



Butler County
Water System

Preliminary Engineering Report

Project 18

November, 2016





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General

Butler County Water System, Inc. (Butler Water) provides water service to Butler County, KY outside the service area of the Morgantown Utilities Commission. In addition, Butler Water serves a portion of eastern Muhlenberg County. As of November 2016, Butler Water serves approximately 4,800 active customers. It is estimated that there are approximately 13 households within the Water System's service area that do not have access to an approved public water supply. The people living in almost all of these households are drinking contaminated water and the Water System is continuing its efforts to alleviate this problem. The Water System will also install an Automatic Meter Reading (AMR) system to improve the efficiency of the meter reading operation and improve water accountability for the entire service area.

The Water System has applied to Rural Development (RD) for funds to construct water lines in five (5) areas of Butler County that do not have a source of pure drinking water. The project also includes installation of an AMR system. The information provided in this report more fully describes the proposed project (Project 18), the need for the improvements, and supplies appropriate financial summaries.

Summary and Conclusions

The water line extensions and other system improvements referred to as Project 18 and as illustrated on the enclosed map (Exhibit A) are greatly needed to alleviate a serious health hazard. Examples of the current water supplies for the specific households effected by the project are collecting rain water off the house roof, drawing water from a wet-weather pond, and hauling water in a 275 gallon plastic tote on a trailer. These methods of obtaining water expose the members of the household to fecal material and parasites.

The proposed project to serve approximately 10 new households and upgrade the metering system is economically feasible with a 9.75 percent general rate increase and a \$1,730,000 loan from RD. The project qualifies for the RD intermediate level interest rate on loan funds (1.875 percent).



Project Description

The proposed project consists of construction of approximately 22,860 feet of 4-inch water mains and appurtenances. Approximately 10 meters will be installed adjacent to the mains to serve approximately 23 people. As shown on the enclosed map (Exhibit A), the extensions are located throughout the Water System's service area. The AMR system installation will require modifications to all 4,800 customer meters.

The Project Budget, which includes estimates of various costs and funding sources for the project, is presented on the next page.



Preliminary Engineering Report
Project 18

PROJECT BUDGET
WATER SYSTEM ADDITIONS - PROJECT 18
LINE EXTENSIONS & AMR SYSTEM
BUTLER COUNTY WATER SYSTEM, INC.

PROJECT COSTS:

1. Construction		
a. Distribution Lines	\$ 385,000.00	
b. Automated Meter Reading System	\$ 950,000.00	
c. Acoustic Listening Devices	\$ 200,000.00	
	<u> </u>	\$ 1,535,000.00
2. Engineering		
a. Design & General Engineering During Construction	\$ 46,800.00	
b. Inspection	\$ 15,400.00	
	<u> </u>	\$ 62,200.00
3. Administrative Expenses		\$ 10,000.00
4. Easement and Site Acquisition		\$ 5,000.00
5. Legal Costs		\$ 6,200.00
6. Interest During Construction		\$ 33,500.00
7. Contingency		\$ 82,600.00
		<u> </u>
TOTAL PROJECT COST		\$ 1,734,500.00

PROJECT FUNDING:

1. RD Loan		\$ 1,730,000.00
2. Water System Contribution - Tap Fees		\$ 4,500.00
		<u> </u>
TOTAL FUNDING		\$ 1,734,500.00



Household Income Information

Qualifications for funding from RD are based in part on the median income level of the households affected by the project. In order to qualify for the intermediate interest rate available, the median income level for households in the project area must be below \$43,342. An examination of U.S. Census data indicates that the median household income in Butler County is \$34,581. Since this income level is well below the required amount, the project qualifies for the intermediate level interest rate of 1.875 percent on RD loan funds.

Financial Considerations and Proposed Water Rates

The methodology used in developing the Butler Water's existing rate schedule was taken from the American Water Works Association, Manual M-1, Water Rates, Section 5, "Rate Design for Small Utilities", published by the AWWA in 2000. Basic philosophy and methodology presented in other sections of that manual were also incorporated into the rate design.

It was determined that with the additional debt service and operating expenses resulting from the proposed project, a rate increase averaging 9.75 percent is required. This increase will also allow an adequate margin for depreciation funds to be accumulated for system maintenance, minor improvements, and special programs.



As Butler Water's facilities continue to age and more facilities are added, the need for expenditures on maintenance and upkeep is expected to increase. Examples of major upcoming expenditures from depreciation funds include tank maintenance, plant maintenance, meter and line replacement programs. These are only a few examples of the many uses of depreciation funds that are required for system upkeep. Therefore, it is very important for Butler Water to implement water rates that result in sufficient revenue so that these funds will be available.

The schedule of water rates recommended in conjunction with this project is shown on the following page. Following the rate schedule is the Proforma Adjustment which shows the estimated revenues (which include the rate increase) and expenses for the first full year of operation after the completion of Project 18. Appendix A contains the Analysis of Actual Water Usage and Forecast of Water Usage income for the first year of operation. Appendix B contains the Forecast of Water Usage income for the new users.



Schedule of Proposed Water Rates (Includes 9.75% Rate Adjustment)

5/8 X 3/4-Inch Meter

First	2,000 Gallons	\$20.35 Minimum Bill
Next	4,000 Gallons	5.89 per 1,000 Gallons
Next	44,000 Gallons	5.24 per 1,000 Gallons
Next	50,000 Gallons	4.50 per 1,000 Gallons
Over	100,000 Gallons	3.75 per 1,000 Gallons

1-Inch Meter

First	5,000 Gallons	\$38.61 Minimum Bill
Next	1,000 Gallons	5.89 per 1,000 Gallons
Next	44,000 Gallons	5.24 per 1,000 Gallons
Next	50,000 Gallons	4.50 per 1,000 Gallons
Over	100,000 Gallons	3.75 per 1,000 Gallons

1-1/2-Inch Meter

First	10,000 Gallons	\$68.99 Minimum Bill
Next	40,000 Gallons	5.24 per 1,000 Gallons
Next	50,000 Gallons	4.50 per 1,000 Gallons
Over	100,000 Gallons	3.75 per 1,000 Gallons

2-Inch Meter

First	16,000 Gallons	\$101.26 Minimum Bill
Next	34,000 Gallons	5.24 per 1,000 Gallons
Next	50,000 Gallons	4.50 per 1,000 Gallons
Over	100,000 Gallons	3.75 per 1,000 Gallons

3-Inch Meter

First	25,000 Gallons	\$164.37 Minimum Bill
Next	25,000 Gallons	5.24 per 1,000 Gallons
Next	50,000 Gallons	4.50 per 1,000 Gallons
Over	100,000 Gallons	3.75 per 1,000 Gallons

4-Inch Meter

First	30,000 Gallons	\$227.39 Minimum Bill
Next	20,000 Gallons	5.24 per 1,000 Gallons
Next	50,000 Gallons	4.50 per 1,000 Gallons
Over	100,000 Gallons	3.75 per 1,000 Gallons

6-Inch Meter

First	60,000 Gallons	\$397.19 Minimum Bill
Next	40,000 Gallons	4.50 per 1,000 Gallons
Over	100,000 Gallons	3.75 per 1,000 Gallons

8-Inch Meter

First	80,000 Gallons	\$503.80 Minimum Bill
Next	20,000 Gallons	4.50 per 1,000 Gallons
Over	100,000 Gallons	3.75 per 1,000 Gallons

PROFORMA ADJUSTMENT WITH LINE EXTENSIONS & AMR
WATER SYSTEM ADDITIONS - PROJECT 18
BUTLER COUNTY WATER SYSTEMS, INC.

	<u>EXISTING SYSTEM</u>	<u>CHANGES ON EXISTING SYSTEM</u>	<u>CHANGES DUE TO NEW PROJECT 18 CUSTOMERS</u>	<u>TOTAL FUTURE SYSTEM AFTER PROJECT</u>
OPERATING REVENUE:				
METERED & OTHER				
Meter Sales Revenue	\$1,844,222	\$179,857	(1) \$3,144	(3) \$2,027,223
Forfeited Discounts	31,389	0	0	31,389
Misc. Service Revenue	27,595	0	0	27,595
Other Water Revenue	55	0	0	55
Income-Interest	7,670	0	0	7,670
Disposition Gain/Losses.	<u>3,875</u>	<u>0</u>	<u>0</u>	<u>3,875</u>
TOTAL OPERATING REVENUE	\$1,914,806	\$179,857	\$3,144	\$2,097,807
OPERATING EXPENSE:				
SOURCE OF SUPPLY & PUMP. EXP.				
Salaries and Wages	\$365,290	\$0	(\$60,000)	(4) \$305,290
Commissioner Fees	18,000	0	0	18,000
Employee Overhead	238,758	0	(39,217)	(4) 199,541
Purchased Water	0	0	0	0
Purchased Power	129,443	0	163	(5) 129,606
Chemicals	54,220	0	68	(5) 54,288
Materials & Supplies	46,336	0	360	(5) 46,696
Cont. Services-Engr	0	0	0	0
Cont. Services-Accounting	9,474	0	0	9,474
Cont. Services-Legal	0	0	0	0
Cont. Services-Other	143,795	0	181	(5) 143,976
Rental of Building & Utilities	15,400	0	0	15,400
Equipment Expense	56,403	0	438	(5) 56,841
Insurance-Gen'l Liability	23,999	0	0	23,999
Insurance-Other	1,065	0	0	1,065
Regulatory Expense	3,697	0	0	3,697
Bad Debt Expense	2,402	0	5	2,407
Misc. Expense	<u>3,170</u>	<u>0</u>	<u>0</u>	<u>3,170</u>
TOTAL OPERATING EXPENSE	\$1,111,452	\$0	(\$98,002)	\$1,013,450
OTHER EXPENSES				
Depreciation	\$589,994	\$0	\$65,200	(6) \$655,194
Misc. Non-Operating Income	(21)	0	0	(21)
Misc. Non Operating Expense	0	0	0	0
Unamortized Debt Expense	<u>6,440</u>	<u>0</u>	<u>0</u>	<u>6,440</u>
TOTAL OTHER EXPENSES	596,413	0	65,200	661,613
PRINCIPAL & INTEREST EXPENSE:				
Existing Principal - Other	\$150,000	(10,000)	(2) 0	140,000
Existing Interest - Other	96,520	(16,100)	(2) 0	80,420
Existing Principal - RDA	59,908	(6,766)	(2) 0	53,142
Existing Interest - RDA	69,518	(10,135)	(2) 0	59,383
New Principal - RDA	0	0	54,879	(7) 54,879
New Interest - RDA	<u>0</u>	<u>0</u>	<u>32,438</u>	(7) <u>32,438</u>
TOTAL PRINCIPAL & INTEREST	375,946	(43,001)	87,316	420,261
TOTAL EXPENSES	<u>\$2,083,811</u>	<u>(\$43,001)</u>	<u>\$54,515</u>	<u>\$2,095,325</u>
NET UTILITY OPERATING INCOME	<u>(\$169,005)</u>	<u>\$222,858</u>	<u>(\$51,371)</u>	<u>\$2,482</u>

NOTES:

- (1) PROJECT 18 RATE INCREASE ON EXISTING CUSTOMERS OF 9.75%
- (2) ADJUSTMENT BASED ON LOAN AMORTIZATION SCHEDULES FOR FIRST FULL YEAR OF OPERATION
- (3) REVENUE FROM NEW CUSTOMERS
- (4) METER READING LABOR & OVERHEAD SAVINGS DUE TO AMR
- (5) INCREASE IN EXPENSE BASED ON IMPROVEMENTS TO SERVE NEW CUSTOMERS
- (6) DEPRECIATION FOR WATER LINE IMPROVEMENTS (50 YR) & AMR SYSTEM (20 YR)
- (7) PRINCIPAL & INTEREST PAYMENT FOR PROJECT BASED ON 25 YR TERM & 1.875% INTEREST RATE



Appendix A

ANALYSIS OF ACTUAL WATER USAGE AND
FORECAST OF WATER USAGE INCOME

INCLUDES 9.75% RATE INCREASE AS PROPOSED)

5/8" METERS:

<u>USAGE/MON</u>	<u>AVG</u>	<u>RESIDENTIAL</u>				<u>COMMERCIAL</u>			
		<u>AVG BILL</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	
0 TO 2,000	934	20.35	16,312	15,235,408	\$331,949	2,274	2,123,916	\$46,276	
2 TO 3,000	2,513	23.37	9,672	24,305,736	226,035	212	532,756	4,954	
3 TO 4,000	3,484	29.09	9,084	31,648,656	264,254	141	491,244	4,102	
4 TO 5,000	4,479	34.95	6,204	27,787,716	216,830	113	506,127	3,949	
5 TO 6,000	5,466	40.76	4,234	23,143,044	172,578	95	519,270	3,872	
6 TO 7,000	6,463	46.34	2,604	16,829,652	120,669	64	413,632	2,966	
7 TO 8,000	7,474	51.63	1,575	11,771,550	81,317	35	261,590	1,807	
8 TO 9,000	8,450	56.75	1,178	9,954,100	66,852	30	253,500	1,703	
9 TO 10,000	9,456	62.02	716	6,770,496	44,406	34	321,504	2,109	
10 TO 11,000	10,470	67.33	502	5,255,940	33,800	19	198,930	1,279	
11 TO 12,000	11,463	72.54	336	3,851,568	24,373	14	160,482	1,016	
12 TO 14,000	12,924	80.19	339	4,381,236	27,184	36	465,264	2,887	
14 TO 16,000	14,920	90.65	218	3,252,560	19,762	32	477,440	2,901	
16 TO 18,000	16,935	101.21	188	3,183,780	19,027	24	406,440	2,429	
18 TO 20,000	18,923	111.63	125	2,365,375	13,954	15	283,845	1,674	
20 TO 25,000	22,248	129.05	168	3,737,664	21,680	19	422,712	2,452	
25 TO 30,000	27,128	154.62	87	2,360,136	13,452	22	596,816	3,402	
30 TO 40,000	34,066	190.98	73	2,486,818	13,942	22	749,452	4,202	
40 TO 50,000	44,108	243.60	19	838,052	4,628	6	264,648	1,462	
50 TO 75,000	61,536	326.38	13	799,968	4,243	7	430,752	2,285	
75 TO 100,000	87,860	444.84	18	1,581,480	8,007	13	1,142,180	5,783	
100 TO 150,000	116,393	560.94	15	1,745,895	8,414	16	1,862,288	8,975	
150 TO 200,000	171,373	767.12	2	342,746	1,534	1	171,373	767	
200 TO 300,000	0	0.00	0	0	0	0	0	0	
300 TO 400,000	346,290	1423.06	1	346,290	1,423	0	0	0	
400 TO 500,000	0	0.00	0	0	0	0	0	0	
500 TO ABOVE	0	0.00	0	0	0	0	0	0	
SUBTOTALS			53,683	203,975,866	\$1,740,313	3,244	13,056,161	\$113,252	
AVG. RATE				\$8.54					
AVG. USAGE				3,800			4,025		

1" METERS

<u>USAGE/MON</u>	<u>AVG</u>	<u>RESIDENTIAL</u>				<u>COMMERCIAL</u>			
		<u>AVG BILL</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	
0 TO 5,000	1,606	38.61	174	279,444	6,718	128	205,568	4,942	
5 TO 6,000	5,550	41.85	27	149,850	1,130	6	33,300	251	
6 TO 7,000	6,409	46.64	17	108,953	793	11	70,499	513	
7 TO 8,000	7,402	51.85	15	111,030	778	11	81,422	570	
8 TO 9,000	8,431	57.24	13	109,603	744	10	84,310	572	
9 TO 10,000	9,456	62.61	10	94,560	626	12	113,472	751	
10 TO 11,000	10,484	68.00	4	41,936	272	7	73,388	476	
11 TO 12,000	11,513	73.39	8	92,104	587	11	126,643	807	
12 TO 14,000	12,865	80.47	7	90,055	563	18	231,570	1,448	
14 TO 16,000	14,944	91.37	10	149,440	914	8	119,552	731	
16 TO 18,000	16,928	101.76	7	118,496	712	7	118,496	712	
18 TO 20,000	18,921	112.21	8	151,368	898	8	151,368	898	
20 TO 25,000	22,504	130.98	11	247,544	1,441	20	450,080	2,620	
25 TO 30,000	27,597	157.67	8	220,776	1,261	25	689,925	3,942	
30 TO 40,000	33,908	190.74	9	305,172	1,717	23	779,884	4,387	
40 TO 50,000	44,039	243.82	3	132,117	731	6	264,234	1,463	
50 TO 75,000	62,173	329.84	13	808,249	4,288	18	1,119,114	5,937	
75 TO 100,000	87,382	443.28	1	87,382	443	11	961,202	4,876	
100 TO 150,000	118,110	549.71	6	708,660	3,298	17	2,007,870	9,345	
150 TO 200,000	173,849	758.73	2	347,698	1,517	11	1,912,339	8,346	
200 TO 300,000	245,208	1026.33	2	490,416	2,053	11	2,697,288	11,290	
300 TO 400,000	307,600	1260.30	0	0	0	1	307,600	1,260	
400 TO 500,000	470,290	1870.39	0	0	0	1	470,290	1,870	
500 TO ABOVE	642,030	2514.41	0	0	0	1	642,030	2,514	
SUBTOTALS			355	4,844,853	\$31,484	382	13,711,444	\$70,521	

1 1/2" METERS:

			<u>RESIDENTIAL</u>				<u>COMMERCIAL</u>			
<u>USAGE/MON</u>		<u>AVG</u>	<u>AVG</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	
		<u>BILL</u>								
0 TO 10,000		3,253	68.99	0	0	0	12	39,036	828	
10 TO 11,000		0	0.00	0	0	0	0	0	0	
11 TO 12,000		0	0.00	0	0	0	0	0	0	
12 TO 14,000		0	0.00	0	0	0	0	0	0	
14 TO 16,000		0	0.00	0	0	0	0	0	0	
16 TO 18,000		17,100	106.19	0	0	0	1	17,100	106	
18 TO 20,000		18,850	115.36	0	0	0	2	37,700	231	
20 TO 25,000		24,150	143.14	0	0	0	2	48,300	286	
25 TO 30,000		27,700	161.74	0	0	0	4	110,800	647	
30 TO 40,000		31,100	179.55	0	0	0	1	31,100	180	
40 TO 50,000		40,800	230.38	0	0	0	2	81,600	461	
50 TO 75,000		60,425	325.50	0	0	0	4	241,700	1,302	
75 TO 100,000		85,367	437.74	0	0	0	6	512,202	2,626	
100 TO 150,000		104,250	519.53	0	0	0	2	208,500	1,039	
150 TO 200,000		0	0.00	0	0	0	0	0	0	
200 TO 300,000		0	0.00	0	0	0	0	0	0	
300 TO 400,000		0	0.00	0	0	0	0	0	0	
400 TO 500,000		0	0.00	0	0	0	0	0	0	
500 TO ABOVE		0	0.00	0	0	0	0	0	0	
SUBTOTALS				0	0	\$0	36	1,328,038	\$7,706	

2" METERS:

			<u>RESIDENTIAL</u>				<u>COMMERCIAL</u>			
<u>USAGE/MON</u>		<u>AVG</u>	<u>AVG</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	
		<u>BILL</u>								
0 TO 16,000		2,957	101.26	0	0	0	23	68,011	2,329	
16 TO 18,000		0	0.00	0	0	0	0	0	0	
18 TO 20,000		0	0.00	0	0	0	0	0	0	
20 TO 25,000		22,267	134.10	0	0	0	3	66,801	402	
25 TO 30,000		27,300	160.47	0	0	0	4	109,200	642	
30 TO 40,000		36,770	210.09	0	0	0	10	367,700	2,101	
40 TO 50,000		44,656	251.42	0	0	0	9	401,904	2,263	
50 TO 75,000		57,380	312.63	0	0	0	10	573,800	3,126	
75 TO 100,000		89,078	455.27	0	0	0	9	801,702	4,097	
100 TO 150,000		113,509	555.08	0	0	0	11	1,248,599	6,106	
150 TO 200,000		168,640	761.82	0	0	0	5	843,200	3,809	
200 TO 300,000		235,180	1011.35	0	0	0	5	1,175,900	5,057	
300 TO 400,000		0	0.00	0	0	0	0	0	0	
400 TO 500,000		0	0.00	0	0	0	0	0	0	
500 TO 750,000		0	0.00	0	0	0	0	0	0	
750 TO 1.0 M		0	0.00	0	0	0	0	0	0	
1.0 TO 1.5 M		0	0.00	0	0	0	0	0	0	
1.5 TO ABOVE		0	0.00	0	0	0	0	0	0	
SUBTOTALS				0	0	\$0	89	5,656,817	\$29,932	

3" METERS:

			<u>RESIDENTIAL</u>				<u>COMMERCIAL</u>			
<u>USAGE/MON</u>		<u>AVG</u>	<u>AVG</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	
		<u>BILL</u>								
0 TO 25,000		0	164.37	0	0	0	12	0	1,972	
25 TO 40,000		0	0.00	0	0	0	0	0	0	
40 TO 50,000		0	0.00	0	0	0	0	0	0	
50 TO 75,000		0	0.00	0	0	0	0	0	0	
75 TO 100,000		0	0.00	0	0	0	0	0	0	
100 TO 150,000		0	0.00	0	0	0	0	0	0	
150 TO 200,000		0	0.00	0	0	0	0	0	0	
200 TO 300,000		0	0.00	0	0	0	0	0	0	
300 TO 400,000		0	0.00	0	0	0	0	0	0	
400 TO 500,000		0	0.00	0	0	0	0	0	0	
500 TO 750,000		0	0.00	0	0	0	0	0	0	
750 TO 1.0 M		0	0.00	0	0	0	0	0	0	
1.0 TO 1.5 M		0	0.00	0	0	0	0	0	0	
1.5 TO ABOVE		0	0.00	0	0	0	0	0	0	
SUBTOTALS				0			12	0	\$1,972	

4" METERS:

			<u>RESIDENTIAL</u>				<u>COMMERCIAL</u>			
<u>USAGE/MON</u>	<u>AVG</u>	<u>AVG</u>	<u>BILL</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	
0 TO 30,000	3,063	227.39	0	0	0	0	19	58,197	4,320	
30 TO 50,000	41,900	289.75	0	0	0	0	1	41,900	290	
50 TO 75,000	56,750	362.57	0	0	0	0	6	340,500	2,175	
75 TO 100,000	0	0.00	0	0	0	0	0	0	0	
100 TO 150,000	0	0.00	0	0	0	0	0	0	0	
150 TO 200,000	0	0.00	0	0	0	0	0	0	0	
200 TO 300,000	0	0.00	0	0	0	0	0	0	0	
300 TO 400,000	0	0.00	0	0	0	0	0	0	0	
400 TO 500,000	0	0.00	0	0	0	0	0	0	0	
500 TO 750,000	0	0.00	0	0	0	0	0	0	0	
750 TO 1.0 M	0	0.00	0	0	0	0	0	0	0	
1.0 TO 1.5 M	0	0.00	0	0	0	0	0	0	0	
1.5 TO ABOVE	0	0.00	0	0	0	0	0	0	0	
SUBTOTALS				0			26	440,597	\$6,785	

6" METERS:

			<u>RESIDENTIAL</u>				<u>COMMERCIAL</u>			
<u>USAGE/MON</u>	<u>AVG</u>	<u>AVG</u>	<u>BILL</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	<u>NO. BILLS</u>	<u>USAGE</u>	<u>INCOME</u>	
0 TO 60,000	15,977	397.19	0	0	0	0	37	591,149	14,696	
60 TO 75,000	66,070	424.51	0	0	0	0	3	198,210	1,274	
75 TO 100,000	81,633	494.54	0	0	0	0	3	244,899	1,484	
100 TO 150,000	118,820	647.77	0	0	0	0	3	356,460	1,943	
150 TO 200,000	0	0.00	0	0	0	0	0	0	0	
200 TO 300,000	238,200	1095.44	0	0	0	0	1	238,200	1,095	
300 TO 400,000	378,600	1621.94	0	0	0	0	1	378,600	1,622	
400 TO 500,000	0	0.00	0	0	0	0	0	0	0	
500 TO 750,000	0	0.00	0	0	0	0	0	0	0	
750 TO 1.0 M	0	0.00	0	0	0	0	0	0	0	
1.0 TO 1.5 M	0	0.00	0	0	0	0	0	0	0	
1.5 TO 2.0 M	0	0.00	0	0	0	0	0	0	0	
2.0 TO 2.5 M	0	0.00	0	0	0	0	0	0	0	
2.5 TO 3.0 M	0	0.00	0	0	0	0	0	0	0	
3.0 TO 4.0 M	0	0.00	0	0	0	0	0	0	0	
4.0 TO 5.0 M	0	0.00	0	0	0	0	0	0	0	
5.0 TO ABOVE	0	0.00	0	0	0	0	0	0	0	
SUBTOTALS				0	0	\$0	48	2,007,518	\$22,114	

TOTALS	54,038	208,820,719	1,771,797	3,837	36,200,575	252,282
TOTAL CUSTOMERS	4,503			320		
AVG. CONSUMPTION PER MONTH		3,864			9,435	

ANNUAL WATER SOLD	208,820,719	36,200,575
ANNUAL WATER PURCH. OR PROD.	264,953,200	45,931,500
ANNUAL REVENUE	\$1,771,797	\$252,282

TOTAL ANNUAL WATER SOLD	245,021,294
TOTAL ANNUAL WATER PURCH. OR PROD.	310,884,700
TOTAL ANNUAL REVENUE	\$2,024,079



Appendix B

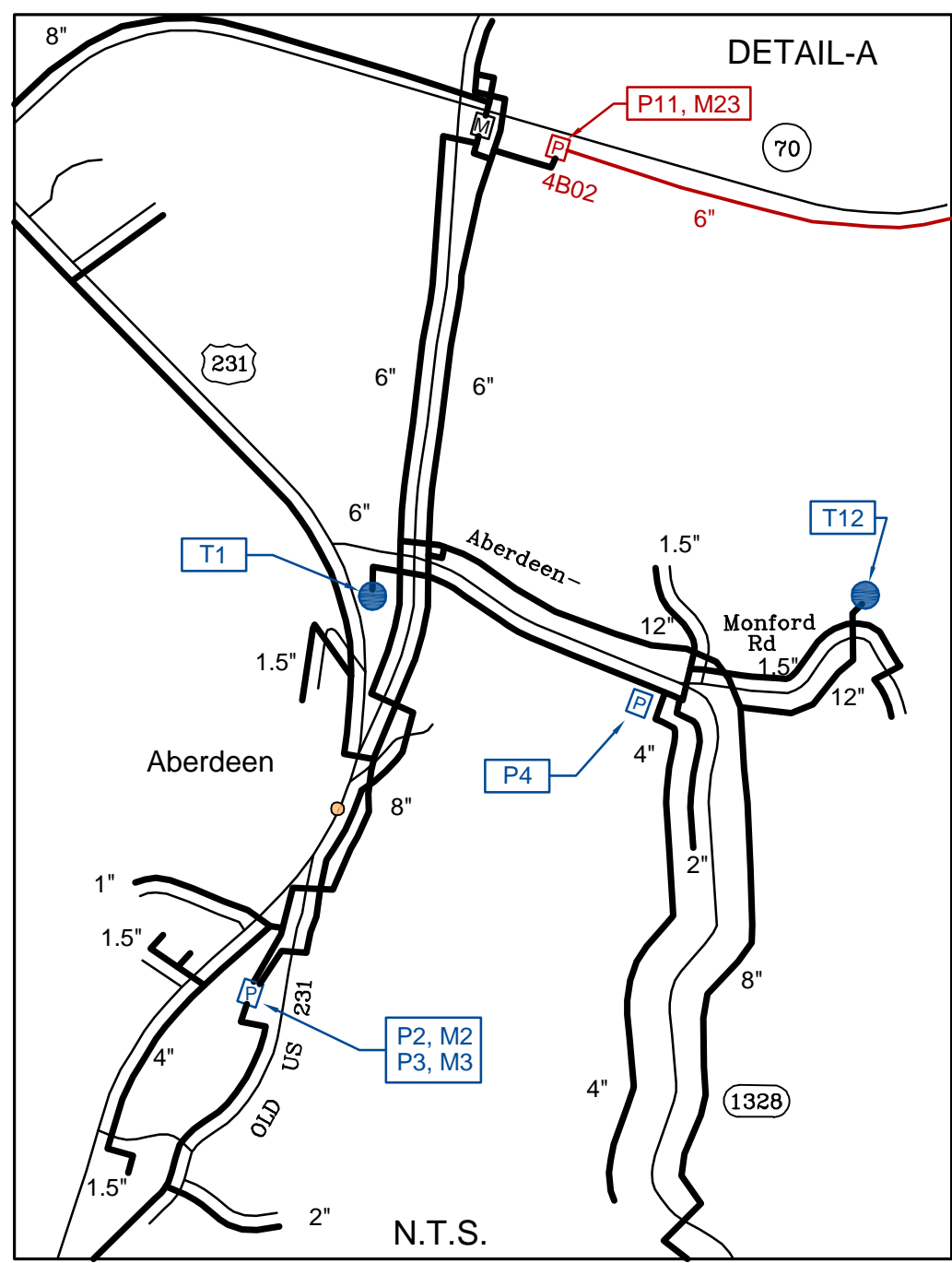
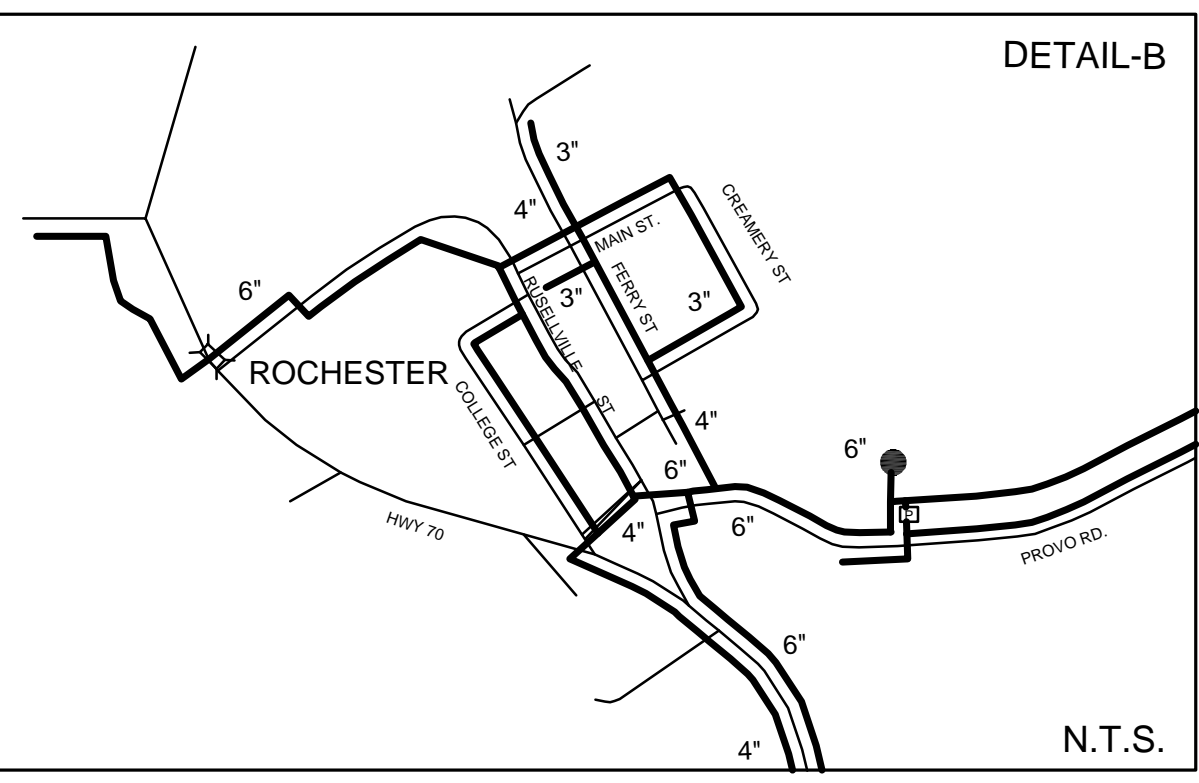
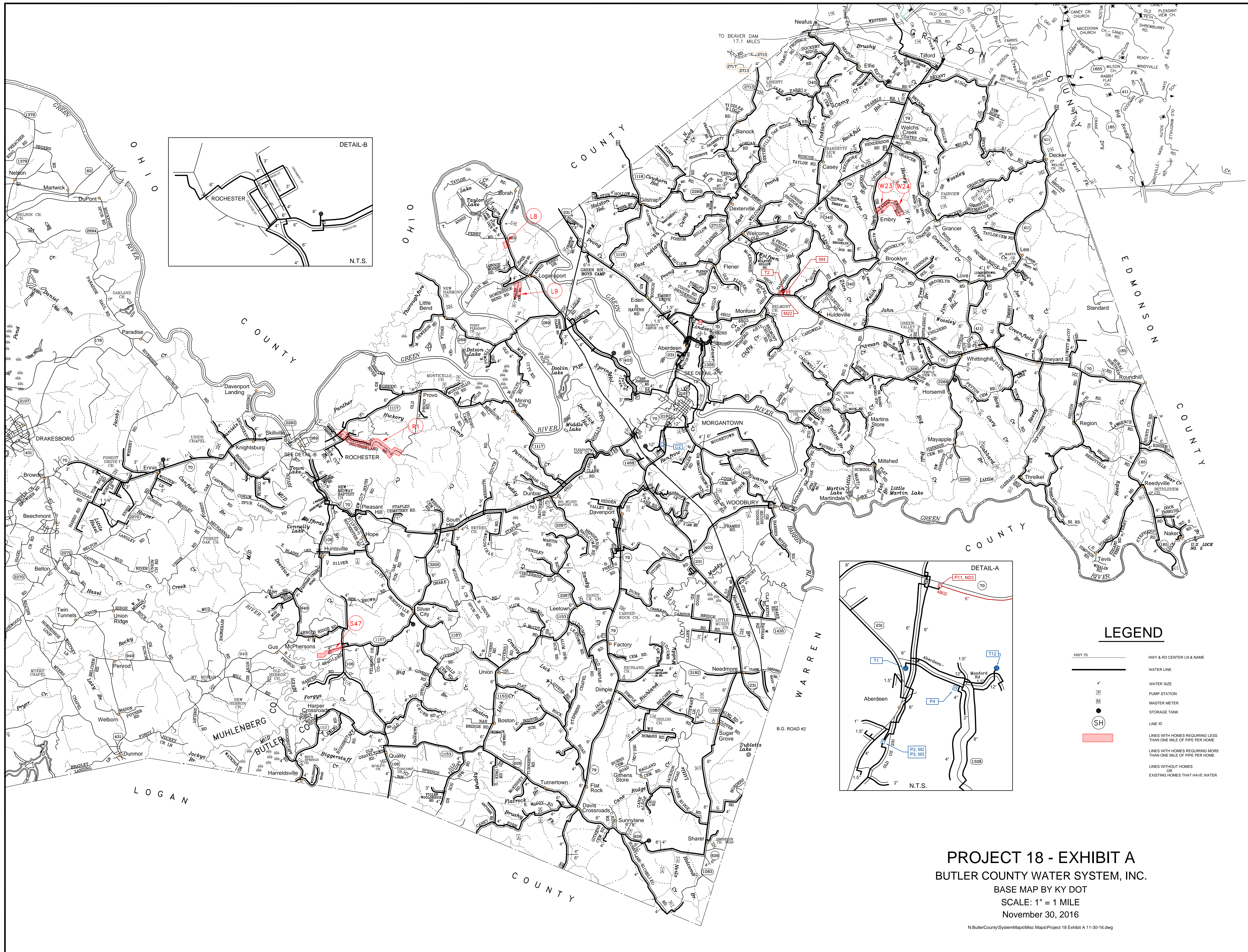
FORECAST OF WATER USAGE - INCOME - NEW USERS - EXTENSIONS ONLY

5/8 X 3/4 INCH METER

<u>MONTHLY WATER USAGE</u>			<u>Average</u>	<u>Average</u> <u>Bill</u>	<u>No. of</u> <u>Users</u>	<u>Residential/</u> <u>Farmer</u> <u>Usage</u>	<u>Income</u>	<u>No. of</u> <u>Users</u>	<u>Non-Residential/</u> <u>Commercial</u> <u>Usage</u>	<u>Income</u>	
0	-	2,000 Gal.	934	20.35	4	44,832	\$977	0	0	\$0	
2,000	-	3,000 Gal.	2,513	23.37	2	60,312	561	0	0	0	
3,000	-	4,000 Gal.	3,484	29.09	2	83,616	698	0	0	0	
4,000	-	5,000 Gal.	4,479	34.95	1	53,748	419	0	0	0	
5,000	-	6,000 Gal.	5,466	40.76	1	65,592	489	0	0	0	
6,000	-	7,000 Gal.	0	0.00	0	0	0	0	0	0	
7,000	-	8,000 Gal.	0	0.00	0	0	0	0	0	0	
8,000	-	9,000 Gal.	0	0.00	0	0	0	0	0	0	
9,000	-	10,000 Gal.	0	0.00	0	0	0	0	0	0	
10,000	-	11,000 Gal.	0	0.00	0	0	0	0	0	0	
11,000	-	12,000 Gal.	0	0.00	0	0	0	0	0	0	
12,000	-	14,000 Gal.	0	0.00	0	0	0	0	0	0	
14,000	-	16,000 Gal.	0	0.00	0	0	0	0	0	0	
16,000	-	18,000 Gal.	0	0.00	0	0	0	0	0	0	
18,000	-	20,000 Gal.	0	0.00	0	0	0	0	0	0	
20,000	-	25,000 Gal.	0	0.00	0	0	0	0	0	0	
25,000	-	30,000 Gal.	0	0.00	0	0	0	0	0	0	
30,000	-	40,000 Gal.	0	0.00	0	0	0	0	0	0	
40,000	-	50,000 Gal.	0	0.00	0	0	0	0	0	0	
50,000	-	75,000 Gal.	0	0.00	0	0	0	0	0	0	
75,000	-	100,000 Gal.	0	0.00	0	0	0	0	0	0	
100,000	&	ABOVE Gal.	0	0.00	0	0	0	0	0	0	
ANNUAL TOTALS						10	308,100	\$3,144	0	0	\$0
			AVG. RATE	\$10.21							
			AVG. USAGE		2,568						



Exhibit A



LEGEND

- HWY RD
- 4"
- 6"
- 8"
- 12"
- SH
- WATER LINE
- WATER SIZE
- PUMP STATION
- MASTER METER
- STORAGE TANK
- LINE ID
- PIPES WITH HOMES REQUIRING LESS THAN ONE MILE OF PIPE PER HOME
- PIPES WITH HOMES REQUIRING MORE THAN ONE MILE OF PIPE PER HOME
- PIPES WITHOUT HOMES OR EXISTING HOMES THAT HAVE WATER

PROJECT 18 - EXHIBIT A
BUTLER COUNTY WATER SYSTEM, INC.
 BASE MAP BY KY DOT
 SCALE: 1" = 1 MILE
 November 30, 2016

N:\ButlerCounty\SystemMaps\Misc Maps\Project 18 Exhibit A 11-30-16.dwg

