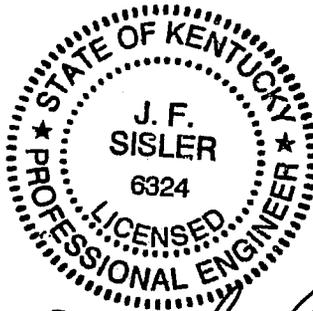


Preliminary Engineering Report

Waterline Transmission Main Interconnection from

City of Ashland (@ Catlettsburg)
to
Big Sandy Water District (@ Whites Creek)
Boyd County, Kentucky

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BIG SANDY WATER DISTRICT

Paul Thomas	Commissioner - Chairman
Charles Shockey	Commissioner - Treasurer
Bill Hardin	Commissioner
David Salisbury	Commissioner - Secretary
Larry Shockey	Commissioner
Teresa Brown	Office Manager
Jimmy Blanton	System Manager

Summary of Report

Summary and Recommendations

The present main source of water supply for the Big Sandy Water District is the City of Kenova, West Virginia Water Treatment Plant. The bulk water rate contracted between Big Sandy and Kenova in 1982 was \$0.58 per 1,000 gallons and allowed six million gallons per month initially escalating to currently 24 million gallons of water use per month. The Water Purchase Contract was for a 40 year duration with modification of the cost allowed at the end of every one year period. The BSWD also purchases small amounts of water from City of Louisa and the Cannonsburg Water District (purchased from City of Ashland) for service to outlying areas of their District. These purchases are for less than 15% of their needs.

The City of Kenova has indicated that their present Water Purchase Contract with Big Sandy must be modified pursuant to the West Virginia Public Service Commission. The City of Kenova, West Virginia is under the auspices of the West Virginia Public Service Commission. The Big Sandy Water District is under the Kentucky Public Service Commission but the City of Ashland (all Kentucky cities) is not directly under the directives of the Kentucky Public Service Commission. The Big Sandy Water District has a current bulk water rate of \$2.55/1000 gallons.

In approximately 2005 the Kentucky Environmental and Public Protection Cabinet thru its Division of Water and the Kentucky Public Service Commission concluded that where possible all water systems should have a back up or alternate water source. This need was especially acute for systems (Cities or Water Districts) that had no water treatment plant and bought their water from others.

In 2006 the Kentucky legislature set aside money for the Area Development Districts throughout Kentucky to contract with engineering firms to perform a water system interconnect study. This study was to determine if a need existed for these interconnections and if so, how and with whom should the interconnects take place.

The FIVCO ADD contracted with Woolpert Consultants of Ashland to perform the study.

The study was completed in 2007 and the conclusion was that the Big Sandy Water District should interconnect with the City of Ashland water system at Catlettsburg along US 23. The FIVCO Woolpert recommendation is included herewith in Appendix A.

The Big Sandy Water District and City of Ashland had begun very preliminary discussions in 2005 about the possibility of an interconnect which was even before the FIVCO study. A similar study had taken place in 1985 by the Big Sandy Water District but at that time it was not determined to be feasible by the parties due to cost and more importantly water availability. In the last 6 - 8 years the City of Ashland has added much more treatment capacity and is very interested in providing bulk water sales.

In 2007 The Kentucky Legislature thru the solicitation and direction of State Representatives Rocky Adkins, and in follow-up to the FIVCO ADD interconnection study, provided a joint \$400,000 KIA grant to the Big Sandy Water District and City of Ashland to begin implementation of the interconnection between the parties.

In 2008 the Kentucky Legislature under State Representative Rocky Adkins set aside another \$125,000 KIA grant to the Big Sandy Water District for the interconnection and \$75,000 for some fire hydrants within the Big Sandy and East Fork Fire Departments.

The only feasible alternate to the Kenova source of purchased water supply for Big Sandy as set out in the FIVCO ADD / Woolpert interconnect report and as examined in this report is from the City of Ashland Municipal Water System. The City of Ashland has a 12" water main ending at the Marathon Oil, Inc. refineries on U.U. 23 and 7,300 feet north of the existing Big Sandy 6" waterline at the intersection of U.S. 23 and Campbells Branch Road. The 12" Ashland line leaves U.S. 23 at McComas Drive and goes behind the Waffle House and Marathon Oil Service Station to Master Meter in front of Ramada Inn. This would be the point of interconnect with Ashland with a proposed pump station. The 12" line is supplied by a one million gallon storage tank in Catlettsburg.

Preliminary hydraulic calculations and pressure readings taken from the Ashland line indicate that to connect to the City of Ashland system, a pump station must be constructed by Big Sandy. Additionally, 30,000 feet of 10" main must be constructed from the Ashland 12"

line and pump station south to the existing Big Sandy 8" line at Whites Creek Road. The 10" transmission main will be connected to the existing 3" distribution mains on Campbell's Branch and Savage Branch. There would also be an interconnect to the current Kenova line near Calgon on US23 which would allow back up service to Kenova in an emergency.

The total Project Cost as listed in this report, for the water transmission connection to the Ashland 12" line and then to Whites Creek 8" line is \$1,975,000 of which \$1,225,000 has been estimated as the construction cost. The source of financing proposed in this report, is a \$1,000,000 RD 40 year Bond Issue at a 2.8% interest rate, a KIA-IEDF grant of \$400,000, a KIA-IEDF grant of \$125,000 and a proposed RD grant of \$450,000 which is approximately a 31% grant.

The City of Ashland has indicated they would enter into a long term contract and sell water to the Big Sandy Water District for approximately \$2.00 per 1,000 gallons for 3 years. The Ashland rate would then revert to their current base rate of \$2.58 per 1,000 gallons which is their bulk rate of all outside parties such as Cannonsburg Water District and City of Russell. Additional costs associated with this City of Ashland water purchase interconnection include additional debt service and depreciation expenses to finance the new improvements.

The water rates proposed in this report are shown in Financial Section.

As examination of the five (5) year Revenue and Expense projection at the end of this report indicates the Big Sandy Water will experience a paper deficit the first two (2) years of operation, after connection to the Ashland system. This deficit shown for the first two (2) years of operation is realized after allowing \$26,600 for an annual depreciation expense for the existing system plus a \$10,040 proposed annual depreciation requirement for the new waterline extension to the Ashland system.

Based on the proposed rate structure and the obvious minor deficit for the first two (2) years of operation, a grant would be warranted to finance a portion of the Total Project Cost.

As also shown on the five (5) year Revenue and Expense projection, the Big Sandy Water District should realize a continuing yearly increase in profits based on a constant three (3) year bulk water rate from Ashland. In contrast, the five (5) year Revenue and Expense projection

should Big Sandy continue to purchase water from Kenova indicates a steadily decreasing of profits based on a 10% yearly increase in the bulk Kenova water rate.

This report recommends that the Big Sandy Water District enter into a 40 year long term water purchase contract with the City of Ashland and continue its agreement with Kenova and make application to the USDA Rural Development for construction of the improvements outlined in this report to allow connection to the Ashland Municipal Water System.

The Contract entered into with Ashland should further specify a \$2.00 / 1,000 gallon bulk rate for the first three (3) years of the Contract before a modification of the rate can be made. The proposed future Rate Ordinance from City of Ashland is included in the Appendix C herein. The Contract should contain specific language whereby a raise in the bulk water rate to Big Sandy can only be made based on a justified increase in operating expenses.

PLANNING AREA
TO BE SERVED

Area To Be Served

Area Served by Big Sandy Water District

Description of Service Area

In general, the Big Sandy Water District now serves the southern half of Boyd County south of I-64 to the Boyd-Lawrence County line. The limits of the District boundary in Boyd County in an east-west direction extend from the Big Sandy River west to the Boyd-Carter County line.

In 1982, the Big Sandy Water District annexed small areas in the south-western end of Boyd County along State Route 854 and a small area in northern-eastern Carter County, both formerly within the Boundary limits of the now dissolved Leon-Hitchens Water District.

The description of the original boundary in Boyd County, as well as the annexed areas of Boyd and Carter Counties (formerly Leon-Hitchens Water District), and the annexation in Boyd County (now within Cannonsburg Water District boundary) are shown on map at the end of this Report in the Appendix.

In the late 1990's the USDA-RD State office unofficially requested that the BSWD take over the Lawrence County Water District. In 2000 under the auspices of the Kentucky Public Service Commission Case # 99-481 the BSWD took over the operation of the Lawrence County Water District. This acquisition meant that the BSWD served 90% of rural Lawrence County.

The exception was an area in western Lawrence County that is served the Rattlesnake Ridge Water District along SR32 near the Elliott County line. Upon completion of the acquisition of the Lawrence County Water District the order signed by the Lawrence County Judge Executive in conjunction with the Kentucky Public Service Commission established the boundary of BSWD in Lawrence County as being all territory in Lawrence County not currently (2000) covered by the Paintsville Utility Commission (area around Blaine along SR 201) and Rattlesnake Ridge Water District along SR32 near Elliott County line.

After acquisition of the Lawrence County Water District the BSWD proposed an expansion in south and southwestern Lawrence County. The project included US23 north of Louisa to Johnson County line at Lowmansville; SR1760 from SR32 thru Charley to US23; SR581 from US23 to Johnson County line at River, Kentucky. This project allowed for (2) two backup connections to the Paintsville Utility System.

EXISTING
FACILITIES

Existing Facilities

Water Supply and Treatment Kenova Municipal Water Plant

The present water supply for the Big Sandy Water District is purchased water from the City of Kenova, West Virginia water plant. The capacity of this plant is 8 MGD (million gallons per day) and draws water from the Big Sandy River.

Treatment at the plant consists of rapid mixing, flocculation, and clarification. Water from the clarifiers is then treated by rapid sand filters, then chlorinated to provide disinfection, and finally pumped to the Big Sandy Water District distribution system and on to 2 - 300,000 gallon tanks on U.S. 23 south of Whites Creek.

The current water purchase contract allows the Big Sandy Water District to purchase a maximum of 24 million gallons per month at \$2.55 per 1,000 gallons. The duration of the contract is 40 years and makes allowances for modification of the contract at the end of every one year period. The current contract has approximately 12 years left as set out in last modifications. The Big Sandy Water District averaged purchasing 16,000,000 gallons per month in 2012. This is 60.6% of their needs. This rate was established in February 2013.

The District also purchases less than 40% of its water from the City of Louisa, Cannonsburg Water District and Rattlesnake Ridge Water District. Both of these purchases are to serve outlying areas of the District. The District purchased an average of 4,608,000 gallons per month from Cannonsburg Water District in 2008. This is 16% of their needs. The City of Louisa furnished an average of 6,686,000 gallons per month in 2008. This is 23% of their needs. An annual breakdown of usage from all sources is included at end of this section.

In 2008 the District purchased approximately 344,170,000 gallons which gives a total average of 28,680,000 gallons per month. It is apparent that the 24,000,000 gallon per month contract with Kenova is short of current needs. However, Kenova has never declined service to Big Sandy Water District. They would probably increase their contract within the reasonable capacity of their plant which is 8 MGD.

Proposed Secondary Water Supply Ashland Municipal System

The Ashland Waterworks are located along Winchester Avenue between 40th Street and 41st Street. The plant was recently expanded to a capacity of 24 MGD in 2005.

Raw water is drawn from the Ohio River by an intake equipped with low service turbine pumps. The raw water is first pumped to a sedimentation basin where the solids are settled out before discharge to the filtration plant. Lime and alum are added to the water before flash mixing, flocculation, and clarification. Water from the clarifiers is then treated by rapid sand filters, chlorinated to provide disinfection, and fluorinated before discharge to the distribution system. In addition to the facilities mentioned above, the plant also contains storage for chemicals, a 81,500-gallon wash water tank, and a clear well to store processed water.

The Ashland Water System contains the following storage facilities:

- | | |
|--------------------------------------|---|
| 1. 13th Street Reservoir ... 3.75 MG | 5. 55th Street Reservoir 1.00 MG |
| 2. 34th Street Reservoir ... 1.25 MG | 6. Catlettsburg Reservoir 1.00 MG |
| 3. Edgewood Reservoir ... 1.00 MG | 7. 29th Street Elevated Tank ...0.15 MG |
| 4. Summit Reservoir 1.00 MG | |

Although the recently expanded Ashland Waterworks plant capacity is 24 MGD, the system's major transmission lines and storage are rated for a daily capacity of 12 MGD. The City of Ashland has indicated they would have no problem in supplying Big Sandy with approximately 600,000 gallons of water per day with their existing transmission facilities and the Catlettsburg 1 MG tank. The Ashland Water System transmission line is of main importance to this report is the 12" main from Catlettsburg to the Marathon Oil, Inc. refinery south of I-64 off U.S. Route No. 23. The connection to the 12" main is located 7300 feet north of the Big Sandy Water District 6" main at the intersection of Campbell's Branch Road and U.S. Route No. 23.

The existing 12" inch line to Marathon Oil is supplied by the City of Ashland one million gallon water tank in Catlettsburg. The tank is monitored by a chart recorder at the Ashland Water Plant. This tank is filled by a pump station located within the City Limits of Catlettsburg on 12th Street near U.S. Route No. 23.

The Catlettsburg pump station has two (2) 525 GPM vertical turbine pumps. The station is automatically controlled by telemetry and is designed so that both pumps can be operated simultaneously should the demand require same.

Existing Big Sandy Water District System Water Distribution System

The Big Sandy water distribution system consists of approximately 300 miles of 12" through 3" waterlines as shown on the maps at the end of this report. As of April 2013, the District had 4540 customers with 5/8" x 3/4" meters. They have 9 industrial customers with 3" and 4" meters.

The District has three (3) pumping stations; one (1) 250 GPM station with two (2) vertical turbine pumps on State Route 757, one 200 GPM station with one (1) vertical in line centrifugal pump located on State Route No. 854 below the Rush Hill tank and one (1) 100 GPM station on U.S. 60 at Coalton with one (1) 100 GPM pump pumping to the Rush Hill tank.

Water Storage System

The Big Sandy Water District has five (5) water storage structures, (2) 300,000 gallon ground storage tanks near U.S. Route No. 23 at Lockwood, a 220,000 gallon standpipe on Bowling Drive and a 137,000 gallon standpipe near State Route No. 854 at Rush Hill, and a 100,000 gallon tank on Donithon Road in Lawrence County.

The existing Big Sandy water distribution system, including tanks and pump stations, are in good condition and are adequate for continued use for the foreseeable future.

2008 BIG SANDY WATER PURCHASES

SME # 00099

	KENOVA		LOUISA		CANNONSBURG		TOTAL/MONTH
	<u>Month</u>	<u>Per Day</u>	<u>Month</u>	<u>Per day</u>	<u>Month</u>	<u>Per Day</u>	
November 2007	18,987,000	632,900	6,136,500	204,550	3,734,000	124,466	28,857,500
December 2007	19,190,000	619,032	5,446,500	175,693	5,197,000	167,645	29,833,500
January 2008	21,463,000	692,354	7,035,600	226,954	4,241,000	136,806	32,739,600
February 2008	17,416,000	600,551	8,356,200	288,144	4,147,000	143,000	29,919,200
March 2008	17,210,820	555,187	7,191,100	231,970	4,820,000	155,483	29,221,920
April 2008	16,593,000	553,100	6,188,900	206,296	5,066,000	168,866	27,847,900
May 2008	16,422,000	529,741	6,798,200	219,296	5,301,000	171,000	28,521,200
June 2008	16,586,000	552,866	6,076,900	202,563	6,405,000	213,500	29,067,900
July 2008	15,461,000	498,741	6,646,700	214,409	6,157,000	198,612	28,264,700
August 2008	16,872,000	544,258	6,610,700	213,248	5,737,000	185,064	29,219,700
September 2008	15,528,000	517,600	6,375,400	212,513	4,686,000	156,200	26,589,400
October 2008	16,905,000	545,322	6,372,200	205,554	5,113,000	164,935	28,390,200
ANNUAL TOTALS	208,633,820		79,234,900		60,604,000		348,472,720
PERCENTAGES	59.87%		22.74%		17.39%		100.00%

Proposed Facilities

Proposed Facilities and System Expansion

Water Distribution and Pumping

A new 10" inch water transmission main is proposed from a connection to the existing City of Ashland 12" inch water main at rear of Marathon Oil Station near Ramada Inn on England Hill in Catlettsburg. The new 10" main will then run to a proposed 700 GPM pump station (2 pumps) that will be constructed under this project and owned by the Big Sandy Water District.

The new 10" transmission main will cross under U.S. 23 to the northwest side of U.S. 23 and follow U.S. 23 approximately 500' to SR 538 and then follow SR 538 for 2950 feet. The 10" main will then leave SR 538 and cross under I64 to SR 3. The 10" line will then follow SR 3 in easterly direction for 1660 feet to U.S. 23. The 10" line will then proceed on northwest side of U.S. 23 for 4.70 miles to SR 757 @ Whites Creek and connect to the existing 8" waterline. This connection is 3000 feet from the 2-300,000 gallon tanks on U.S. 23.

Water Storage

No new water storage facilities are proposed as the existing facilities are adequate for the foreseeable future.

Water Supply

The source of water supply proposed is the City of Ashland Municipal Waterworks 24 MGD treatment plant located along Winchester Avenue, between 40th and 41st Street. The quality of this source of water is acceptable for use by Big Sandy, and meets all requirements of the Kentucky Natural Resources and Environmental Protection Cabinet, Division of Water and the Kentucky Public Service Commission.

Design Criteria and Approvals

All waterlines will be designed in accordance with Kentucky Natural Resources and Environmental Protection Cabinet, Division of Water, U.S. Department of Agriculture, Rural Development, and Kentucky Public Service Commission guidelines and their subsequent approval. Approvals will be also secured from the Kentucky Natural Resources and Environmental Protection Cabinet, Division of Water Resources to obtain stream crossing permits where necessary.

Design drawings will be submitted for approval by the Kentucky Natural Resources and Environmental Protection Cabinet, Division of Water, USDA Rural Development and the Kentucky Public Service Commission. The minimum pressure designed for new water transmission main will be 30 psi.

Land of Rights-of-Way

For all lines constructed on private rights-of-way, a construction and permanent easement will be obtained from the property owner prior to constructing the lines. For lines to be constructed on Kentucky state highways or railroads, all necessary encroachment permits will be obtained before proceeding with waterline construction.

There will be requirements for fee simple land acquisition for the pumping station proposed for this water transmission main. The pump station will require acquisition of approximately 0.1 acre. The estimated purchase price for this property is \$5,000.

Proposed Secondary Water Supply Ashland Municipal System

The Ashland Waterworks are located along Winchester Avenue between 40th Street and 41st Street. The plant was recently expanded to a capacity of 24 MGD in 2005.

Raw water is drawn from the Ohio River by an intake equipped with low service turbine pumps. The raw water is first pumped to a sedimentation basin where the solids are settled out before discharge to the filtration plant. Lime and alum are added to the water before flash mixing, flocculation, and clarification. Water from the clarifiers is then treated by rapid sand filters, chlorinated to provide disinfection, and fluorinated before discharge to the distribution system. In addition to the facilities mentioned above, the plant also contains storage for chemicals, a 81,500-gallon wash water tank, and a clear well to store processed water.

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| 4. Summit Reservoir 1.00 MG | |

Although the recently expanded Ashland Waterworks plant capacity is 24 MGD, the system's major transmission lines and storage are rated for a daily capacity of 12 MGD. The City of Ashland has indicated they would have no problem in supplying Big Sandy with approximately 600,000 gallons of water per day with their existing transmission facilities and the Catlettsburg 1 MG tank. The Ashland Water System transmission line is of main importance to this report is the 12" main from Catlettsburg to the Marathon Oil, Inc. refinery south of I-64 off U.S. Route No. 23. The connection to the 12" main is located 7300 feet north of the Big Sandy Water District 6" main at the intersection of Campbell's Branch Road and U.S. Route No. 23.

APPENDIX A

FIVCO Interconnect Study

D. Boyd County

The three (3) water systems that serve Boyd County were previously identified as the City of Ashland, the Cannonsburg Water District (CWD), and the Big Sandy Water District (BSWD).

Identify Interconnect Routes

City of Ashland

The City of Ashland is in the final stages of renovations to their Water Treatment Plant. When completed the Ashland Water Works WTP will have a 24 MGD capacity which is the largest in the entire 40 county study area.

The Ashland WTP draws raw water from the Ohio River and pumps into a 25 million gallon reservoir before entering the WTP. The renovated Ashland WTP has multiple levels of redundancy at all stages of treatment.

The 2020 estimated individual water system demand for Ashland was previously estimated on Table 5 at 10.8 MGD and 5,000 gpm.

Ashland has existing metered interconnects and sells water to a number of surrounding systems. These include the Cannonsburg Water District (CWD) and the Cities of Flatwoods and Russell. Ashland also owns and operates the water system that serves the City of Catlettsburg.

Ashland also has an existing unmetered interconnect across the Big Sandy River Bridge between Catlettsburg, KY and Kenova, WV.

The actual location of each Ashland interconnect is discussed in more detail in the section on each respective system that buys water from Ashland.

Big Sandy Water District (BSWD)

BSWD purchases their entire supply of water from the Kenova, WV water treatment plant. BSWD has a dual 8-inch supply line with dual 4-inch meters crossing the Big Sandy River at US 23, Lockwood, KY. The Kenova water purchase agreement allows BSWD to purchase a maximum of 24 MG per month or 800,000 GPD.

BSWD sells small quantities of water to Overland Development (20,000 GPD) and Cannonsburg Water District (10,000 GPD).

In August of 2004, BSWD "maxed out" on its contract with Kenova with a monthly purchase of 23.8 MGD.

BSWD definitely needs to consider another water supply interconnect. For the purposes of this study, an interconnect (F-3) with the City of Ashland will be modeled and a corresponding cost estimate developed.

Cannonsburg Water District (CWD)

CWD purchases practically their entire supply from the City of Ashland. CWD's primary interconnection with Ashland is in their 12-inch line with 6-inch master meter located at the US 60/Midland Trail BPS in Summit, KY. The Midland Trail BPS has dual pumps, each with a 1,000 gpm capacity.

CWD also has three (3) other metered interconnects with Ashland. A 6-inch interconnect is located at the junction of US 23/Paddle Creek Road north of Catlettsburg. Two (2) 4-inch interconnects are located each on Logtown and Buena Vista Roads at the junction of the Industrial Parkway at the Boyd/Carter/Greenup county lines.

CWD's water purchase contract with Ashland currently allows 1.7 MGD purchase. This amount raises to 2.7 MGD after Ashland completes renovations of their WTP.

CWD currently purchases between 1-1.1 MGD from Ashland, which leaves them with an ample reserve.

As noted previously, CWD purchases a small quantity of water from Big Sandy Water District on Dog Fork Road. This is to serve an area of the CWD system that previously experienced low water pressure. Finally, CWD has an existing unmetered interconnect with BSWD on US 60 in Coalton, KY.

During system interviews, CWD expressed a desire for another interconnect (F-4) with Ashland on Hurricane Road off KY 168.

Overland Development, Inc (ODI)

ODI operates a small water distribution system that serves the Lockwood Estates subdivision off US 23 at Lockwood. ODI is surrounded by and purchases all their water from the Big Sandy Water District.

Identify Interconnect Constraints

The Boyd County water systems already have in place many existing interconnects that can provide an emergency water supply. The City of Ashland water system is the largest system in the 40 county study area. Ashland's new Water Treatment Plant has multiple layers of duplicate treatment units and redundancies built into the design.

With an estimated 2020 individual system water demand of 10.8 MGD (5,000 gpm) it is not practical to provide emergency supply interconnects to Ashland from nearby water systems. Therefore, the report will focus on the remaining Boyd County systems.

**TABLE 9
INTERCONNECT CONSTRAINTS – BOYD COUNTY**

County	System	Existing/Proposed Interconnect	Meter Size	Constraint
Boyd	BSWD from CWD (F-2)	US 60 at Coalton (Proposed)	4-inch	100 gpm*
	BSWD from Ashland (F-3)	US 23 near I-64 (Proposed)	6-inch	325 gpm*
	CWD from Ashland (F-4)	Hurricane Road near Catlettsburg (Proposed)	4-inch	100 gpm*
	CWD from Ashland	US 60, US 23/Paddle Creek Road, Logtown Road, Buena Vista Road (4 Existing)	6-inch	US 60 is CWD primary supply with Ashland
	CWD from BSWD	Dog Fork Road (Existing)	3-inch	10,000 GPD
	BSWD from Kenova, WV	US 23 (Existing)	Dual 4-inch	800,000 GPD
	Overland Development from BSWD	KY 757 (Existing)	3-inch	20,000 GPD
	* Proposed BPS capacity is limiting constraint			

The BSWD from CWD (F-2), BSWD from Ashland (F-3), and CWD from Ashland (F-4) interconnects will be modeled as part of this report.

POSSIBLE WATER QUALITY LIMITATIONS

The City of Ashland operates the only WTP located in Boyd County. They use sodium hypochlorite generated on site for disinfection and caustic soda for pH control.

The Kenova, WV WTP supplies water to the Big Sandy Water District. They use chlorine gas for disinfection and caustic soda for pH adjustment.

Both systems are therefore compatible as far as disinfection and corrosion pH control practices are concerned. There are no water quality limitations associated with the interconnects in Boyd County.

E. Greenup County

Greenup County has seven (7) water systems. These were previously identified as the Russell Water Works, the City of Greenup Water Department, the South Shore Water Works, the City of Worthington Water Department, the City of Raceland Water Works, the City of Wurtland Water Department, and the City of Flatwoods Public Works/Utilities Department.

Identify Interconnect Routes

City of Worthington

The City of Worthington has its own 0.24 MGD groundwater WTP which supplies the entire system. The system average daily demand is only 0.12 MGD compared to the WTP capacity.

APPENDIX B

ESTIMATED CONSTRUCTION AND PROJECT COST

ENGINEERS ESTIMATE BIG SANDY WATER DISTRICT US 23 - ENGLAND HILL TO WHITES CREEK CONTRACT 'D-1'					
ITEM NO.	ITEM DESCRIPTION	Sheet #		UNIT COST	TOTAL COST
		UNITS	All Sheets		
1	14" HDPE DR 15.5 (IPS) Waterline	LF	2270	\$ 28.00	\$ 63,560.00
2	12" HDPE DR 13.5 (IPS) Waterline	LF	28510	\$ 26.00	\$ 741,260.00
3	8" C-900 PVC	LF	50	\$ 12.00	\$ 600.00
4	3" CL 200 PVC Waterline	LF	120	\$ 7.00	\$ 840.00
5	14" Gate Valve	EA	1	\$ 4,000.00	\$ 4,000.00
6	12" Gate Valve	EA	9	\$ 3,600.00	\$ 32,400.00
7	8" Gate Valve	EA	1	\$ 1,600.00	\$ 1,600.00
8	6" Gate Valve	EA	2	\$ 1,200.00	\$ 2,400.00
9	3" Gate Valve	EA	2	\$ 600.00	\$ 1,200.00
10	Leak Detection Assembly	EA	2	\$ 1,000.00	\$ 2,000.00
11	Blowoff Valve Assembly	EA	5	\$ 1,800.00	\$ 9,000.00
12	Air Release Valves	EA	6	\$ 850.00	\$ 5,100.00
13	Bore & Jack w/ 12" HDPE Waterline & 18" Steel Casing	LF	190	\$ 200.00	\$ 38,000.00
14	Bore & Jack w/ 14" HDPE Waterline & 20" Steel Casing	LF	180	\$ 300.00	\$ 54,000.00
15	Casing Pipe (Open Cut) 18" PVC under gas lines	LF	120	\$ 25.00	\$ 3,000.00
16	Casing Pipe (Open Cut) 18" Steel Casing (S.R. 757)	LF	20	\$ 25.00	\$ 500.00
17	Pavement Replacement (HD) (County Roads)	SY	81	\$ 75.00	\$ 6,075.00
18	Pavement Replacement (LD)(Driveways, parking areas)	SY	20	\$ 40.00	\$ 800.00
19	Concrete Drive Replacement	SY	20	\$ 80.00	\$ 1,600.00
20	Gravel Surface Replacement	SY	10	\$ 20.00	\$ 200.00
21	Concrete Encasement	LF	355	\$ 50.00	\$ 17,750.00
22	Tie in #1 (Sta. 9+55 - @ Plug installed by City of Ashland)	EA	1	\$ 500.00	\$ 500.00
23	Tie in #2 (Sta. 53+50 - @ North side of I-64)	EA	1	\$ 2,000.00	\$ 2,000.00
24	Tie in #3 (Sta. 59+00 - @ South side of I-64)	EA	1	\$ 2,000.00	\$ 2,000.00
25	Tie in #4 (Sta. 148+00 - @ Campbells Branch)	EA	1	\$ 1,500.00	\$ 1,500.00
26	Tie in #5 (Sta. 222+00 - @ Savage Branch Road)	EA	1	\$ 1,500.00	\$ 1,500.00
27	Tie in #6 (Sta. 300+70 - @ Lockwood Drive)	EA	1	\$ 1,800.00	\$ 1,800.00
28	Tie in #7 (Sta. 324+62 - @ Whites Creek)	EA	1	\$ 2,500.00	\$ 2,500.00
29	Tie in #8 (Sta. 327+40 - @ U.S. 23)	EA	1	\$ 2,500.00	\$ 2,500.00
30	Large Stream Crossing (12" HDPE)	LF	80	\$ 100.00	\$ 8,000.00
31	Extra Bedding	LF	100	\$ 15.00	\$ 1,500.00
32	Compound Meter & Vault (Lockwood Estates)	EA	1	\$ 15,000.00	\$ 15,000.00
33	Fiberglass Markers	EA	80	\$ 40.00	\$ 3,200.00
34	Horizontal Directional Drilling (12" HDPE DR 13.5 (IPS))	LF	130	\$ 125.00	\$ 16,250.00
				TOTAL	\$ 980,575.00

ENGINEERS ESTIMATE				
BIG SANDY WATER DISTRICT				
US 23 - ENGLAND HILL TO WHITES CREEK				
CONTRACT 'D-1' WATER TRANSMISSION MAIN				
CONTRACT 'E-1' PUMP STATION				
ITEM NO.	ITEM DESCRIPTION	UNIT QUANTITY	UNIT COST	TOTAL COST
1	12" HDPE DR 11 or 10" CL 350 ductile iron w/ locktight caskets waterline (on I64 right-of-way)	420 LF	\$40.00	\$16,800.00
2	10" C900 DR 18 PVC Waterline	30,500 LF	\$22.00	\$671,000.00
3	10" Gate Valves	5 EA	\$1,400.00	\$7,000.00
4	8" Gate Valves	1 EA	\$1,000.00	\$1,000.00
5	6" Gate Valves	2 EA	\$800.00	\$1,600.00
6	3" Gate Valves	1 EA	\$400.00	\$400.00
7	Gate Valve w/ Meter Assembly (all sizes)(leak detection Assembly)	2 EA	\$1,000.00	\$2,000.00
8	Blowoff Valve Assembly	3 EA	\$800.00	\$2,400.00
9	Air Release Valves	7 EA	\$800.00	\$5,600.00
10	Bore & Jack w/ 10" Waterline & 18" Steel Casing @ I 64	210 LF	\$250.00	\$52,500.00
11	Bore & Jack w/ Waterline & 18" Steel Casing US 23 (130'), S.R. 3 (40'), along US 23 (50'), Whites Creek (40')	260 LF	\$200.00	\$52,000.00
12	Casing Pipe (Open Cut) 18" PVC under gas lines	110 LF	\$25.00	\$2,750.00
13	Pavement Replacement (HD) (County Roads)	125 SY	\$80.00	\$10,000.00
14	Pavement Replacement (LD)(Driveways, parking areas)	20 SY	\$50.00	\$1,000.00
15	Gravel Surface Replacement	200 SY	\$25.00	\$5,000.00
16	Concrete Encasement	250 LF	\$40.00	\$10,000.00
17	Tie new 10" to existing 3"	1 EA	\$1,000.00	\$1,000.00
18	Tie new 10" to existing 6"	1 EA	\$1,500.00	\$1,500.00
19	Tie new 10" to existing 8" (Wet Tap)	1 EA	\$3,000.00	\$3,000.00
20	Tie new 10" to existing 12" (Wet Tap)	1 EA	\$3,500.00	\$3,500.00
21	Large Stream Crossing (12") HDPE or 10" CL 350 ductile iron w/ locktight caskets	80 LF	\$100.00	\$8,000.00
22	Extra Bedding	10 TON	\$25.00	\$250.00
23	Pump Station	1 EA	\$141,700.00	\$141,700.00
**Total Estimated Construction Cost				\$1,000,000.00

BSWD PROJECT COSTS

CONSTRUCTION ESTIMATES - Waterline connection to Ashland

Pump Station	\$125,000
US 23 Transmission from Main England Hill to Whites Creek	\$1,100,000
Total Estimated Construction Cost	\$1,225,000
±10% Contingency	\$125,000
SUBTOTAL	\$1,350,000

a) Emergency Big Sandy River Crossing Replacement	\$152,000
b) Leak Detection Contract	\$116,000
c) Emergency US 23 Road Bore Replacement	\$23,000
Telemetry Upgrade	\$25,000
Legal & Administrative	\$20,000
KIA Administration (SME)	\$5,000
*KIA Grant Fees	\$3,000
Interest during Construction	\$26,000

Engineering (RD fees)	\$255,000
*Basic (8.43%)	\$113,000
*Inspection (5.25%)	\$70,000
Additional (Permits, Easements, Telemetry, etc)	\$14,200
<u>Other Engineering for above items</u>	
SME # 11039 a) River Crossing	\$25,000
SME # 12007 b) Leak Detection contract	\$27,000
SME # 13001 c) Zelda Road bore	\$5,800

SUBTOTAL **\$625,000**

TOTAL PROJECT COST: **\$1,975,000**

*KIA GRANT FEES

\$400,000 X 0.5%	= \$2,000
\$200,000 X 0.5%	= \$1,000
	<u>\$3,000</u>

FUNDING

KIA (2006) IEDF	\$400,000
**KIA (2008) IEDF	\$125,000
RD Loan	\$1,000,000
RD Grant	\$450,000

TOTAL FUNDING: **\$1,975,000**

KIA Grant for Interconnect and Fire Hydrants

**\$200,000 - \$75,000 FH = \$125,000 Allocated to Interconnect

APPENDIX C
FINANCIAL SECTION

FINANCIAL

The Big Sandy Water District (BSWD) has known and agreed for many years that they need a reliable secondary source of water for their widely spread water distribution system. The system covers the western and southern portion of Boyd County, the small eastern portion of Carter County and nearly all of rural-southern, eastern and western Lawrence County that is not covered by the City of Louisa. The primary rural waterline by City of Louisa is in the Fallsburg area along S.R. 3 and west of town in Busseyville/Yatesville Lake area along S.R. 32. As stated in the "existing facilities" portion of this report the BSWD took over the Lawrence County Water District in 2001 at the request of Rural Development. The Lawrence County proposed customers were approved by KY PSC (Public Service Commission) under the BSWD rate structure.

As discussed in the "Recommendations" section of this report, the District concurred with the findings of the FIVCO ADD study funded and performed for the Division of Water. The study in 2005 recommended that BSWD obtain a secondary source and backup water from the City of Ashland with a connection at the southern City limits of Catlettsburg.

The Kentucky Infrastructure Authority, through legislative dictates generated primarily by State Representative Rocky Adkins, granted the BSWD/Ashland interconnection project \$400,000 grant in 2007 and subsequently in 2008 a \$200,000 grant for the interconnection and rural fire hydrants. Seventy five (\$75,000) thousand of the second grant was used for fire hydrants which left \$125,000 for the interconnection. Therefore, there is \$525,000 KIA grants available for the interconnection.

The water purchase rates from the various water companies that BSWD purchases water from, vary significantly and have continued to grow frequently (at least every year) for the past few years. In Spring 2013 the rates were as follows:

Kenova \$2.55/1000 gallons
Louisa \$2.66/1000 gallons
Cannonsburg \$3.84/1000 gallons
Rattlesnake Ridge Water District \$2.96/1000 gallons

The City of Ashland has tentatively agreed to hold their rate at \$2.00/1000 gallons for 3 years and then it would raise to their bulk rate that they charge Cannonsburg Water District as established by Ashland Rate Ordinance. That rate is anticipated to be around \$2.58/1000 gallons.

XII. ANALYSIS OF ACTUAL WATER USAGE - EXISTING SYSTEM - 12 MONTH PERIOD

For Period November 2007 to November 2008

0-1K	500	16.14	342	52	197	\$	6,369
1-2K	1,500	16.14	444	30	711	\$	7,650
2-3K	2,500	19.23	714	12	1815	\$	13,957
3-4K	3,500	25.40	746	12	2653	\$	19,249
4-5K	4,500	31.57	631	8	2876	\$	20,170
5-6k	5,500	37.74	449	7	2508	\$	17,207
6-7K	6,500	43.91	291	6	1931	\$	13,040
7-8K	7,500	50.08	180	6	1395	\$	9,314
8-9K	8,500	56.25	113	5	1003	\$	6,637
9-10K	9,500	62.42	71	4	713	\$	4,681
10-12k	11,000	70.54	67	3	770	\$	4,938
12-15k	13,500	83.14	54	5	797	\$	4,905
15-20K	17,500	103.30	37	5	735	\$	4,339
20-30K	25,000	137.30	21	4	625	\$	3,433
30-40k	35,000	180.10	8	3	385	\$	1,991
40-50K	45,000	219.10	3	2	225	\$	1,096
50-75K	62,500	280.70	1	2	188	\$	842
75-100K	87,500	368.70	0	2	175	\$	737
100-150K	125,000	500.70	0	2	250	\$	1,001
150-200K	175,000	676.70	0	1	175	\$	677
200-300K	250,000	940.70	0	0	0	\$	-
300-400K	350,000	1,292.70	0	1	350	\$	1,293
sub total				4172	172	20,475	\$ 143,506
average residential rate per month					4344	\$	33.04
average residential usage per month in Gallons							4,908
annual revenue						\$	1,722,076
annual flow quantity in gallons sold							245,694,000

XXVI. FORECAST OF WATER USAGE - INCOME - NEW USERS
 PROPOSED RATE INCREASE

OPTION #2

Gallons	Gallons		of users Residential	of users Non-Residential	x1000 Gal		
0-1K	500		1200	342	52	197	\$ 4,728
1-2K	1,500		15.25	444	30	711	\$ 7,229
2-3K	2,500		21.75	714	12	1815	\$ 15,791
3-4K	3,500		28.25	746	12	2653	\$ 21,414
4-5K	4,500		34.75	631	8	2876	\$ 22,205
5-6k	5,500		41.25	449	7	2508	\$ 18,810
6-7K	6,500		47.75	291	6	1931	\$ 14,182
7-8K	7,500		54.25	180	6	1395	\$ 10,091
8-9K	8,500		60.75	113	5	1003	\$ 7,169
9-10K	9,500		67.25	71	4	713	\$ 5,044
10-12k	11,000		75.80	67	3	770	\$ 5,306
12-15k	13,500		89.05	54	5	797	\$ 5,254
15-20K	17,500		110.25	37	5	735	\$ 4,631
20-30K	25,000		146.00	21	4	625	\$ 3,650
30-40k	35,000		191.00	8	3	385	\$ 2,101
40-50K	45,000		232.00	3	2	225	\$ 1,160
50-75K	62,500		296.75	1	2	188	\$ 880
75-100K	87,500		389.25	0	2	175	\$ 779
100-150K	125,000		528.00	0	2	250	\$ 1,056
150-200K	175,000		713.00	0	1	175	\$ 713
200-300K	250,000		990.50	0	0	0	\$ -
300-400K	350,000		1,360.50	0	1	350	\$ 1,351
sub total				4172	172	20,475	\$ 153,560
average residential rate per month					4344		\$ 35.35
average residential usage per month in Gallons							4,908
annual revenue							\$ 1,842,719
annual flow quantity in gallons sold							245,694,000

Water Tank Painting Reimbursement

The Big Sandy Water District has not had a general rate increase since 1985. The only water rate increases seen in the BSWD over the years has been direct "pass through," when suppliers (Kenova, Louisa, Cannonsburg) raise their rates to BSWD.

Subsequently in 2007 they borrowed \$150,000 locally to paint (3) three tanks that were in desperate need of painting after 20 years of service. Since the District knew that they had a Rural Development project forthcoming, they planned on rolling that short term loan into the long term RD loan.

This investment is reflected in the Budget at Appendix A.

Asset Management

The BSWD at the influence of the PSC has concluded that they should begin setting aside funds for the replacement of deteriorating assets. The worksheets for the calculation of Assets replacement by retired manager Bob McGlothlin are included herewith in Appendix "D". Also narrative description of Asset Management is also included in Appendix D.

Mr. McGlothlin's calculations indicate a need of \$48,000 to \$50,000 per year for Asset Management.

General Additional Revenue Needs per Bob McGlothlin; Manager

Annual

Employees Additional Health Care Premiums	= \$ 6,000
Added Commissioner	= \$ 6,000
Debt Service for \$300,000 KRWA loan	= \$ 23,000
Asset Management	= \$ 48,000
Additional Revenue to meet shortfalls since 2006	= \$ 83,000
Plus future reserves	= \$ 60,000

TOTAL Estimated Needs = \$226,000

$\$226,000 / 4,340 \text{ customers} / 12 \text{ months} = \$4.34/\text{mo. per average bill}$
Average monthly bill is 3900 gallons

BIG SANDY WATER DISTRICT		
EXISTING LONG TERM REVENUE BONDS		
1993 (USDA) @ 4.5%	Note A (\$1,014,500 - 2007)	
Interest		\$ 41,720
Principal		\$ 25,538
Debt Reserve		
2000 Series USDA @ 4.5%	Note D (\$444,500 - 2007)	
Interest		\$ 19,772
Principal		\$ 7,652
Debt Reserve		\$ 2,742
2001 Series USDA @ 4.5 %	Note B (\$497,500 - 2007)	
Interest		\$ 21,401
Principal		\$ 7,796
Debt Reserve		\$ 2,290
KIA @ 3.0%	Note C (\$790,000)	
Interest		\$ 39,963
Principal		\$ 7,500
Debt Reserve		\$ 4,746
2001 KRWFC @ 4.15%	Note E (\$676,000 - 2007)	
Interest		\$ 34,044
Principal		\$ 28,000
Debt Reserve		
2004 KRWFC @ 4.15% (\$28,000)	Note F (\$658,000 - 2007)	
Interest		\$ 28,392
Principal		\$ 20,000
Debt Reserve		
2007 KRWFC Refinance 2005 (4.05% - 4.425%)	Note G (\$931,000)	
Interest		\$ 36,933
Principal		\$ 32,000
Debt Reserve		

APPENDIX TO AN ORDER OF THE KENTUCKY PUBLIC SERVICE
COMMISSION IN CASE NO. 2008-00434 DATED OCTOBER 30, 2008

The following rates and charges are prescribed for the customers in the area served by Big Sandy Water District. All other rates and charges not specifically mentioned herein shall remain the same as those in effect under authority of the Commission prior to the effective date of this Order.

Monthly Water Rates

5/8 x 3/4-Inch Meter

First	2,000 gallons	\$16.22	Minimum Bill
Next	8,000 gallons	6.21	per 1,000 gallons
Next	20,000 gallons	5.08	per 1,000 gallons
Next	20,000 gallons	4.32	per 1,000 gallons
Over	50,000 gallons	3.56	per 1,000 gallons

1-Inch Meter

First	10,000 gallons	\$65.90	Minimum Bill
Next	20,000 gallons	5.08	per 1,000 gallons
Next	20,000 gallons	4.32	per 1,000 gallons
Over	50,000 gallons	3.56	per 1,000 gallons

1 - 1/2-Inch Meter

First	30,000 gallons	\$167.50	Minimum Bill
Next	20,000 gallons	4.32	per 1,000 gallons
Over	50,000 gallons	3.56	per 1,000 gallons

2-Inch Meter

First	50,000 gallons	\$253.90	Minimum Bill
Over	50,000 gallons	3.56	per 1,000 gallons

3-Inch Meter

First	100,000 gallons	\$431.90	Minimum Bill
Over	100,000 gallons	3.56	per 1,000 gallons

4-Inch Meter

First 200,000 gallons
Over 200,000 gallons

\$787.90 Minimum Bill
3.56 per 1,000 gallons

Wholesale volumetric rate
Overland Development, Inc.

\$1.29 per 1,000 gallons

Cannonsburg Water District

\$1.95 per 1,000 gallons

**Big Sandy Water District
Preliminary Proposed Rate Increase
SME #05099
12/15/2008**

Existing Rate Schedule		
\$16.14	2,000 Gallons	Minimum Bill
\$6.17 per 1000 Gallons	1,000 Gallons to	10,000 Gallons
\$5.04 per 1000 Gallons	10,000 Gallons to	20,000 Gallons
\$4.28 per 1000 Gallons	20,000 Gallons to	40,000 Gallons
\$3.52 per 1000 Gallons	All over 40,000 Gallons	

Proposed additional debt service 2009 RD loan of \$600,000 @ 4.5%
Annual payment + 10% coverage = \$37,000
Total # of customers as of 11/1/08 4340
Additional debt service per customer = $\frac{\$37,000}{4340} =$ \$8.52 per year
or $\frac{\$8.52}{12} =$ \$0.71 per month per customer

Per previous study by Bob McGlothlin \$6.05 per customer per month

Total estimated additional rate per average bill = \$6.76

Current average residential bill = \$27.86 3,900 gallons
Proposed average residential bill = \$34.98 25.96% increase

Proposed Rate Schedule		
\$12.50	1,000 Gallons	Minimum Bill
\$7.75 per 1000 Gallons	1,000 Gallons to	10,000 Gallons
\$5.50 per 1000 Gallons	10,000 Gallons to	20,000 Gallons
\$4.25 per 1000 Gallons	All over 20,000 Gallons	

FINAL RATE DETERMINATIONS WILL BE MADE AT COMPLETION OF SUMMARY ADDENDUM

LARGE USERS

	<u>Avg. Usage Per Mo.</u>	
Cannonsburg Water District	250,000	\$479.03
Overland Development Subdivision	612,900	1311.88
Appalachian Power Company	46,300	236.06
Calgon Corporation	1,337,300	4873.20
Kentucky Power Company	522,700	1915.80
Ramey Estep Boy's Farm	327,400	1228.35
Special Metals	214,300	830.24
Wells Ready Mix Concrete	80,200	427.90

ASSET MANAGEMENT
BOB Mc GLOTHLIN, MANAGER

Appendix A: Worksheets

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System Inventory Worksheet						
Date Worksheet Completed/Updated:						
Asset	Expected Useful Life	Condition	Service History	Adjusted Useful Life	Age	Remaining Useful Life
DELONG TANK	60	GOOD-ROAD WORK NEEDED	NONE		5	
CEDGAP PUMP STA	15	SLOW PUMPING	PUMP & MOTOR REPLACED		5	
HIGHWAY 1760 PRV	10	WORKING VERY GOOD			1	
MCCLURE PRV	10	2005				
LITTLE BLAINE PRV	10	2005				
1978 FORD 600						
2005 ELITE GOOSENECK TRL						
2001 ELITE LOW BOY TRL						
²⁰⁰¹ 4WD CHEVY 2500 (JIM)	7		INJECTORS			
FORD BACKHOE 1987	15				20	
NEW HOLLAND BACKHOE	15					
KUBOTA 1994	10					
¹⁹⁸⁸ VERMEER TRENCHER	SELL					
¹⁹⁹⁶ 1/2 TON 2WD CHEVY 1500	SELL					
4WD CHEVY S10 1997	SELL					
¹⁹⁹⁸ 4WD CHEVY S10 GARY		BELOW AVERAGE				
²⁰⁰⁰ 4WD FORD F250 (BILL)	7		FUEL PUMP			

Appendix A: Worksheets

-----cut along dotted line-----

System Inventory Worksheet						
Date Worksheet Completed/Updated:						
Asset	Expected Useful Life	Condition	Service History	Adjusted Useful Life	Age	Remaining Useful Life
2003 4WD CHEVY 1500 (BRYAN)	7					
2003 4WD CHEVY 1500 (NATE)	7					
2005 4WD CHEVY 1500 (AL)	7					
AIR COMPRESSOR	10					
TELEMETRY						
OFFICE BLDG	50	ADEQUATE				
SHOP	50	PIPE STORED SMALL OFF SITE				
METER BLDG	50	TOO SMALL				
DISTRIBUTION 12" PIPE	40	LOTS OF REPAIR ALONG OLD 23 S OF COLUMBIA GAS				
DISTRIBUTION 8" PIPE	40				23	
OLD BLOW OFF VALVES	40					

Appendix A: Worksheets

cut along dotted line

System Inventory Worksheet						
Date Worksheet Completed/Updated:						
Asset	Expected Useful Life	Condition	Service History	Adjusted Useful Life	Age	Remaining Useful Life
US 23 TANK #1	60	NEEDS REPAINTED INSIDE AND OUT	CLEANED 1998	30	23YR	
US 23 TANK #2	60	GOOD	NO SERVICE DONE	54	6	
BOWLING DR TANK	60	NEEDS CLEANED INSIDE PAINTED	CLEANED 7/2000	30	23	
WHITES CRK PUMP STA	15	BUILDING NEEDS PAINTED	BOTH PUMPS REBUILT		23	
		HIGH COST MAINT. ADEQUATE FOR NOW	BOTH MOTORS REBUILT			
WHITES CRK PRV	10	WORKING OK	REPLACED	10		
RUSH HILL TANK	60	NEEDS CLEANED AND REPAINTED	CLEANED 7/2000		23	
BUCHANAN TANK	60	GOOD			17	
BURNAUGH PUMP STA	15	GOOD 2 PUMPS AND MOTORS REPLACED	2003 2005		17	
FULLER RIDGE TANK	60				12	
FULLER RDG PUMP STA	20				12	
JERRY RIFFE TANK	60	NOT IN USE	NOT CLEANED		12	
CUNNINGHAM TANK	60	EXCELLENT	NONE		2	
CUNNINGHAM PUMP STA		GOOD	MOVED FROM JERRY RIFFE RDG		12	
QUARRY BR TANK	60		CLEANED 7/2000		12	
QUARRY BR PUMP STA	20				12	
DONITHON TANK	60	GOOD	NONE		10	

APPENDIX C

928-9788

ORDINANCE NO. 59, 2008

AN ORDINANCE OF THE CITY OF ASHLAND, KENTUCKY, ESTABLISHING WATER RATES, TAP FEES, INSTALLATION CHARGES, SERVICE CHARGES, PENALTIES, AND INTEREST AND REPEALING ORDINANCE NO. 80, SERIES OF 2005, AS AMENDED BY ORDINANCE NO. 25, SERIES OF 2007.

* * * *

NOW, THEREFORE, BE IT ORDAINED BY THE CITY OF ASHLAND, KENTUCKY:

SECTION 1. FEES.

That on and after the effective date of this ordinance, the rates and charges for water sold by the Department of Public Services of the City of Ashland, shall be as follows:

1.1 FEES FOR WATER SERVICE WITHIN THE CORPORATE LIMITS OF THE CITY OF ASHLAND EFFECTIVE JULY 1, 2008

Administrative & Billing Charge \$3.68/mo.

User Charges

0 to 2,000	gallons @	\$3.74 per 1,000 gallons
2,001 to 10,000	gallons @	\$2.81 per 1,000 gallons
10,001 to 100,000	gallons @	\$2.27 per 1,000 gallons
over 100,000	gallons @	\$1.84 per 1,000 gallons

Minimum Bill ----- \$7.42 per month

EFFECTIVE JANUARY 1, 2010 AND EACH JANUARY THEREAFTER

The annual percentage increase of the Water, Sewer, and Garbage line item for the U. S. Department of Labor Consumer Price Index starting with the percentage for 2008 shall be applied one year later on January 1, 2010. The 2009 annual percentage rate shall be applied on January 1, 2011 in the like manner, and annually thereafter similar adjustments shall be applied to:

Administrative and billing charges
Each user charge per 1,000 gallons
Minimum bills

1.2 FEES FOR WATER SERVICE OUTSIDE THE CORPORATE LIMITS OF THE CITY OF ASHLAND EFFECTIVE JULY 1, 2008

Administrative & Billing Charge \$3.68/mo.

User Charges

0 to 2,000	gallons @	\$6.35 per 1,000 gallons
2,001 to 10,000	gallons @	\$4.78 per 1,000 gallons
10,001 to 100,000	gallons @	\$3.85 per 1,000 gallons
over 100,000	gallons @	\$3.12 per 1,000 gallons

Minimum Bill ----- \$10.03 per month

EFFECTIVE JANUARY 1, 2010 AND EACH JANUARY THEREAFTER

The annual percentage increase of the Water, Sewer, and Garbage line item for the U. S. Department of Labor Consumer Price Index starting with the percentage for 2008 shall be applied one year later on January 1, 2010. The 2009 annual percentage rate shall be applied on January 1, 2011 in the like manner, and annually thereafter similar adjustments shall be applied to:

Administrative and billing charges
Each user charge per 1,000 gallons
Minimum bills

1.3 FEE EXCEPTION FOR ELDERLY OR HANDICAPPED PERSONS.

Effective July 1, 2008 the minimum monthly water charge stated in this ordinance shall not apply to family residential units located in the City of Ashland which are occupied by the homeowner, provided that the occupant is on a fixed income due to being blind, disabled, or sixty-two (62) years of age or older, provided that said total family income does not exceed Seventeen Thousand Five Hundred Dollars (\$17,500) annual, provided that such financial incapacity is proven and established to the satisfaction of the City Manager of the City of Ashland, or his designee by sworn affidavit or other properly authenticated records. If such provisions apply, the minimum monthly water usage charges effective July 1, 2008 shall be Two Dollars and Four Cents (\$2.04) per month. Also, if such provisions apply, the Administrative and Billing Charge, effective July 1, 2009 shall be Three Dollars and Fifteen Cents (\$3.15) per month.

Any fee reduction granted must be renewed annually by the homeowner by January 1st. Failure to renew exemption applications January 1st of each year will result of termination of the exemption.

Renewal of expired exemptions, or new exemptions, may be granted at any time during the year, however, no retroactive exemptions shall be granted.

1.4 WATER DISTRICT FEES.

Per Agreements with City:

\$1.89 per 1,000 gallons effective July 1, 2008.

EFFECTIVE JANUARY 1, 2010 AND EACH JANUARY THEREAFTER

The annual percentage increase of the Water, Sewer, and Garbage line item for the U. S. Department of Labor Consumer Price Index starting with the percentage for 2008 shall be applied one year later on January 1, 2010. The 2009 annual percentage rate shall be applied on January 1, 2011 in the like manner, and annually thereafter similar adjustments shall be applied to:

User charge per 1,000 gallons

SECTION 2. OTHER CHARGES.

2.1 SERVICE CHARGES.

On and after the effective date of this ordinance, the following service charges shall be as follows:

These service charges shall be charged for each trip to your residence and/or business, except for emergencies and/or authenticated repairs.

During regular work hours Monday through Friday, except holidays
..... \$13.00

After regular work hours or on weekends or holidays
..... \$39.00

2.2 TAP FEES.

In order that new customers share in system development costs already borne by existing customers it is established that on and after the effective date of this ordinance, the minimum rates and charges payable in advance for water taps outside the City shall be as follows:

Meter Size	Tap Fees
5/8 x 3/4"	\$ 390.00
1"	\$ 690.00
1½"	\$ 1,560.00
2"	\$ 2,980.00
3"	\$ 6,260.00
4"	\$11,130.00
6"	\$25,050.00

2.3 CONNECTION CHARGES.

That on or after the effective date of this ordinance, the minimum rates and charges payable in advance for actual water service installations and/or requested relocations, which shall be separate charges from tap fees shall be as follows:

WATER TAP SIZE	INSIDE CITY LIMITS	OUTSIDE CITY LIMITS
5/8 X 3/4" meter	\$630.00	\$ 820.00
1" meter	\$730.00	\$ 960.00
Over 1" meter	\$840.00	\$1,090.00

If the actual cost of such water service installation exceeds the minimum charges fixed above, the City of Ashland reserves the right to charge the actual costs of labor and fringes, materials and equipment.

In addition to the above charges, the applicant shall pay all costs for pavement removal and restoration of whatsoever description or nature.

In cases of multiple meters in which the actual cost of such water service installation is below the above listed charges, the City Manager may reduce the charges to the actual costs of labor and fringes, materials, and equipment provided that, in the sole opinion of the City, the installation is feasible, practical, and not contrary to good operating practice, and will be in accordance with the Rules and Regulations of The Ashland Water Works.

2.4 WATER METER TEST FEES.

Fee inside City	\$13.00
Fee outside City	\$20.00

Fee will be refunded if meter is determined to be inaccurate and overstating consumption.

2.5 SECURITY DEPOSIT.

Effective July 1, 2008, a Security Deposit Fee of One Hundred Dollars (\$100.00) shall be required of all new customers. Effective July 1, 2008, the security deposit charge for family residential units which are occupied by the homeowner, wherein the occupant is on a fixed income due to being blind, disabled, or sixty-two (62) years of age or older, provided that said total family income does not exceed Seventeen Thousand Five Hundred Dollars (\$17,500) annual, provided that such financial incapacity is proven and established to the satisfaction of the City Manager of the City of Ashland, or his designee, by sworn affidavit or other properly authenticated records shall be Fifty Dollars (\$50.00). The deposit will be refunded after two (2) years (24 months) service if the customer has not been delinquent on any payments due to the fault of the customer. Only one deposit fee is required for water, sewer and sanitation.

2.6 ADJUSTING METER PITS

The cost of adjusting meters to grade shall be the actual cost. Actual cost is defined as all costs incurred to complete installation including, but not limited to, labor, materials and equipment use charges.

2.7 MONTHLY FIRE PROTECTION METER CHARGES.

2.7.1 MONTHLY FIRE PROTECTION CHARGES INSIDE CITY

The monthly fire protection meter charges shall be based upon the minimum bill or actual usage, whichever amount is greater.

2.7.2 MONTHLY FIRE PROTECTION CHARGES OUTSIDE CITY

Meter Size	Minimum Bill
5/8 x 3/4"	\$13.00
1"	\$20.00
1½"	\$37.00
2"	\$53.00
3"	\$96.00
4"	\$152.00
6"	\$295.00
8"	\$490.00
10"	\$1,100.00
12"	\$1,500.00

2.8 HYDRANT METER.

The City of Ashland may authorize a meter for temporary installation of a fire hydrant. Any individual requesting and using such meter shall pay the applicable user charges, with a minimum charge of Three Dollars and Fifty Cents (\$3.50) per day, a Twenty Six Dollars (\$26.00) fee each for, turn on and turn off, and shall provide a One Hundred Fifty Dollar (\$150.00) deposit subject to all other conditions of this ordinance.

SECTION 3. MANNER OF BILLING FOR SERVICE.

3.1 INCLUDED ON UTILITY BILL.

The applicable fee for water service shall be billed as a separate item on the regular billing for water/sewer/sanitation service by the City of Ashland and said charge shall be payable in the same manner and within the same penalty-free period as required for payment of charges for sewer and sanitation service.

3.2 CUSTOMER ACCOUNTABLE.

The utilities customer in whose name the water meter account is carried shall be held responsible for payment of the full amount of the utility service charges billed.

3.3 PAYMENTS CREDITED PRO-RATA.

All utility payments are credited pro rata to water, sewer and sanitation.

3.4 PROPERTY AUTHORITY.

The City of Ashland may demand proof of proper authorization to renters by the property owner regarding provision of all services, fees and charges.

SECTION 4. PENALTIES, FEES AND UTILITY SHUTOFF.

4.1 PENALTIES AND INTEREST.

Effective immediately all water charges remaining unpaid after they become due shall be charged a penalty of ten percent (10%) and interest at the rate of one and one-half percent (1½%) (18% per annum) per month. The due date shall be sixteen (16) calendar days from the date that the utility bills are delivered to the United States Postal Service. If the due date as computed in the previous sentence falls on a Saturday, Sunday or legal holiday, then the due date will be the next regular working day. But no such penalty and interest charges shall be less than Five Dollars (\$5.00) except that the minimum charge shall apply only after computing the entire bill including sewer, water and sanitation charges as appropriate and shall not be charged on any bill already including a late utility charge.

4.2 UTILITY SHUTOFF.

If charges for water service are not paid within thirty (30) days after the due date thereof, such water service shall be discontinued. In addition to the 10% penalty and interest charges, those service charges appearing in Section 2 shall be paid before water is reconnected. If a check used for payment following a shutoff notice is returned for insufficient funds, that service shall be shut off immediately without further notice.

4.3 BAD CHECK FEE.

Any account on which payment is made partially or wholly by a check which is returned for insufficient funds shall be charged a fee of Twenty-five Dollars (\$25.00) for such check. In addition, after the second such occurrence within a twelve (12) month period, the City may require payment by cash, cashier's check or money order for a twelve (12) month period. Thereafter, any single repetition shall cause the same requirements to be placed in effect indefinitely.

4.4 COLLECTION AGENCY FEE.

Any inactive account on which payment is overdue is subject to processing through a collection agency. Any such account shall have an additional fee of fifty percent (50%) added to the amount due.

SECTION 5. ADJUSTMENTS.

5.1 PAYMENT PLAN.

The City Manager or his designee is authorized to establish a payment plan in special circumstances when needed and is further authorized to cease such plan for any delinquency or non-payment. Generally, such payment plan shall be in writing.

5.2 UNUSUAL CIRCUMSTANCES.

The City Manager or his designee is authorized under unusual and/or special circumstances, non-reoccurring and rare in nature, to provide reasonable adjustments based upon such mitigating conditions which appear to require such adjustment to a utility bill. The burden of proof shall rest with the customer and there is absolutely no obligation on the City to provide any such adjustment. The City Manager or his designee shall maintain a file of any such adjustments granted under this policy for review by the Ashland Board of City Commissioners.

5.3 HIGH USAGE ADJUSTMENTS.

An adjustment may be made to individual residential water billings if a high usage occurs which causes volume to exceed 200% of the average usage during the previous twelve (12) months. An adjustment may be made for any amount over 200% of the average bill, however, no bill so adjusted shall be reduced to less than 3,000 gallons. The City may determine to extend this adjustment to more than one billing if it appears to be part of the same occasion.

This adjustment may only be granted once every five (5) years to the same household which shall include husband and wife as if they had each received an adjustment. No additional adjustment during this five (5) year period shall be made when the City determines that the customer of record was changed while a previous adjustee still resides at the same location.

If the adjustment involves rental property, the adjustment shall be recorded against the rental unit for the five (5) year period rather than the landlord's name. At the same time, the renter's name shall be listed as a customer of record who received an adjustment.

Any adjustment under this policy requires the approval of the Finance Director or his appointee.

SECTION 6. DELINQUENCY.

On or after the effective date of this section, if any charges for utility services provided by the City shall remain unpaid for thirty (30) days beyond the due date, the City shall refuse new service to the delinquent applicant until all charges are paid. The delinquency shall be deemed to exist whether the outstanding delinquency is in the name of the applicant or the spouse.

SECTION 7. REFUSAL OF SERVICE.

If any charges for utility and sanitation services remain unpaid for thirty (30) days beyond the date due, the City shall refuse new service for the same person at the same or any other location until all charges are paid.

SECTION 8. PENALTY FOR VIOLATION.

Any person, firm or corporation violating any of the provisions of this ordinance shall be deemed guilty of a misdemeanor and, upon conviction thereof, shall be punishable by a fine of not less than Twenty-five Dollars (\$25.00) nor more than the maximum fine enumerated in KRS 534.040 for a misdemeanor offense.

SECTION 9. SEVERABILITY.

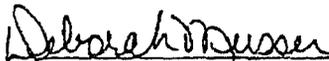
If any section, provision, or part of this ordinance shall be adjudged to be invalid or unconstitutional, such adjudication shall not affect the validity of this ordinance as a whole or any section, provision or part thereof, not so adjudged as invalid or unconstitutional.

SECTION 10. Ordinance No. 80, series of 2005, being an ordinance of the City of Ashland entitled, "AN ORDINANCE OF THE CITY OF ASHLAND, KENTUCKY, ESTABLISHING WATER RATES, TAP FEES, INSTALLATION CHARGES, SERVICE CHARGES, PENALTIES, AND INTEREST AND REPEALING ORDINANCE NO. 79, SERIES OF 1995" as amended by Ordinance No. 25, Series of 2007, is hereby repealed and all other ordinances and parts of ordinances in conflict, to the extent of such conflict only, are hereby repealed.

SECTION 11. After its adoption, readoption and publication, as required by law, this ordinance shall be in full force and effect from and after publication, and shall apply to all utility billing rendered October 1, 2008, and after.


MAYOR

ATTEST:


CITY CLERK

ADOPTED BY THE BOARD OF COMMISSIONERS: June 5, 2008
READOPTED BY THE BOARD OF COMMISSIONERS: JUN 09 2008
PUBLISHED: _____

REQUESTED/SPONSORED BY: STEPHEN W. CORBITT, CITY MANAGER
Ordinance/Water Rates.2008

Water Tank Painting Reimbursement (2007)

The Big Sandy Water District has not had a general rate increase since 1985. The only water rate increases seen in the BSWD over the years has been direct "pass through," when suppliers (Kenova, Louisa, Cannonsburg) raise their rates to BSWD.

Subsequently in 2005 they borrowed \$150,000 locally to paint (3) three tanks that were in desperate need of painting after 20 years of service. Since the District knew that they had a Rural Development project forthcoming, they planned on rolling that short term loan into the long term RD loan.

This investment is reflected in the Budget at Appendix A.

Asset Management

The BSWD at the influence of the PSC has concluded that they should begin setting aside funds for the replacement of deteriorating assets. The worksheets for the calculation of Assets replacement by retired manager Bob McGlothlin are included herewith in Appendix "D". Also narrative description of Asset Management is also included in Appendix D.

Mr. McGlothlin's calculations indicate a need of \$48,000 to \$50,000 per year for Asset Management.

General Additional Revenue Needs per Bob McGlothlin, Manager in 2007

Annual

Employees Additional Health Care Premiums	= \$ 6,000
Added Commissioner	= \$ 6,000
Debt Service for \$300,000 KRWA loan	= \$ 23,000
Asset Management	= \$ 48,000
Additional Revenue to meet shortfalls since 2006	= \$ 83,000
Plus future reserves	= \$ 60,000

TOTAL Estimated Needs = \$226,000

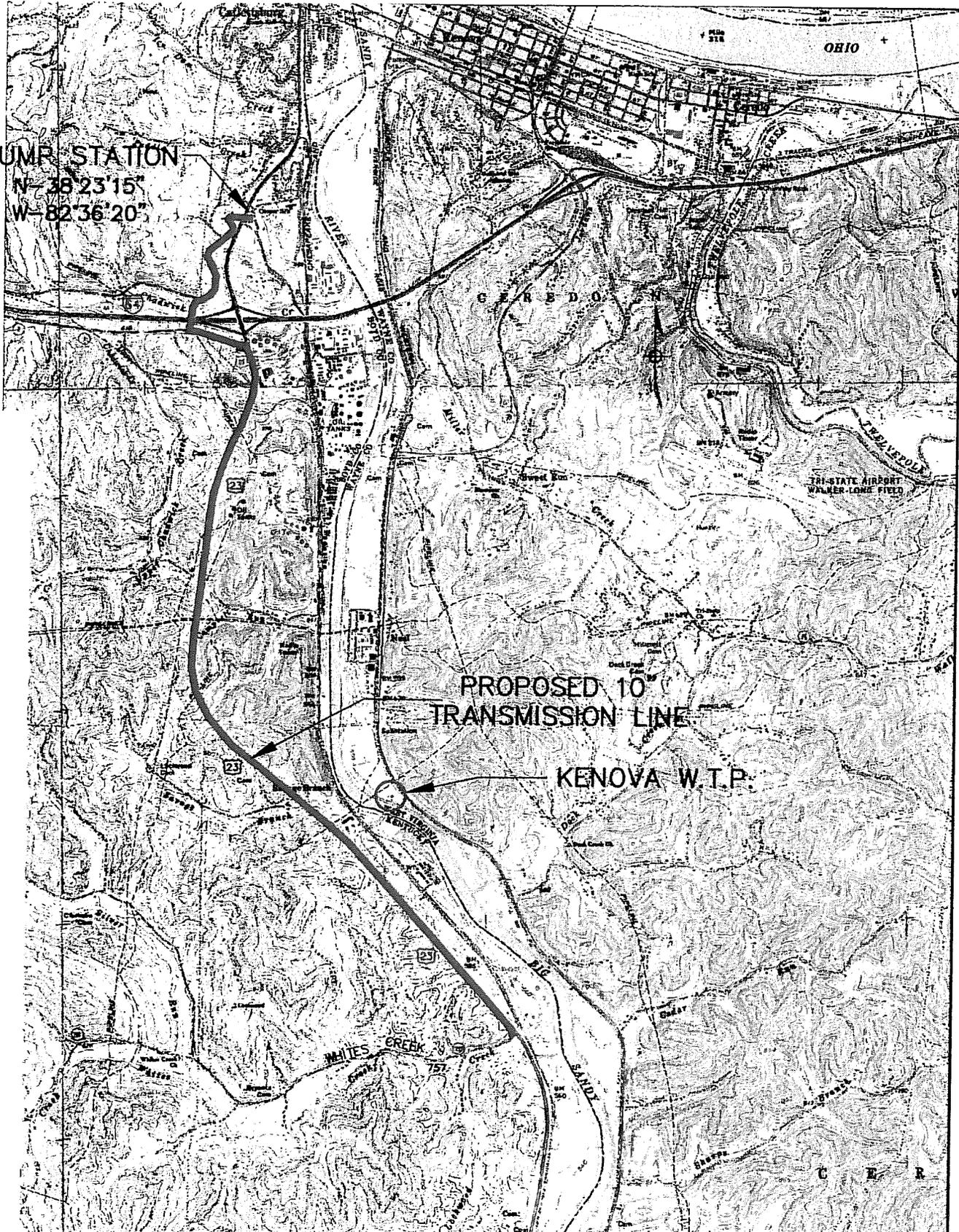
$\$226,000 / 4,340 \text{ customers} / 12 \text{ months} = \$4.34/\text{mo. per average bill}$
Average monthly bill is 3900 gallons

APPENDIX D
SYSTEM MAPS



PUMP STATION

N-38°23'15"
W-82°36'20"



SCALE: 1:4000

DATE: 3/10

DRAWN BY: BMB

CHECKED BY: JFS

APPROVED BY: JFS



BIG SANDY WATER DISTRICT WATER TRANSMISSION LINE & PUMP STATION BOYD COUNTY, KENTUCKY

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CAD FILE NO: 05099

DWG NO: 1 of 1