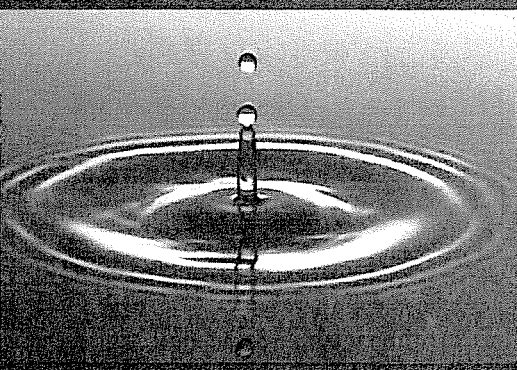
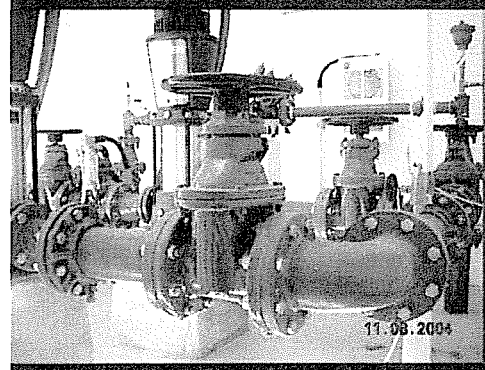


nesbitt engineering, inc.

October 2011

Breathitt County Water District Houston Road Waterline Extension

Preliminary Engineering Report



SUBMITTED TO:
Breathitt County Water District

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

*Providing
Proven
Solutions Since 1976*



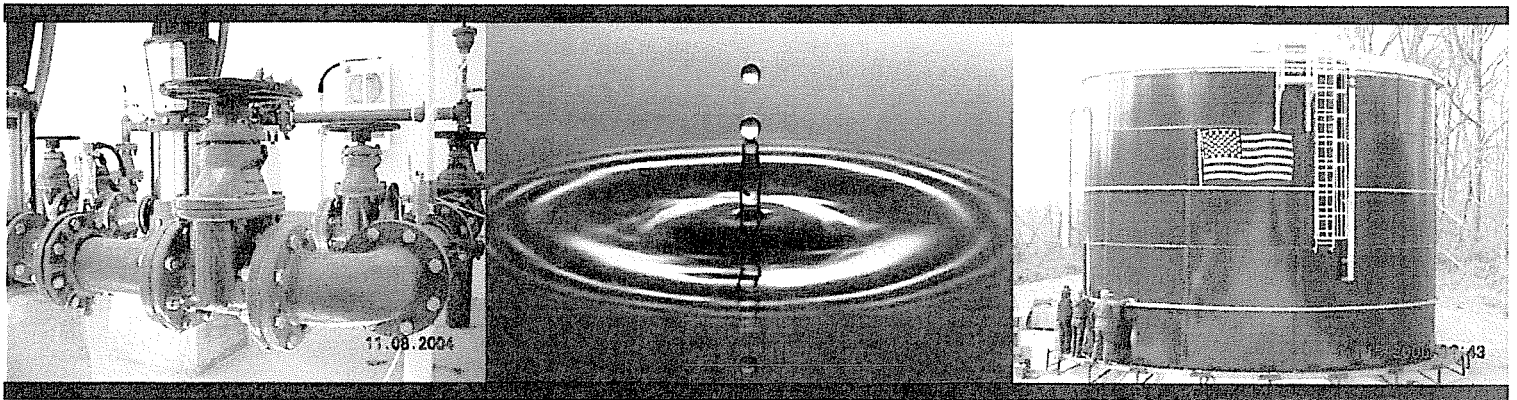
nesbitt engineering, inc.
providing proven solutions since 1976

227 North Upper Street
Lexington, KY 40507-1016

October 2011

Breathitt County Water District Houston Road Waterline Extension

Preliminary Engineering Report



Breathitt County Judge/Executive — Jason Richardson

Breathitt County Water District Commissioners

Bobby Thorpe, Chairman

Sammie Turner, Vice Chairman

Kash Noble, Treasurer

Eva Fugate, Secretary

Eugene Turner, Member

SUBMITTED TO:
Breathitt County Water District

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

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Chapter 1 – General

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 2000 US Census figure for Breathitt County is 16,100 persons. There are 6,170 occupied housing units in Breathitt County and therefore 2.61 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 Houston Road as well as other minor roads.

The construction for the ultimate proposed project along Houston Road includes approximately 25,000 feet of SDR 21 PVC waterline, a Hydropneumatic pump station and all necessary appurtenances to initiate service to 22 new water customers. Necessary easements and property for installation of the main and ancillary facilities will be secured for the project as soon as funding is solidified.

Therefore the Opinion of Estimated Construction Costs for the **Houston Road Project** is given in Appendix "A" Table A - 1.

Funding for the Project is estimated to come from **Kentucky Infrastructure Authority** (grant and loan combination) and **Coal Severance Funds** (grant).

Depending upon the amount of Grant funding obtained, there would more than likely be some debt service required for this project.

Chapter 2 – Project Planning Area

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 (September 2011), the BCWD has approximately 1,162 customers. The completion of the KY 476 Waterline Extension currently under construction could increase the District’s customer base to over 1,377 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.

The Houston Road Project is estimated to encompass approximately **4.7 miles** and it is estimated that approximately **22 homes will be served**. This project has a concentration of approximately 4.7 customers per mile.

Most of the housing is currently served by privately operated wells. Most of the water obtained from drilled wells in Breathitt County is extremely hard and contains noticeable amounts of iron and/or salt.

Chapter 3 – Existing Facilities/Need For Project

There is no potable water service available in the proposed **Houston Road Project Area**. Residents in this area must rely either on wells, springs or hauled water for their domestic water needs. Breathitt County is one of the last counties in the Commonwealth to be provided treated water in the rural areas of the County.

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 springs supply water, the yield is rarely more than 5 GPM. A more reliable and healthy source for water is needed for the residents.

The proposed **Houston Road Project** will consist of approximately **4.7 miles** of water lines. These waterlines will be served by a master meter connection between Breathitt County Water District and Jackson Municipal Water Works.

The **Houston Road Project** could provide water to approximately **22 homes**, while installing infrastructure for future extensions.

The 2000 US Census reports 2.61 persons per household. Therefore, the **South Fork Project** could serve $2.61 \times 22 = 58$ **persons** and the quantity of water based on 100 gallons per person per day would be 5,800 gallons per day.

Chapter 4 – Proposed Project/Project Cost/Financing

The proposed **Houston Road** waterline project consists of adding approximately 25,000 LF of PVC water line. Included within this project is the construction of one (1) Hydro pneumatic Pump Station. This proposed project would be able to serve approximately 22 homes along Houston Road.

The estimated Houston Road Project Cost is delineated in Appendix "B" and is **\$341,000**.

Potential funding sources are shown in Appendix "B".

Chapter 5 – Conclusions & Recommendations

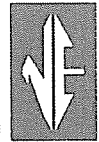
To provide potable water service to the residents in the Houston Road area of Breathitt County, the new water lines and a pump station are necessary.

The health, environmental, land use, and economic enhancement issues combined necessitate the need for this water system extension in Breathitt County.

Breathitt County ranks as one of the lowest served counties in the Commonwealth of Kentucky for public water service. Great strides have been made in recent years to extend water service to the population; however, many projects are still left to be completed. This proposed project will install the initial infrastructure for the Breathitt County Water District to serve 22 new customers.

While a majority of families in Kentucky now enjoy the essential convenience of access to a safe, sanitary public water supply, residents of Breathitt County have lagged behind the rest to the Commonwealth in receiving assistance. Many of these families are forced to live a sub-standard quality of life, constantly dealing with securing a clean supply of water for daily use. Families living in Breathitt County face issues with both quantity and quality of safe, potable water on a daily basis, compared to neighbors in surrounding counties who enjoy living a modern lifestyle with the conveniences of public water supply. Many residents in Breathitt County express anger and frustration that public water is not available to them. The residents regularly contact their elected officials, sign petitions and attend water board meetings, begging for help.

The proposed project will provide water service to 22 rural residential users. Access to a safe, public water supply will allow for a healthier quality of life for the residents in the Houston Road area of Breathitt County. As an added benefit, the residents of this area will now be able to enjoy modern conveniences such as doing laundry at home, and drinking water from the tap like their neighbors in surrounding counties.



NESBITT ENGINEERING, INC.
ENGINEERS • SURVEYORS • SCIENTISTS

LOCATION MAP
BREATHITT COUNTY, KENTUCKY
BREATHITT COUNTY WATER DISTRICT

FIGURE 1

DRAWN BY:
kr

DISK/FILE NAME:
\\PER FIGURE 1.DWG

JOB NO.:
998-00

DATE:
03/09/09

LAST PLOT DATE:

SCALE:
NOT TO SCALE

NESBITT
ENGINEERING
INC.

Appendix "A" – Opinion of Probable Construction Cost

Houston Road Waterline Extension

Opinion of Probable Construction Cost

Table A – 1

Breathitt County Water District

Opinion of Probable Construction Cost

Houston Road Waterline Extension (10/17/11)

(Houston Rd, Short Fork and Willis Dr)

Item	Unit	Quantity	Unit Cost	Total Cost
Water Main Extension				
4" PVC SDR 21 Pipe	LF	22300	\$ 7.00	\$ 156,100.00
2" PVC SDR 21 Pipe	LF	3000	\$ 6.00	\$ 18,000.00
4" D.I.M.J. Gate Valve & Box	EA	6	\$ 700.00	\$ 4,200.00
2" D.I.M.J. Gate Valve & Box	EA	3	\$ 550.00	\$ 1,650.00
Tie to Existing Waterline	EA	1	\$ 3,000.00	\$ 3,000.00
Combination Air Release Valve Assembly	EA	3	\$ 550.00	\$ 1,650.00
2" Blow off Assembly	EA	3	\$ 650.00	\$ 1,950.00
5/8 x 3/4 Indiv. Radio Read meters	EA	11	\$ 725.00	\$ 7,975.00
5/8 x 3/4 Indiv. Radio Read meters w/ipv	EA	11	\$ 800.00	\$ 8,800.00
3/4" CI 200 service line (HDPE)	LF	400	\$ 5.50	\$ 2,200.00
Waterline Marker (Rhino #70453 w/decal)	EA	5	\$ 55.00	\$ 275.00
Hydropneumatic Station w/Tank	LS	1	\$ 44,200.00	\$ 44,200.00
Total - Opinion of Probable Construction Cost =				\$ 250,000.00

Prepared by;



nesbitt engineering, inc.
providing proven solutions since 1976

227 North Upper Street
 Lexington, KY 40507-1016

**Preliminary Engineering Report
Houston Road Waterline Extension
Breathitt County Water District, Jackson, Kentucky**

**Appendix "B" – Opinion of Probable Project Cost &
Possible Funding Sources
Project Area Map**

Houston Road Waterline Extension

Opinion of Probable Project Cost & Possible Funding

Table B - 1

mesbitt engineering, inc.

P:\Breathitt\998-25 - KY 30 West\Houston Rd Extension 3-18-11\Prel. Eng\PER\08 Appendix cover pages.doc

Breathitt County Water District
Opinion of Probable Construction & Project Cost
Houston Road Waterline Extension (10/17/11)

	Total Cost
Houston Road Waterline	\$ 250,000.00
Total - Opinion of Probable Construction Cost =	\$ 250,000.00
Other Project Related Costs	
Administrative	\$ 5,000.00
Legal Service	\$ 1,000.00
Land, Appraisals, Easements, etc.	\$ 1,000.00
Engineering	
Preliminary Engr. Report	\$ 1,000.00
Design	\$ 20,519.10
Contract Admin.	\$ 8,793.90
Resident Observation	\$ 24,000.00
Operation & Maintenance Manual (if requested)	\$ 2,000.00
Surveying	\$ 2,000.00
Permits, environmental studies, etc.	\$ 2,000.00
Project Contingencies	\$ 23,687.00
Total Opinion of Probable Project Cost	\$ 341,000.00

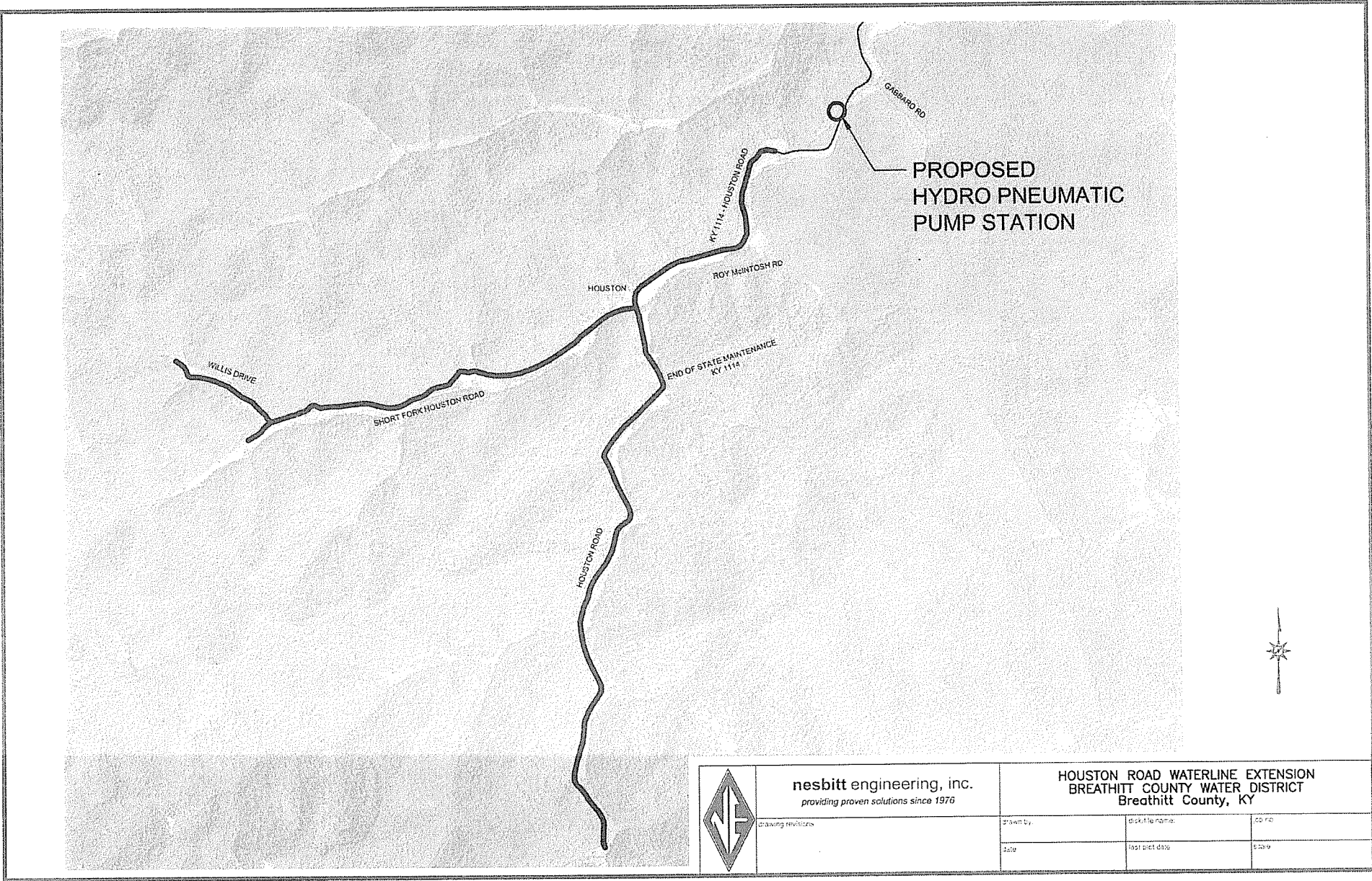
Possible Funding	
Coal Severance Funds	\$ 275,000.00
Kentucky Infrastructure Authority-State Revolving Funds (Grant/Loan)	\$ 66,000.00
Total Project Funding Scenario	\$ 341,000.00


Prepared by;



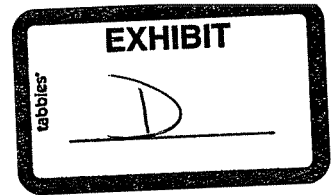
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	nesbitt engineering, inc. <i>providing proven solutions since 1976</i>		HOUSTON ROAD WATERLINE EXTENSION BREATHITT COUNTY WATER DISTRICT Breathitt County, KY	
	drawing revisions	drawn by	disk file name	date
		last print date	scale	

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

June 29, 2011

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

RE: Breathitt Co Water District
AI # 45303, APE20110001
PWSID # 0131012-11-001
Houston Road WLE Contract 1 - Water Line
& Booster Station
Breathitt County, KY

Dear Mr. Thorpe:

We have reviewed the plans and specifications for the above referenced project. The plans include the construction of approximately 22,300 feet of 4-inch PVC, 3,000 feet of 2-inch PVC water line and Booster Pump Station#1 with 24 gpm @ 50 ft TDH. 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.

If you have any questions concerning this project, please contact Mr. at 502-564-8158 extension 4823.

Sincerely,

A handwritten signature in cursive script that reads "Harold Sparks".

Harold L. Sparks, PE
Engineering Section
Water Infrastructure Branch
Division of Water

HLS
Enclosures

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

Distribution-Major Construction

Breathitt Co Water District
Subject Item Inventory

Activity ID No.: APE20110001

Subject Item Inventory:

ID	Designation	Description
AIOO45303		
PORT26	Water line	22,300 feet of 4-inch PVC and 3,000 feet of 2-inch PVC water line
PORT27	Booster Pump Station	Booster PS#1: 24 gpm @ 50 ft TDH

Subject Item Groups:

ID	Description	Components
GACT16	22,300 feet of 4-inch PVC and 3,000 feet of 2-inch PVC water line	PORT27 Booster PS#1: 24 gpm @ 50 ft TDH
		PORT26 22,300 feet of 4-inch PVC and 3,000 feet of 2-inch PVC water line

KEY

ACTV = Activity

AREA = Area

EQPT = Equipment

PERS = Personnel

STOR = Storage

TRMT = Treatment

AIOO = Agency Interest

COMB = Combustion

MNPT = Monitoring Point

PORT = Transport

STRC = Structure

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20110001

Page 1 of 15

GACT000000016 (Houston Rd WLE Contract 1 WLE & Booster Station) 22,300 feet of 4-inch PVC and 3,000 feet of 2-inch PVC water line and Booster PS#1: 24 gpm @ 50 ft TDH:

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.
M-2	Coliform	The presence or absence of total Coliform monitored by sampling and analysis as needed shall be determined for the new pump(s). If the pump(s) are independent of (not directly connected to) the new or relocated lines, take at least 1 sample at the discharge side pitcock. Otherwise, no additional sampling beyond the sampling required for new or relocated lines shall be required. Sample bottles shall be clearly identified as "special" construction tests. [401 KAR 8:100 Section 1(7)] 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)]
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)]

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20110001

Page 2 of 15

Submittal/Action Requirements:

Condition

No. Condition

- 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)]

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)]

Condition

No. Condition

- 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 years 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)]
-

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20110001

Narrative Requirements:

Condition	Condition
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)]

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20110001

Page 4 of 15

PORT000000026 (Water line) 22,300 feet of 4-inch PVC and 3,000 feet of 2-inch PVC water line:

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	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-6	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-7	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.: APE20110001

Page 5 of 15

PORT000000026 (continued):

Limitation Requirements:

Condition No.	Parameter	Condition
L-8	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] This requirement is applicable during the following months: All Year. Statistical basis: Not applicable.
L-9	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-10	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-11	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-12	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.</p> <p>If Coliform is detected, repeat flushing of the line and Coliform monitoring. If Coliform is still 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.: APE20110001

Page 6 of 15

PORT0000000026 (continued):

Limitation Requirements:

Condition No.	Parameter	Condition
L-13	Velocity	<p>Except in underserved areas, each blow-off or fire 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.</p> <p>Based on the hydraulic analysis/data submitted, the areas served by the following extension(s) are considered to be underserved:</p> <ul style="list-style-type: none">a) upper reach of Houston Road,b) and the upper reach of the Short Fork of Houston Road. <p>This designation indicates that without improvements to the existing infrastructure, future extensions may not be able to provide the required minimum pressure of 30 psi on the discharge side of customers' meters. Without improvements to the infrastructure, future extensions may be denied. The underserved designation may be used to help prioritize areas under the Governor's 2020 plan for funding future infrastructure improvements. [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.</p>

Monitoring Requirements:

Condition No.	Parameter	Condition
M-1	leaks	<p>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.</p>

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20110001

Page 7 of 15

PORT000000026 (continued):

Narrative Requirements:

Asbestos (Friable):

Condition No.	Condition
T-1	<p>Asbestos (Friable): If the existing water line to be tapped is asbestos concrete, then the contractor shall conform to OSHA regulations governing the handling of hazardous waste during the process of tapping the asbestos concrete line. Pieces of asbestos concrete resulting from the tap shall be double bagged, placed in a rigid container and disposed of in an approved landfill. [401 KAR 8:100 Section 1(7)]</p>

Additional Limitations:

Condition No.	Condition
T-2	<p>Additional Limitations: Water line installation shall be in accordance with AWWA standards or manufacturer recommendations. [Recommended Standards for Water Works 8.5.1]</p>
T-3	<p>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]</p>
T-4	<p>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]</p>
T-5	<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-6	<p>Additional Limitations: A flush hydrant or blow-off shall be required at the end of each dead end line. [Recommended Standards for Water Works 8.1.6]</p>
T-7	<p>Additional Limitations: For each flush hydrant, auxiliary valves shall be installed in the hydrant lead pipe. [Recommended Standards for Water Works 8.3.3]</p>

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20110001

Page 8 of 15

PORT0000000026 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-8	<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-9	<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-10	<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-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.: APE20110001

Page 9 of 15

PORT000000026 (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

Activity ID No.: APE20110001

Page 10 of 15

PORT000000027 (Booster Pump Station) Booster PS#1: 24 gpm @ 50 ft TDH:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Pressure	Pump stations shall be located or controlled so that intake Pressure \geq 20 psi is maintained during normal pump operation. [Recommended Standards for Water Works 6.4.b] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-2	Pressure	Pump stations shall be located or controlled so that an automatic cutoff or a low pressure controller maintains a Pressure \geq 10 psi in the suction line under all operating conditions. [Recommended Standards for Water Works 6.4.c] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-3	Residual Disinfection	New pumps shall be thoroughly disinfected (in accordance with AWWA Standard C651) upon completion of construction and before being placed into service. To disinfect new pumps use chlorine or chlorine compounds in such amounts as to produce an initial disinfectant concentration of at least 50 ppm and a Residual Disinfection \geq 25 ppm at the end of 24 hours. Follow the disinfection with thorough flushing and place each pump into service if, and only if, Coliform monitoring applicable to the pump does not show the presence of Coliform. If Coliform is detected, repeat flushing of the pump and Coliform monitoring. If Coliform is still detected, repeat disinfection and flushing as if the pump has never been disinfected. Continue the described process until monitoring does not show the presence of Coliform. [401 KAR 8:100 Section 1(7)] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-4	Slope	Pumping facilities shall be located and designed to maintain the sanitary quality of pumped water. As part of this, all pump station floors shall have Slope \geq 3 in per 10 ft to a suitable drain. [Recommended Standards for Water Works 6.2.e, Recommended Standards for Water Works 6.0, Recommended Standards for Water Works 6.1] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-5	Air Change Rate	Ventilation shall conform to existing local and/or state codes. At a minimum forced ventilation shall produce an Air Change Rate \geq 6 air change(s)/hr. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 6.2.5] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20110001

Page 11 of 15

PORT000000027 (continued):

Limitation Requirements:

Condition No.	Parameter	Condition
L-6	Height	Pumping stations shall not be subject to flooding. To this end, 1) grading around stations shall lead surface drainage away and 2) stations shall be elevated or protected to a Height \geq 3 ft above the highest of the following: a) the 100-year flood elevation, or b) the highest recorded flood elevation. [Recommended Standards for Water Works 6.1.1, Recommended Standards for Water Works 6.0] This requirement is applicable during the following months: All Year. Statistical basis: Minimum.
L-7	Height	When a pump station has pits or compartments which must be entered, stairways or ladders shall be provided between all floors. Stairs shall have risers with a Height \leq 9 in, handrails on both sides, and treads with non-slip material wide enough for safety. [Recommended Standards for Water Works 6.2.3] This requirement is applicable during the following months: All Year. Statistical basis: Maximum.

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-1	Additional Limitations: Pumping stations shall be so located that the proposed site will meet the requirements for hydraulics of the system. [Recommended Standards for Water Works 6.1]
T-2	Additional Limitations: Pumping stations shall be readily accessible at all times for servicing and repairs. [Recommended Standards for Water Works 6.1.1.b, Recommended Standards for Water Works 6.4.3]
T-3	Additional Limitations: Pumping stations shall be designed to prevent vandalism and protect against entrance of animals or unauthorized persons. [Recommended Standards for Water Works 6.1.1.d]
T-4	Additional Limitations: Pumping stations shall be of durable construction with outward-opening doors. [Recommended Standards for Water Works 6.2.b]

Distribution-Major Construction

Breathitt Co Water District
Facility Requirements

Activity ID No.: APE20110001

Page 12 of 15

PORT000000027 (continued):

Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-5	Additional Limitations: Pumping stations shall be fire and weather resistant. [Recommended Standards for Water Works 6.2.b]
T-6	Additional Limitations: Pumping stations shall have suitable pump gland discharges so that drainage from the glands is not onto the floor. [Recommended Standards for Water Works 6.2.f]
T-7	Additional Limitations: If underground structures are present at pumping stations, they shall be waterproofed. [Recommended Standards for Water Works 6.2.d]
T-8	Additional Limitations: Pumping stations shall have adequate space for the installation of additional pumps. [Recommended Standards for Water Works 6.2.a]
T-9	Additional Limitations: Pumping stations shall have adequate space for the safe servicing of all equipment. [Recommended Standards for Water Works 6.2.a]
T-10	Additional Limitations: Pump stations shall have crane-ways, hoist beams, eyebolts, or other adequate facilities for servicing or removal of pumps, motors or other heavy equipment. [Recommended Standards for Water Works 6.2.2.a]
T-11	Additional Limitations: Pump stations shall have openings as needed for removal of heavy or bulky equipment. [Recommended Standards for Water Works 6.2.2.b]
T-12	Additional Limitations: Pump stations shall have a convenient tool board, or other facilities as needed, for proper maintenance of equipment. [Recommended Standards for Water Works 6.2.2.c]
T-13	Additional Limitations: In areas where excess moisture could cause safety hazards or damage to equipment, dehumidification shall be provided. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 6.2.6]
T-14	Additional Limitations: Electrical controls shall be located above grade. [Recommended Standards for Water Works 6.6.5]

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Narrative Requirements:

Additional Limitations:

Condition No.	Condition
T-15	Additional Limitations: All electrical equipment and work shall conform with the applicable state and local electrical codes and the National Electrical Code. [Recommended Standards for Water Works 6.5, Recommended Standards for Water Works 6.2.7]
T-16	Additional Limitations: Pump stations shall be adequately lighted throughout. [Recommended Standards for Water Works 6.2.7]
T-17	Additional Limitations: All automatic pump stations shall be provided with automatic signaling apparatus which will report when the station is out of service. All remote controlled stations shall be electrically operated and controlled and shall have signaling apparatus of proven performance. [Recommended Standards for Water Works 6.5]
T-18	Additional Limitations: Automatic or remote control pump stations shall be located or shall have control devices setup so that the range between start and cutoff pressure prevents excessive pump cycling. [Recommended Standards for Water Works 6.4.d]
T-19	Additional Limitations: Equipment shall be provided or other arrangements made to prevent surge pressures from activating controls which switch on pumps or activate other equipment outside the normal design cycle of operation. [Recommended Standards for Water Works 6.6.5]
T-20	Additional Limitations: Provisions shall be made to prevent energizing the motor in the event of a backspin cycle. [Recommended Standards for Water Works 6.6.5]
T-21	Additional Limitations: Pump stations shall be provided with enough heat to prevent freezing of equipment or treatment processes. [Recommended Standards for Water Works 6.2.4]
T-22	Additional Limitations: Pump stations shall have at least 2 pumps. Pumps shall be sized so that if any single pump is out service, the remaining pump or pumps shall be capable of providing the peak demand on the station. [Recommended Standards for Water Works 6.3, Recommended Standards for Water Works 6.4.1]
T-23	Additional Limitations: Provisions shall be made for pump alternation. [Recommended Standards for Water Works 6.6.5]

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Additional Limitations:

Condition No.	Condition
T-24	<p>Additional Limitations: Pumps shall</p> <ul style="list-style-type: none">a) have ample capacity to supply the peak demand against the required distribution system pressure without dangerous overloading,b) be driven by prime movers able to meet the maximum horsepower condition of the pumps,c) be provided readily available spare parts and tools, andd) be served by control equipment that is properly protected against temperatures to be encountered. [Recommended Standards for Water Works 6.3]
T-25	<p>Additional Limitations: Pumps, their prime movers and accessories shall be controlled in such a manner that they will operate at rated capacity without dangerous overload. [Recommended Standards for Water Works 6.6.5]</p>
T-26	<p>Additional Limitations: Pump stations shall be located or controlled so that a bypass is available. [Recommended Standards for Water Works 6.4.e]</p>
T-27	<p>Additional Limitations: Pump stations shall contain indicating and totalizing metering of the total water pumped. Each pump shall have</p> <ul style="list-style-type: none">a) a standard pressure gauge on its discharge line andb) a compound gauge on its suction line. <p>Each pump should have a means for measuring the instantaneous volume per time discharge. [401 KAR 8:100 Section 1(7), Recommended Standards for Water Works 6.4.2, Recommended Standards for Water Works 6.6.3]</p>
T-28	<p>Additional Limitations: Pumps shall be adequately valved to permit satisfactory operation, maintenance and repair of the equipment. Each pump shall have a positive-acting check valve on the discharge side between the pump and the shut-off valve. [Recommended Standards for Water Works 6.6.1]</p>

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PORT000000027 (continued):

Narrative Requirements:

Additional Limitations:

Condition

No. Condition

- T-29 Additional Limitations:
Piping for pumps shall, in general,
- 1) be designed so that the friction losses will be minimized,
 - 2) not be subject to contamination,
 - 3) have watertight joints,
 - 4) be protected against surge or water hammer,
 - 5) be provided with restraints where necessary, and
 - 6) a) be such that each pump has an individual suction line or
b) be manifolded such that the lines insure similar hydraulic and operating conditions. [Recommended Standards for Water Works 6.6.2]

- T-30 Additional Limitations:
To ensure continuous service when the primary power is interrupted, power supplied to pump stations shall be
- a) from at least 2 independent sources or
 - b) from a primary source with a standby or auxiliary source provided.
- If standby power is provided by onsite generators or engines, the fuel storage and fuel line must be designed to protect the water supply from contamination.
[Recommended Standards for Water Works 6.6.6]