4. Provide the preliminary engineering report and final engineering report on the 2013 renovation.

Response: See the attached documentation that includes the following:

Preliminary Engineering Report – Phase 1

Summary & Addendum to PER – Phase 1

Preliminary Engineering Report – Phase 2

Summary & Addendum to PER – Phase 2

Final Engineering Report Supplement – Phases 1 & 2

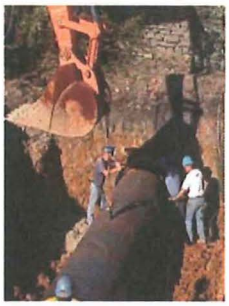
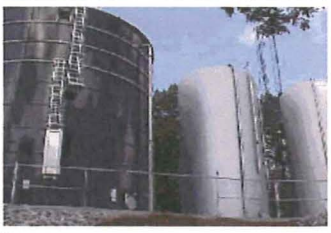
Witness: Michael McGhee

Preliminary Engineering Report

Central City Water & Sewer
Water Treatment Plant Expansion Project

September 9, 2009





WD 4

McGhee Engineering, Inc.
202 South Ewing Street
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PRELIMINARY ENGINEERING REPORT
CENTRAL CITY WATER & SEWER

WATER TREATMENT PLANT EXPANSION PROJECT

Central City, Kentucky

prepared for the:

Central City Water & Sewer Board
214 North 1st St.
Central City, KY 42330
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9-9-09

Preliminary Engineering Report
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Preliminary Engineering Report
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E-1	Location of Improvements
E-2	Water System Service Areas
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A	Clearinghouse Review Letter
B	Sample Letter to Adjoining Systems

1.0 INTRODUCTION

Central City is a fourth class city with a population in the 2000 census of 5,893. It is the largest city in Muhlenberg County with about 19% of the county's 31,839 residents; however it is not the county seat. The community was first formed in 1826 and later incorporated as Central City in 1882. The city is governed by a Mayor and an eight member city council. Central City also has a full-time city administrator.

The Central City Municipal Water and Sewer Board is charged with managing and operating the Central City municipal water and wastewater system. The board is appointed by the Mayor and Council and consists of five members. The water and sewer department has 17 employees and an annual budget of approximately $2,000,000.

Central City serves 2,325 water and 2,325 sewer customers directly. In addition, the water plant provides water to the Muhlenberg County Water District, Muhlenberg County Water District No. 3, the Cities of Drakesboro and Sacramento, and to the TVA Paradise Steam Plant. In all, Central City is responsible for providing drinking water to over 11,500 households, businesses and industries, representing nearly 30,000 persons.

Central City currently operates a 4 MGD water treatment plant and a 1.2 MGD wastewater treatment plant. Both plants are nearing capacity and will require expansion in the near future. Because the water treatment plant capacity issue is most critical, and because it serves the larger number of customers, Central City has elected to pursue a project to expand it first.

The proposed project involves expansion of the existing 4 MGD water treatment plant to 7 MGD. This work will include expansion of the intake pumping capacity, construction of new flocculation and sedimentation basins, expansion and rehabilitation of existing chemical storage and feed systems, upgrade of the existing filters, construction of a new clearwell and high service pump station, rehabilitation and replacement of plant electrical and control equipment, renovation and repair some of plant piping, valves and mechanical systems and addition of generators at the intake and treatment plant.

A detailed engineering report addressing the plant expansion has been prepared by Strand Associates, Inc. and will be distributed separately from this report.

In addition to the work at the water treatment plant, distribution improvements will be required to improve the capacity and operability of the system. These improvements will include construction of a new 1 million gallon water storage tank, replacement of undersized lines, addition and renovation of valves in the distribution system and implementation of a new SCADA system.

2.0 PROJECT PLANNING AREA

2.1 *Location*

The work will take place at the existing Central City water treatment plant, the existing raw water intake on the Green River, and within the Central City distribution system. A new water storage tank will be constructed adjacent to the existing Stringtown tank. The location of these improvements is shown on Exhibit E-1.

2.2 *Land Use and Environmental Resources Present*

All work proposed will take place within the city limits of Central City. The water plant and intake work will take place at the existing water plant and intake sites on land owned by Central City. The distribution system improvements will take place primarily in existing street right of way, or within existing easements. The project will affect two main resources during construction: residential and transportation. The general construction effect to the resources is the disturbances associated with building the facilities. Industrial, commercial, residential and agriculture resources within the majority of Muhlenberg County will be affected upon completion of the project by providing increased availability of treated water, enhanced fire protection and abundant storage capacity.

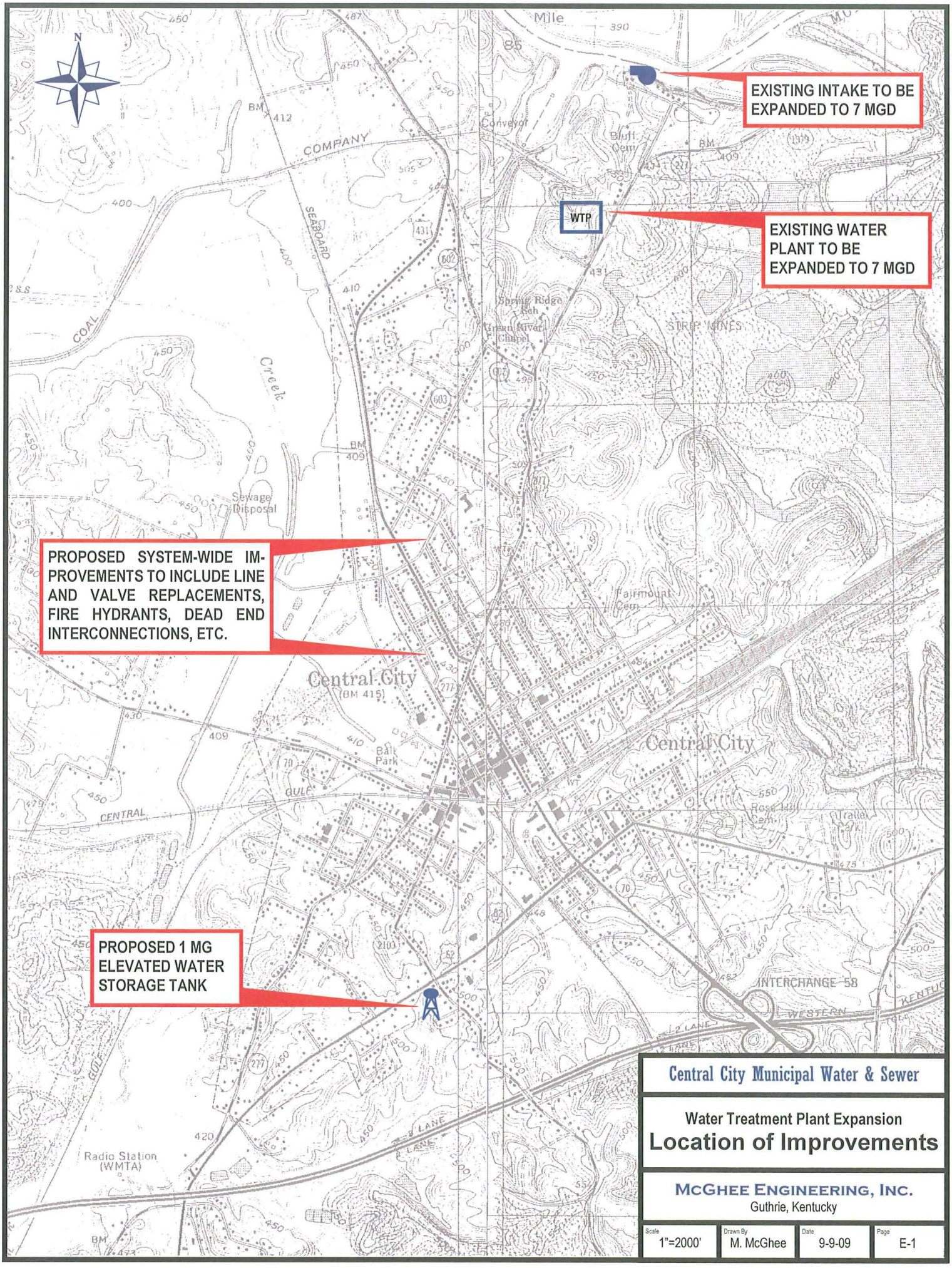
The project has been reviewed by the Kentucky State Clearinghouse. The Clearinghouse review identified no conflicts with state or local planning, and recommended approval of the project. The Clearinghouse review letter is included in Appendix A. An archeological investigation may be required of the tank site to determine if the proposed tank site affects historical and archeological resources that may be eligible for listing in the National Register for Historical Places. Since the currently proposed location is on land owned by Central City, and is immediately adjacent to an existing elevated water storage tank, there is a possibility that the archeological requirement may be waived.

The predominant natural resource in the area is coal. The area around Central City has been extensively mined over the past 100 years, and this mining activity continues today. In addition to mining, there is some oil and gas production and agricultural land use. The proposed project should not impact any of these uses negatively.

2.3 *Growth Areas and Population Trends*

The population history of Muhlenberg County is an important element in determining the growth patterns over recent years. Analysis of the population history will assist in forming a reliable estimate of the future water needs of the project area.

According to historical records, Muhlenberg County's population has hovered around 32,000 persons for the past 40 years. Table 1 provides the population history and projections of the county based on data obtained from the U.S. Bureau of the Census.



Central City Municipal Water & Sewer

Water Treatment Plant Expansion

Location of Improvements

McGhee Engineering, Inc.
Guthrie, Kentucky

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1"=2000'	M. McGhee	9-9-09	E-1

Table 1
Population History and Projections

	Historical												Projections			
YEAR	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2008	2020	2030	2040	2050
County Population	20,741	28,598	33,353	37,784	37,554	32,501	27,791	27,537	32,238	31,318	31,839	31,187	30,507	29,721	28,734	27,687
% Change		37.9%	16.6%	13.3%	-0.6%	-13.5%	-14.5%	-0.9%	17.1%	-2.9%	1.7%	-0.4%	-4.2%	-2.6%	-3.3%	-3.6%

Sources to Table 2: 1. Historical & Projections provided by the KY State Data Center and Census Bureau University of Louisville, State Data Center (http://ksds.louisville.edu/)

Analyzing Table 1 shows that Muhlenberg County grew steadily for the first part of the 20th century, lost population during the middle decades, then held fairly steady through the last 40 years. As with most rural areas in western Kentucky, the Kentucky Data Center at the University of Louisville projects a steady decline in the population of Muhlenberg County for the next 40 years.

Several factors influence the growth of a community, some of which include accessibility, technology, education, water infrastructure, sewer facilities, and jobs. Muhlenberg County enjoys good access to Interstates 24 and 65 via the Western Kentucky Parkway. High speed internet and wireless technology have gradually entered the communities, creating greater and easier contact to the rest of the world. The local school system is strong and provides a quality education and quality medical care is readily available. Perhaps the most important development in recent years, however, is the resurgence in coal mining. While mine employment has not reached the levels experienced in the 1960's and 1970's, many good jobs have been created in the mining industry in recent years. With energy prices remaining relatively high, coal is expected to be an important industry in the United States for the foreseeable future, and an important source of jobs and growth in Muhlenberg County.

It should also be noted that population would eventually be impacted by the availability or unavailability of water supply. An ample supply of water will promote growth while the lack thereof will limit growth. It's unlikely that the lack of water capacity has impacted growth much to date, but failure to act to augment the water supply could have a detrimental effect on growth in the future.

Considering all of these factors, it is prudent to plan for modest population growth in Muhlenberg County. Rather than adopt the negative growth projections from the University of Louisville for Muhlenberg County, the more optimistic projection of 0.6% annual growth for the Pennyrile region as a whole will be used. This results in the following projections.

Table 2
Population Projections

Year	2010	2020	2030	2040	2050
Population	31,187	33,508	35,574	37,767	40,095

3.0 EXISTING FACILITIES

3.1 *History and Assets*

Central City has operated a public water system for many years. The original system was developed to serve development within the city and the immediately surrounding area. In the 1960's, Central City built the first phase of the present water treatment plant to improve service to the city, and to provide service to the rural areas of Muhlenberg County via the rural water districts that were being formed. In the 1980's the plant was expanded to its current capacity of 4 million gallons per day (MGD). In the intervening time, the water districts have undergone steady growth as their service areas have expanded, and Central City has experienced more modest, but sustained growth in its customer base. Per capita consumption of water has also increased over time, further increasing demands on the water system.

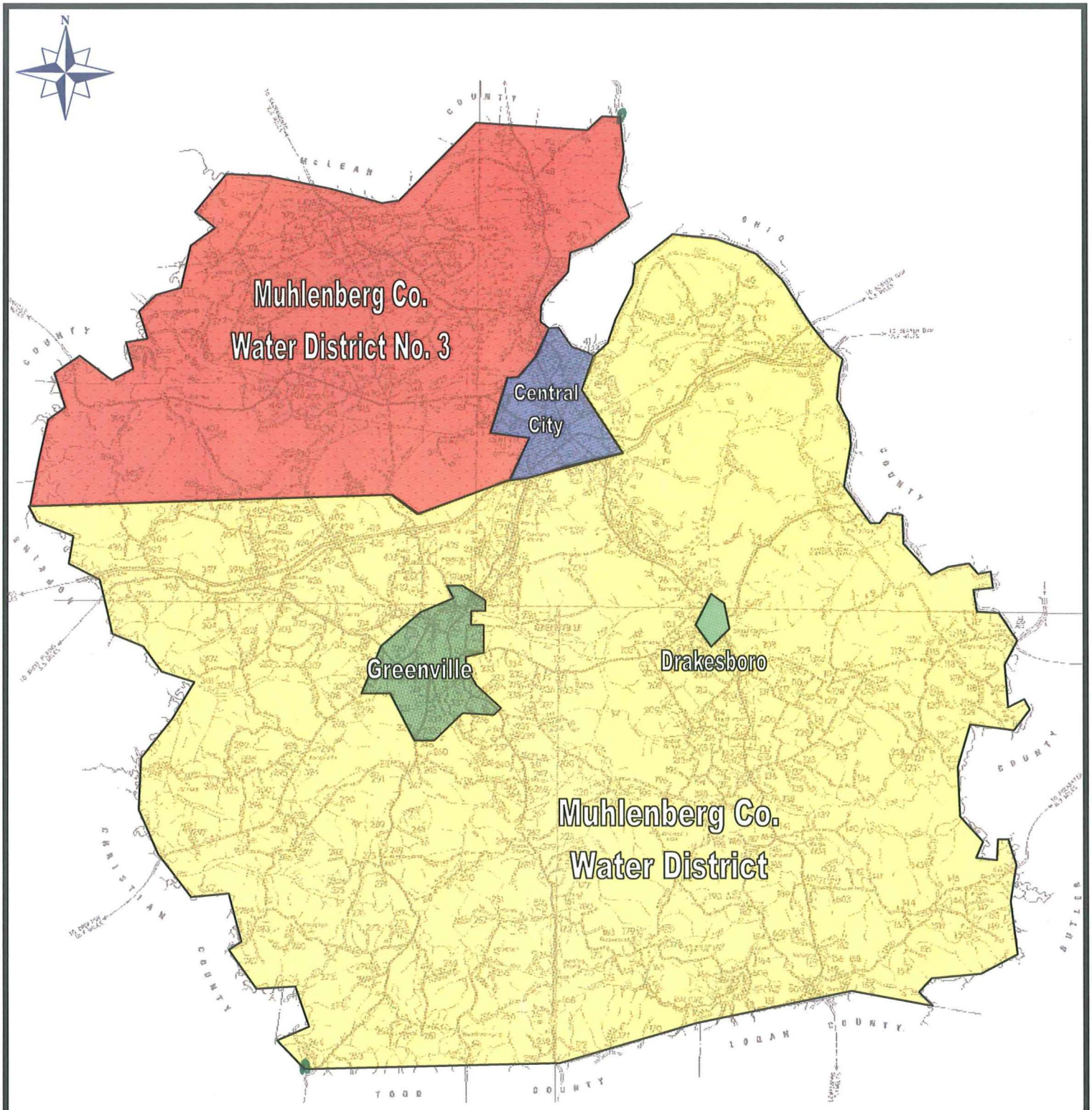
Exhibit 2 shows the areas within Muhlenberg County that are served by the Central City water treatment plant. Tables 3 and 4 show the current usage of the systems served by the plant. Exhibit 3 shows schematically how the water is passed through the various systems.

Table 3
Current Usage* for Systems Supplied by Central City
(for the period July 1, 2008 to June 30, 2009)

System	Average Day Usage (Gal)
Central City	450,000
Muhlenberg Co. WD	920,000
Muhlenberg Co. WD No. 3	470,000
Sacramento	150,000
Drakesboro	55,000
TVA/Paradise	85,000
Internal Usage & Unaccounted	1,460,000
TOTAL	3,590,000

* Usage refers to the amount of water sold to customers of the system.

Central City enjoys water rates that are among the lowest in the state, and are the lowest in Pennyrile region. Table 5 shows the water rates for Central City, the two water districts that purchase water from Central City, and Drakesboro in comparison to other systems in the Pennyrile region.



7.3"

Central City Municipal Water & Sewer

Water Treatment Plant Expansion

Water System Service Areas

McGHEE ENGINEERING, INC.
Guthrie, Kentucky

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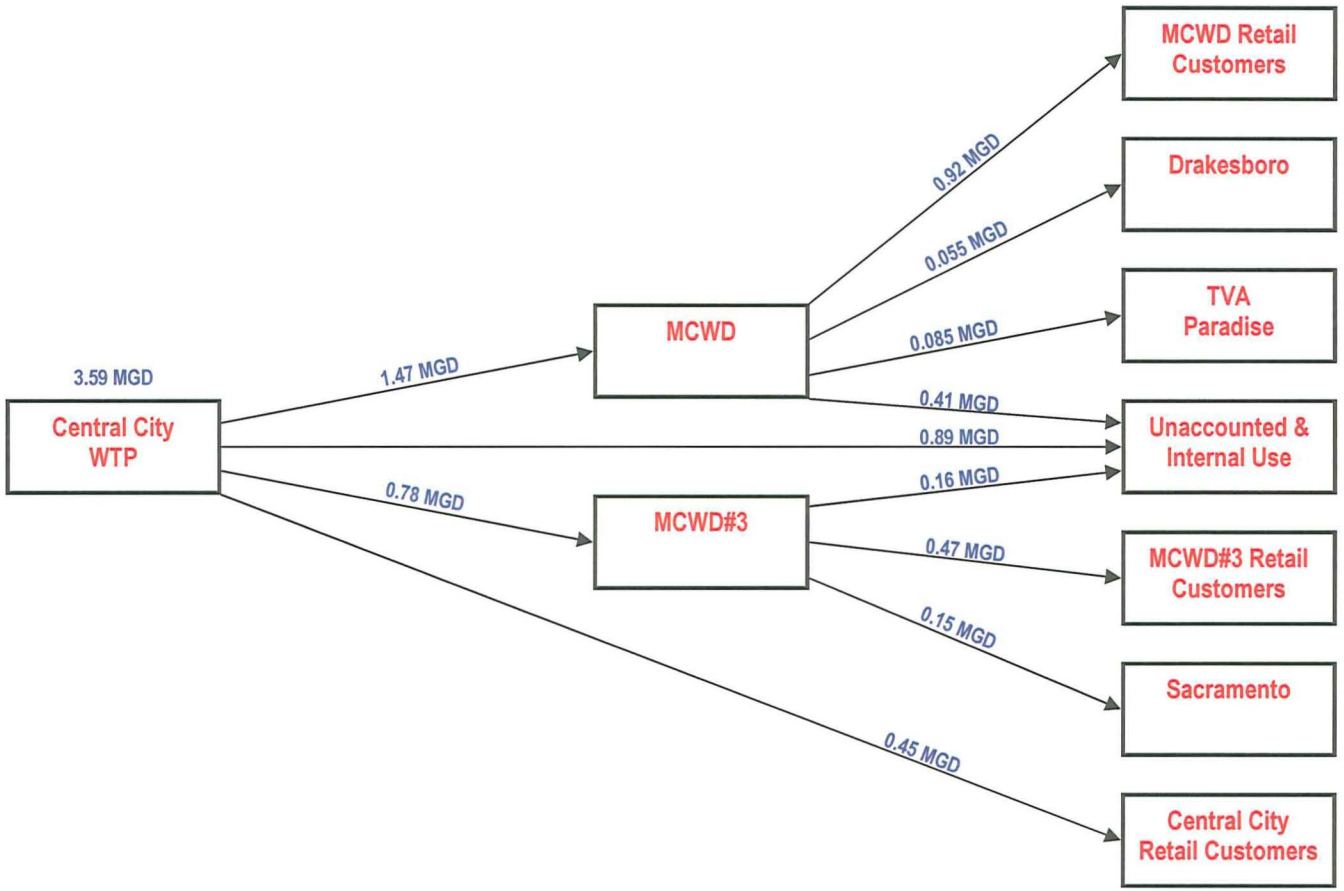

Central City Municipal Water & Sewer

Water Treatment Plant Expansion

Water Distribution Schematic

McGhee Engineering, Inc.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
None	M. McGhee	9-9-09	E-3

Table 4

Water Usage Data

Month	Central City					Muhlenberg County Water District					Muhlenberg County Water District No. 3			
	Water Produced	Sold to CC Cust.	Sold to MCWD	Sold to MCWD#3	Internal/Unaccounted	Water Purchased	Sold to MCWD Cust.	Sold to Drakesboro	Sold to TVA	Internal/Unaccounted	Water Purchased	Sold to MCWD#3 Cust.	Sold to Sacramento	Internal/Unaccounted
Jul 08	119,959,784	18,747,000	47,848,000	29,572,000	23,792,784	48,874,100	28,681,800	1,880,200	2,140,000	16,172,100	28,588,135	14,012,100	5,341,200	9,234,835
Aug 08	111,395,775	2,863,900	44,570,000	23,264,000	40,697,875	47,846,100	33,112,300	1,883,700	1,877,000	10,973,100	23,241,400	15,424,400	5,923,500	1,893,500
Sep 08	105,244,079	16,427,900	49,396,000	24,908,000	14,512,179	44,564,700	33,343,500	1,622,100	2,349,000	7,250,100	24,882,100	13,131,200	5,120,100	6,630,800
Oct 08	104,276,565	17,612,700	46,150,000	23,018,000	17,495,865	49,390,300	29,703,900	1,504,600	2,191,000	15,990,800	22,992,600	16,742,000	4,534,700	1,715,900
Nov 08	100,423,610	14,621,800	37,962,000	18,903,000	28,936,810	46,129,500	28,133,700	1,615,500	3,498,000	12,882,300	18,879,800	15,708,500	4,347,100	(1,175,800)
Dec 08	108,285,606	14,119,300	50,309,000	25,681,000	18,176,306	37,956,200	27,654,000	1,397,400	3,258,000	5,646,800	25,657,800	13,733,300	3,855,000	8,069,500
Jan 09	108,921,261	14,429,600	45,818,000	22,773,000	25,900,661	50,303,100	25,668,900	1,923,400	2,450,000	20,260,800	22,745,600	12,293,400	4,322,000	6,130,200
Feb 09	103,454,184	13,847,700	35,507,000	20,982,000	33,117,484	45,812,400	26,053,600	1,365,900	2,253,000	16,139,900	20,957,600	16,302,900	4,483,300	171,400
Mar 09	111,796,787	7,735,800	45,061,000	22,128,000	36,871,987	35,501,300	25,880,400	1,489,500	1,257,000	6,874,400	22,120,700	10,744,700	3,546,200	7,829,800
Apr 09	108,381,640	16,360,500	42,625,000	22,160,000	27,236,140	45,057,600	23,224,700	1,819,300	3,332,000	16,681,600	22,128,300	12,273,200	4,059,500	5,795,600
May 09	114,241,671	12,935,400	41,953,000	23,732,000	35,621,271	42,617,800	27,239,100	1,472,500	2,952,000	10,954,200	23,710,000	13,090,400	4,468,400	6,151,200
Jun 09	114,051,842	14,968,000	47,208,000	27,917,000	23,958,842	41,948,500	26,923,300	1,684,000	3,002,000	10,339,200	27,893,900	16,741,700	5,420,300	5,731,900
TOTAL	1,310,432,804	164,669,600	534,407,000	285,038,000	326,318,204	536,001,600	335,619,200	19,658,100	30,559,000	150,165,300	283,797,935	170,197,800	55,421,300	58,178,835
Avg Mo	109,202,734	13,722,467	44,533,917	23,753,167	27,193,184	44,666,800	27,968,267	1,638,175	2,546,583	12,513,775	23,649,828	14,183,150	4,618,442	4,848,236
Avg Day	3,590,227	451,150	1,464,129	780,926	894,022	1,468,498	919,505	53,858	83,723	411,412	777,529	466,295	151,839	159,394
% Prod	100%	13%	41%	22%	25%	41%	26%	2%	2%	11%	22%	13%	4%	4%
% Purch						100%	63%	4%	6%	28%	100%	60%	20%	21%
Average day consumption after adjustment to 20% Internal/Unaccounted water						1,321,357					772,668			

Table 5

Pennyrile Area Development District Monthly Water Rate Comparison

Rank			City Name	Date of Last Incr.	Minimum Bill	Minimum (Gal.)	1000 Gallons	2000 Gallons	3000 Gallons	4000 Gallons	5000 Gallons	10000 Gallons
O	I	F	**INSIDE CITY RATES**									
1			Central City Water & Sewer - Original	7/1/02	$ 3.25	1000	$ 3.25	$ 5.30	$ 7.35	$ 9.40	$ 11.45	$ 19.95
	1		Central City Water & Sewer - Interim	9/20/08	$ 4.06	1000	$ 4.06	$ 6.62	$ 9.18	$ 11.74	$ 14.30	$ 24.95
2	2	1	Earlington Water & Sewer System	7/2/02	$ 6.50	2000	$ 6.50	$ 6.50	$ 9.30	$ 12.10	$ 14.60	$ 24.10
3	3	2	Nortonville Water Works	5/1/95	$ 9.00	2000	$ 9.00	$ 9.00	$ 11.25	$ 13.50	$ 15.75	$ 27.00
4	4	3	Hopkinsville Water Environmental Authority	7/1/07	$ 7.41	2244	$ 7.41	$ 7.41	$ 9.91	$ 13.21	$ 16.51	$ 33.02
5	5	4	HWEA-Pembroke	7/1/07	$ 9.45	2244	$ 9.45	$ 9.45	$ 11.61	$ 14.47	$ 17.33	$ 31.64
6	6	5	Kuttawa Water Department	1/1/06	$ 8.00	1000	$ 8.00	$ 10.72	$ 13.44	$ 16.16	$ 18.88	$ 32.08
7	7	6	HWEA-Crofton	7/1/07	$ 11.91	2244	$ 11.91	$ 11.91	$ 14.44	$ 17.78	$ 21.12	$ 37.83
8	8	7	Dawson Springs Water & Sewer System	1/1/08	$ 10.27	2000	$ 10.27	$ 10.27	$ 14.06	$ 17.79	$ 21.52	$ 37.52
9	9	8	Salem Municipal Water System	1/1/08	$ 10.30	2000	$ 10.30	$ 10.30	$ 14.64	$ 18.98	$ 23.32	$ 41.47
10	10	9	Princeton Water/Wastewater	11/1/06	$ 7.98	1122	$ 7.98	$ 13.34	$ 16.02	$ 18.70	$ 24.06	$ 41.44
11	11	10	Greenville Utilities Commission	1/1/08	$ 8.20	1000	$ 8.20	$ 12.60	$ 16.60	$ 20.60	$ 24.60	$ 42.85
		11	Central City Water & Sewer - Final	n/a	$ 10.50	0	$ 13.50	$ 16.50	$ 19.50	$ 22.50	$ 25.50	$ 40.50
12	12	12	Cadiz Municipal Water	1/1/08	$ 12.00	2000	$ 12.00	$ 12.00	$ 16.42	$ 20.84	$ 25.26	$ 42.56
13	13	13	Guthrie Water Works	7/12/05	$ 16.50	2000	$ 16.50	$ 16.50	$ 20.00	$ 23.50	$ 27.00	$ 44.50
14	14	14	White Plains Water Department	1/1/08	$ 12.25	1000	$ 12.25	$ 16.00	$ 19.75	$ 23.50	$ 27.25	$ 46.00
15	15	15	Madisonville Light & Water	11/17/03	$ 8.66	1000	$ 8.66	$ 13.31	$ 17.96	$ 22.61	$ 27.26	$ 50.51
16	16	16	Drakesboro Water Department	6/7/03	$ 16.28	2000	$ 16.28	$ 16.28	$ 20.59	$ 24.90	$ 29.21	$ 50.76
17	17	17	Morton's Gap Water Department	12/3/07	$ 14.75	2000	$ 14.75	$ 14.75	$ 19.80	$ 24.85	$ 29.90	$ 53.70
18	18	18	Oak Grove Water Department	1/1/08	$ 14.64	2000	$ 14.64	$ 14.64	$ 20.03	$ 25.42	$ 30.81	$ 57.76
19	19	19	Grand Rivers Water System	6/14/03	$ 14.00	0	$ 17.50	$ 21.00	$ 24.50	$ 28.00	$ 31.50	$ 49.00
20	20	20	Hanson Water System	4/25/05	$ 16.00	2000	$ 16.00	$ 16.00	$ 21.50	$ 27.00	$ 32.50	$ 58.00
21	21	21	Eddyville Water Department	7/1/04	$ 21.12	2000	$ 21.12	$ 21.12	$ 25.69	$ 30.26	$ 34.83	$ 57.69
22	22	22	Smithland Water & Sewer System	12/1/03	$ 19.08	2000	$ 19.08	$ 19.08	$ 24.54	$ 30.00	$ 35.46	$ 60.06
23	23	23	Elkton Water Works - 1/9/09	2/13/07	$ 21.27	2000	$ 21.27	$ 21.27	$ 26.02	$ 30.77	$ 35.52	$ 57.67
24	24	24	Marion Water Department	7/1/07	$ 16.36	1500	$ 16.36	$ 19.37	$ 25.39	$ 31.41	$ 37.43	$ 61.48
25	25	25	Fredonia Water Department	10/11/04	$ 18.38	2000	$ 18.38	$ 18.38	$ 25.40	$ 32.44	$ 39.45	$ 70.14
26	26	26	Trenton Water Works	1/15/03	$ 24.48	1000	$ 24.48	$ 28.96	$ 33.44	$ 37.92	$ 42.40	$ 64.80
			Average Charge for Water-Inside City				$ 12.83	$ 14.24	$ 18.15	$ 22.16	$ 26.24	$ 44.96

Rank			Supplier Name	Date of Last Incr.	Rate $/1000 Gal
O	I	F	**WHOLESALE**		
1			Central City Water & Sewer - Original	9/9/96	$ 1.25
2	1	1	Dawson Springs W&S System	1/1/08	$ 1.31
3	2	2	South Hopkins Water District	2/7/96	$ 1.67
	3		Central City Water & Sewer - Interim	9/20/08	$ 1.57
4	4	3	Princeton Water/Wastewater	11/1/06	$ 1.77
5	5	4	Madisonville L&W Nebo/N. Hop	8/27/03	$ 1.89
6	6	5	Madisonville L&W Hanson	8/27/03	$ 1.94
7	7	6	Kuttawa Water Department	1/1/06	$ 2.07
8	8	7	Crittenden/Livingston WD	11/6/03	$ 2.20
		8	Central City Water & Sewer - Future	n/a	$ 2.58
9	9	9	Hopkinsville WEA	7/1/07	$ 2.81
10	10	10	Logan-Todd RWC	2/1/07	$ 3.31
11	11	11	Eddyville Water Department	7/1/04	$ 3.50
			Average Charge for Water (Future)		$ 2.28

Notes:

1. Rate data provided by Pennyrile Area Development District.
2. Future rates (in red) estimated by McGhee Engineering, Inc.
3. Rate change estimates are based on the Preliminary Engineering Report dated September 9, 2009 by McGhee Engineering, Inc.

3.2 *Regulatory Compliance*

According to the Division of Water's remarks in the Clearinghouse comments, the Central City water system is currently in compliance with appropriate regulatory agencies. No remarks were given to suggest that the water system was in or near a noncompliance status. The comments of the Division of Water and other agencies are included in Appendix A.

3.3 *Existing Financial Charges and Status*

Table 6
Current Rate Schedule
(Rates effective 9-20-08)

Inside City				
First	1,000	Gallons	$4.06	Minimum
Next	4,000	Gallons	$2.56	per 1,000 Gallons
Next	5,000	Gallons	$2.13	per 1,000 Gallons
Next	10,000	Gallons	$1.88	per 1,000 Gallons
Next	10,000	Gallons	$1.88	per 1,000 Gallons
Over	30,000	Gallons	$1.69	per 1,000 Gallons

Outside City				
First	2,000	Gallons	$18.78	Minimum
Over	2,000	Gallons	$6.08	per 1,000 Gallons

County Water Districts		
All Usage	$1.57	per 1,000 Gallons

This rate schedule went into effect in September of 2008. This rate increase was enacted to correct immediate cash flow deficiencies in the system, and to provide an interim step toward the higher rates that would result from the expansion project. Prior to this increase, the following rates were in effect. These prior rates were in effect during the audit year used as the base year in this report, and the rate increase percentages discussed later in this report are based on these pre-September 2008 rates.

Table 7
Prior Rate Schedule
(Rates effective 7-1-02)

Inside City				
First	1,000	Gallons	$3.25	Minimum
Next	4,000	Gallons	$2.05	per 1,000 Gallons
Next	5,000	Gallons	$1.70	per 1,000 Gallons
Next	10,000	Gallons	$1.50	per 1,000 Gallons
Next	10,000	Gallons	$1.50	per 1,000 Gallons
Over	30,000	Gallons	$1.35	per 1,000 Gallons

Outside City				
First	2,000	Gallons	$15.02	Minimum
Over	2,000	Gallons	$4.86	per 1,000 Gallons

County Water Districts		
All Usage	$1.26	per 1,000 Gallons

Table 8
Income Statement
(FYE 6/30/08)

OPERATING REVENUE	
Retail Sales	$381,452
MCWD	$654,145
MCWD#3	$342,007
Misc.	$15,672
TOTAL REVENUE	$1,393,276
OPERATING EXPENSE	
Water Plant Operations	$743,813
Water Distribution	$279,011
Administrative	$288,465
TOTAL OPERATING EXPENSE	$1,311,289
NON-OPERATING REVENUE	
Interest Income	$30,066
Interest Expense	$(55,600)
Principal Repayment	$(34,000)
Misc. Income	$12,253
TOTAL NON-OPERATING INCOME	$(47,281)
NET INCOME	
Before Depreciation	$34,706
Depreciation	$(412,920)
NET INCOME	$(378,214)

3.3.3 *Long Term Debts (as of 6/30/08)*

The Central City Water and Sewer system has two outstanding bond issues. One is referred to as the Water and Sewer Refunding Revenue Bonds, Series 1997, and the other is City of Central City Water and Sewer Revenue Bonds, Series 1989. An attempt was made through research of records and through discussions with system employees to determine if the bonds were used to finance water improvements, sewer improvements or a combination of both. Although no definitive answer was found, there is some evidence that the 1997 issue was a refinancing of a 1988 issue that was used primarily in the water system, and the 1989 issue was used primarily for upgrade of the wastewater plant. For purposes of this report, we are assigning obligations in that manner, and listing the 1997 issue as debt of the water system.

Table 9
Long-Term Debt

Date of Issue	Bond/Note Holder	Principal Balance	Maturity Date	Bond Type	Interest Rate
1997	Private	$ 480,000	2014	Revenue	4.0-5.6%

4.0 NEED FOR PROJECT

Exhibit 3 and Tables 3, 4 and 5 illustrate three important points. 1) The Central City water treatment plant is operating at approximately 90% of its design capacity of 4.0 MGD, and is in immediate need of expansion. 2) Central City and its two primary customers experience a high degree of water loss in their systems. 3) Central City produces and sells water at a very low cost in comparison to similar water providers.

The first point is important because Central City, and therefore most of Muhlenberg County is not in a position to serve significant new water demands at the present time. This is a direct limiting factor on future economic growth in the area and also impacts commercial and residential growth negatively.

The second and third points are also important in predicting future demand on the water system, and in planning the financing of the system.

Central City presently has about the most economical water production system that it could have. It has an abundant, reliable water source in the Green River that is close by, relatively easy to treat, and readily available, low debt, and an old but still functional water treatment plant that is operating near its capacity. This combination of factors allows Central City to produce water at a very low cost in comparison to other systems in the region. This low cost of water, while very beneficial to the end user, creates a disincentive to locate and repair leaks, usually resulting in high water loss in such systems. The low cost of water also discourages conservation of water by consumers.

Expanding the water treatment plant to serve future needs of the region will represent a large capital expenditure, which will be financed, at least in part, by debt. Servicing the debt will result in increased water rates. These higher water rates will

provide economic incentive to locate and repair leaks in the distribution systems, and will also provide additional incentives to consumers to conserve water. The net result that has been observed in these situations before is that water demand is likely to decrease slightly in the first few years after completion of a major expansion project before resuming an upward trend. This initial dip in sales is a direct response to the enhanced conservation efforts by water distributors and consumers brought about by the higher rates. The initial decline in usage can, however, cause financial hardships for a water system, and should be accounted for in the rate setting.

4.1 *Health and Safety*

The existing water treatment plant does a good job of meeting current water quality regulations, but may have difficulty meeting future limits. This is discussed in detail in the preliminary engineering report addressing the water treatment plant expansion that was prepared by Strand Engineers, Inc. dated August 2009.

In addition to the water treatment plant expansion, the proposed project will include additional storage and correction of a number of deficiencies within the distribution system. These improvements will allow more flexibility in system operations, and more stable pressure and supply to customers.

4.2 *System O&M*

System operations and maintenance will be enhanced in several ways. A modern SCADA system will be implemented with the plant expansion to allow the plant and distribution system operators to better monitor critical parameters, and to address problems earlier than now possible.

The current distribution system has several deficiencies, including several non-functional valves and several locations where valves are needed but not present. This results in disruption in service to a wide area of the city when repairs or maintenance are needed, and exposes more of the system than necessary to the risk of contamination.

Additional storage will allow for continued service for a longer period in the event of a disruption in the treatment plant, and will allow other tanks to be taken from service for inspection and maintenance.

4.3 *Growth*

As described earlier, Central City is projected to grow only modestly in the foreseeable future. In 2050, the population is expected to have grown only about 28% from its 2010 level. Using this same growth rate, water demands for the period are expected to grow from the current usage of 3,590,000 gallons per day (gpd) to about 4,600,000 gpd. Making an arbitrary allowance for growth in per capita usage, we recommended a minimum planning capacity of 5,000,000 gpd to serve current customers and their anticipated growth.

In discussions with the Board of Directors of the Central City Municipal Water and Sewer System, it was decided that an additional 1,000,000 gpd should be

included for potential industrial users, making the minimum target expanded plant capacity 6,000,000 gpd.

In assessing the existing water treatment plant, it was quickly apparent that the existing plant could be expanded more cost effectively than building a new plant. This is discussed in greater detail in the Strand study, but the analysis found that the most economical expansion step for the existing plant was to 7,000,000 gpd.

5.0 ALTERNATIVES CONSIDERED

The alternatives considered include an expanded regional approach, an individual system approach, and an approach based on the current arrangement.

5.1 *Alternative 1 – Expanded Regional Approach*

Early in the planning process, Central City sent inquiry letters to all public water systems that adjoin systems served by Central City, and to public officials, regulatory and planning agencies with an interest in water issues in the area to gather information as to potential interest in an expanded regional project. These letters generated some informal discussions, but ultimately no additional participants in the project. Letters were also sent to existing systems served by Central City to notify them of the intent to expand the water treatment plant, and to request their support and assistance in the process. An example letter in included in Appendix B. A list of those receiving letters is shown below.

Barren River ADD
Butler Co. Judge Executive
Butler Co. Water District
Christian Co. Judge Executive
Christian Co. Water District
City of Centertown
City of Drakesboro
City of Greenville
City of Island
City of Lewisburg
City of Livermore
City of Sacramento
City of White Plains
East Logan Water District
Green River ADD
Hopkins Co. Judge Executive
Kentucky Division of Water
Kentucky Infrastructure Authority
Kentucky Rural Water Association
Logan Co. Judge Executive
McLean Co. Judge Executive
Muhlenberg Co. Judge Executive
Muhlenberg Co. Water District
Muhlenberg Co. Water District No. 3
North Hopkins Water District
Ohio Co. Judge Executive
Ohio Co. Water District
Pennyrile ADD
South Hopkins Water District
Todd Co. Judge Executive
Todd Co. Water District

5.2 *Alternative 2 – Individual System Approach*

A second alternative that was considered could perhaps be called "de-regionalization." In this approach, one or both water districts would build a new water treatment plant and leave the existing plant to serve Central City only. Preliminary investigations of this alternative revealed that the total capital cost of this approach would be higher than the rehabilitation and expansion of the existing Central City plant due to the required duplication of many serviceable plant components. An estimate of capital costs for this alternative is presented in Table 6.

Table 10
Capital Cost Estimate – Individual System Approach

Item	Estimated Cost
New Raw Water Intake & Pump Station	$2,000,000
New Raw Water Transmission Line	$1,000,000
New 5 MGD Water Treatment Plant	$15,000,000
New Distribution Lines	$4,000,000
New Treated Water Storage	$2,000,000
New Metering and Controls	$1,000,000
Rehabilitation of Existing CC Plant	$6,000,000
Subtotal – Construction	$31,000,000
Non-Construction and Contingency	$7,750,000
TOTAL	$38,750,000

In addition to the higher estimated capital cost, the operating and maintenance cost of the non-regional approach would be considerably higher due to the duplication of jobs.

5.3 *Alternative 3 – Expansion of the Existing Central City Plant*

This approach was ultimately chosen as the most cost effective because it allows for the productive reuse of the existing plant and continues the efficient utilization of personnel and services now employed. The analysis of this option is discussed extensively in the Strand report.

6.0 PROPOSED PROJECT

6.1 *Project Design*

6.1.1 *Water Supply*

Raw Water will continue to be provided to the system by the Green River. The Green River has an abundant supply of raw water and serves as the source for many Kentucky cities and water districts. The water is readily treatable to potable standards. The existing raw water intake located as shown on Exhibit E-1 will be rehabilitated and expanded to accommodate the increased flow.

6.1.2 *Storage*

Due to the increased plant capacity, additional storage capacity will be provided in the Central City distribution system. An additional 1 million gallons of new elevated storage will be provided at a location as shown on Exhibit E-1

6.1.3 *Distribution*

Some improvements are necessary to the existing Central City potable water distribution system to allow for transmission of the larger

supply of water from the expanded plant, and to correct existing deficiencies. These improvements will include upsizing of selected lines, construction of new lines, replacement of existing, non-functional valves and construction of a new, enhanced SCADA monitoring system.

6.1.4 *Regulatory Compliance*

The proposed project has been submitted to the Kentucky State Clearinghouse for their comments. The clearinghouse comments are included in Appendix A. The clearinghouse review of the proposal indicates there are no identifiable conflicts with any state or local plan, goal, or objective. Furthermore, no notices have been received and none are expected to suggest that the water system is in or near a noncompliance status.

6.1.5 *Hydraulic Calculations*

For preliminary planning purposes, the computer hydraulic simulator, KYPIPE 2000, was used to construct a system wide model to determine the hydraulic characteristics of the Central City potable water distribution system, as it currently exists. The proposed line additions and upgrades, and the new tank were then added and a 48-hour extended period simulation of the distribution system was run to analyze the diurnal pressure and flow variations.

The "existing conditions" model verified the existence of low pressure areas during future high demand periods, and identified the need for additional water storage capacity. The "future conditions" model verified that the new tank will correct the storage problem, and that the new areas can be successfully served with adequate pressure and flow. The requirement to provide a line flushing velocity of at least 2.5 feet per second has also been considered. Detailed model results are available upon request.

6.2 *Cost Estimate*

An itemized cost estimate of the Central City water treatment plant expansion and system improvements project is shown in Table 11. Additional information on anticipated plant costs is available in the Strand report referenced earlier.

Table 11
Project Cost Estimate

Item	Total
Construction	
Renovate River Water Pump Station	$700,000
Expand Water Plant to 7 MGD	$11,500,000
1 MG Elevated Water Storage Tank	$2,000,000
Renovate Existing Water Storage Tanks	$600,000
Distribution System Improvements	$1,700,000
SUBTOTAL - Construction	**$16,500,000**
Non-Construction Items	
Administrative	$60,000
Legal Costs	$60,000
Land & ROW	$10,000
GIS Data Acquisition and Implementation	$220,000
Preliminary Engineering	$450,000
Additional Services - Geotechnical, Environmental, Special Studies	$150,000
Design Engineering	$810,000
Construction Phase Engineering Services	$350,000
Construction Inspection	$740,000
Start-Up Services & O&M Manuals	$150,000
SUBTOTAL - Non-Construction	$3,000,000
Contingency	$1,650,000
TOTAL ESTIMATED PROJECT COST	**$21,150,000**

6.3 *Annual Operating Budget*

The proposed annual operating budget for the Central City water treatment plant expansion and system improvements project is shown in Table 12.

Table 12
Proposed Operating Budget

	Before Project	(1)	Project Only		After Project
OPERATING REVENUE					
Retail Sales	$ 381,452		$ 400,525	(2)	$ 781,977
MCWD	$ 654,145		$ 590,177	(3)	$ 1,244,322
MCWD#3	$ 342,007		$ 385,615	(4)	$ 727,622
Penalties	$ 6,356		$ -		$ 6,356
Allowances	$ (3,976)		$ -		$ (3,976)
Service Charges	$ 10,642		$ -		$ 10,642
Misc.	$ 2,650		$ -		$ 2,650
TOTAL REVENUE	$ 1,393,276		$ 1,376,316		$ 2,769,592
OPERATING EXPENSE					
Water Plant Operations					
Labor	$ 254,546		$ 50,000	(5)	$ 304,546
Utilities	$ 147,957		$ 25,000	(5)	$ 172,957
Supplies	$ 45,073		$ 5,000	(5)	$ 50,073
Repair & Maintenance	$ 44,307		$ 10,000	(5)	$ 54,307
Chemicals	$ 251,930		$ -		$ 251,930
Subtotal - WP Oper	$ 743,813		$ 90,000		$ 833,813
Water Distribution					
Labor	$ 209,277		$ 10,000	(6)	$ 219,277
Repair & Maintenance	$ 11,582		$ 5,000	(6)	$ 16,582
Supplies	$ 41,960		$ 5,000	(6)	$ 46,960
Fuel	$ 9,473		$ -		$ 9,473
Rent	$ 5,240		$ -		$ 5,240
General Expense	$ 1,479		$ -		$ 1,479
Subtotal - Distr.	$ 279,011		$ 20,000		$ 299,011
Administrative					
Office Salaries	$ 42,593		$ -		$ 42,593
Office Supplies	$ 13,486		$ -		$ 13,486
Rent	$ 21,600		$ -		$ 21,600
Property Insurance	$ 33,425		$ 20,000	(7)	$ 53,425
Payroll Taxes	$ 29,883		$ -		$ 29,883
Commissioner Salary	$ 3,600		$ -		$ 3,600
Bad Debt	$ 1,370		$ -		$ 1,370
Repair & Maintenance	$ 8		$ -		$ 8
Legal & Accounting	$ 5,963		$ -		$ 5,963
Insurance - Other	$ 54,096		$ -		$ 54,096
Engineering	$ 4,230		$ -		$ 4,230
Office Utilities	$ 3,330		$ -		$ 3,330
Pensions	$ 64,944		$ -		$ 64,944
General Expense	$ 9,937		$ -		$ 9,937
Subtotal - Admin.	$ 288,465		$ 20,000		$ 308,465
TOTAL OPERATING EXPENSE	$ 1,311,289		$ 130,000		$ 1,441,289
NON-OPERATING REVENUE					
Interest Income	$ 30,066		$ -		$ 30,066
Interest Expense	$ (55,600)		$ (491,250)	(8)	$ (546,850)
Principal Repayment	$ (34,000)		$ (146,200)	(8)	$ (243,950)
Debt Service Coverage	$ -		$ (63,750)	(8)	
Misc. Income	$ 12,253		$ -		$ 12,253
	$ (47,281)		$ (701,200)		$ (748,481)
NET INCOME					
Before Depreciation	$ 34,706		$ 545,116		$ 579,822
Depreciation	$ (412,920)		$ (528,750)	(9)	$ (941,670)
Net Income	$ (378,214)		$ 16,366	(10)	$ (361,848)

Notes

(1) From FYE 6-30-08 audit - GAAP statement.
(2) Based on 105% net rate increase over pre-2008 user rates.
(3) Based on sales of 1,229,853 gpd at $2.58/Kgal.
(4) Based on sales of 772,668 gpd at $2.58/Kgal.
(5) Allowance for additional plant operations costs.
(6) Allowance for additional distribution system operations cost.
(7) Estimated additional insurance cost (by Eaves Insurance).
(8) P&I on $13.1M, 40 Yr.,3.75%, 10% Coverage.
(9) $21,150,000 straight line over 40 years.
(10) Fully funds depreciation on new assetts only.

Based on the projections and assumptions outlined above, the $1,550,000 KIA grant committed in 2008 along with a $4,500,000 Rural Development Grant, and a $2,000,000 CDBG grant will require an overall increase of user rates of 105% to adequately service the new $13,100,000 RD loan and provide for system operations. Without securing the referenced Rural Development grant, it is estimated that an additional 20% increase to the proposed water rates would be required to offset the increase in debt service and maintain an approximately equivalent net income.

Central City currently has a declining block rate schedule for its in-town customers. The current schedule has six rate blocks with the highest usage block rate per thousand gallons being 42% of the lowest usage block. Declining block rates were the norm in previous years. They were based on the theory that consumers using higher volumes of water deserved a "volume discount" due to the lower unit cost of providing service to larger customers. These rate structures have remained in place in many systems even though the rate block for the highest user is in many cases lower than the system's cost of production. If an across-the-board increase were applied to Central City's current rates, this would be the case.

Many water systems now have adopted a system that includes a monthly user charge for service and a per-gallon charge for the water used, the per-gallon charge being constant for all usage levels. This system avoids the situation where the smaller users subsidize the larger users, and is somewhat more encouraging of water conservation. It is recommended that Central City adopt such a rate system for its retail customers.

Table 13 illustrates the project's rate schedule with the requested RUS Grant, and Table 14 shows the necessary rate schedule if the project is undertaken without the requested RUS Grant and funded entirely with the RUS loan and KIA Grant.

Table 13
Project Rate Schedule with RUS Grant

Monthly User Charge	$10.50
Usage Rate ($ per thousand gallons)	$3.00
Wholesale Rate to Water Districts ($ per thousand gallons)	$2.58

Table 14
Project Rate Schedule without RUS Grant

Monthly User Charge	$10.70
Usage Rate ($ per thousand gallons)	$3.40
Wholesale Rate to Water Districts ($ per thousand gallons)	$2.84

Table 5 shows the new rate (with RUS grant) in comparison to similar systems in the Pennyrile area.

7.0 RECOMMENDED SOLUTION

In order to address the problems and needs of the water system, the Central City Water & Sewer Board should do the following:

- Expand the existing water treatment plant from 4 MGD to 7 MGD capacity.
- Construct a new 1 million gallon elevated water storage tank.
- Perform miscellaneous distribution system improvements including addition of valves, expansion of certain lines, construction of certain interconnecting lines and implementation of a new SCADA control system.
- Continue the application process for $4,500,000 in grant and $13,100,000 in loan from Rural Development.
- Conduct geotechnical investigations to insure the proposed plant and tank site is suitable for the proposed structures.
- Continue discussions among wholesale customers and the public concerning projected rate increases necessary to fund the project.
- Continue pursuing all available means of grant financing.

Appendix A

State Clearinghouse Review Letter

(The following comment letter is expired – an updated letter is applied for)

OFFICE OF THE GOVERNOR
GOVERNOR'S OFFICE FOR LOCAL DEVELOPMENT

Steven L. Beshear
Governor

1024 Capital Center Drive, Suite 340
Frankfort, Kentucky 40601
Phone (502) 573-2382
Fax (502) 573-2939
oll Free (800) 346-5606
www.gold.ky.gov

Tony Wilder
Commissioner

Muhlenberg

June 26, 2008

Mr. Jeff Unfried
Pennyrile ADD
300 Hammond Drive
Hopkinsville, KY 42240

RE: Central City - Regional Water Project
WX21177006
SAI# KY20080602-0715

Dear Mr. Unfried:

The Kentucky State Clearinghouse, which has been officially designated as the Commonwealth's Single Point of Contact (SPOC) pursuant to Presidential Executive Order 12372, has completed its evaluation of your proposal. The clearinghouse review of this proposal indicates there are no identifiable conflicts with any state or local plan, goal, or objective. Therefore, the State Clearinghouse recommends this project be approved for assistance by the cognizant federal agency.

Although the primary function of the State Single Point of Contact is to coordinate the state and local evaluation of your proposal, the Kentucky State Clearinghouse also utilizes this process to apprise the applicant of statutory and regulatory requirements or other types of information which could prove to be useful in the event the project is approved for assistance. Information of this nature, if any, concerning this particular proposal will be attached to this correspondence.

You should now continue with the application process prescribed by the appropriate funding agency. This process may include a detailed review by state agencies that have authority over specific types of projects.

This letter signifies only that the project has been processed through the State Single Point of Contact. It is neither a commitment of funds from this agency or any other state of federal agency.

The results of this review are valid for one year from the date of this letter. Continuation or renewal applications must be submitted to the State Clearinghouse annually. An application not submitted to the funding agency, or not approved within one year after completion of this review, must be re-submitted to receive a valid intergovernmental review.

If you have any questions regarding this letter, please feel free to contact my office at 502-573-2382.

Sincerely,

Lee Nalley
Kentucky State Clearinghouse

Attachments
Cc: KIA

The Fish & Wildlife has made the following advisory comment pertaining to State Application Identifier Number KY200806020715

Based on the information provided, the Kentucky Department of Fish & Wildlife Resources has no comments concerning the proposed project.

The Kentucky Housing Corporation has made the following advisory comment pertaining to State Application Identifier Number KY200806020715
no comments

The Housing, Building, Construction has made the following advisory comment pertaining to State Application Identifier Number KY200806020715
no comment

The Pennyrile ADD has made the following advisory comment pertaining to State Application Identifier Number KY200806020715
no comments

The Office of State Budget Director has made the following advisory comment pertaining to State Application Identifier Number KY200806020715

Endorsed by Vicki Goins 6/10/08

The Health and Family Services has made the following advisory comment pertaining to State Application Identifier Number KY200806020715

The Cabinet for Health and Family Services supports projects that improve the lives of Kentuckians, this project should be coordinated with the Department of Public Health, Division of Public Health Protection & Safety to ensure that activities and funding are not duplicative.

The Labor Cabinet has made the following advisory comment pertaining to State Application Identifier Number KY200806020715

Prevailing Wage Rates are applicable please contact the Kentucky Department of Labor at 502-564-1523 to obtain the proper rates

The Natural Resources has made the following advisory comment pertaining to State Application Identifier Number KY200806020715

All water line extensions mapped in the eclearinghouse mapping portal labeled with WX21177006 must be removed. This project WX21177006 should be mapped as a single point attribute for the Water Treatment Plant (WTP). Also, six months prior to the planned operation of the upgraded WTP, Central City needs to contact the Water Withdrawal Section of the Division of Water for a revision to their water withdrawal permit WW0217. Central City Water and Sewer System is currently permitted for 4.0 MGD from their intake location in the Green River, mile point 85.4.

This review was based upon the information that was provided by the applicant through the Clearinghouse for this project. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments.

The proposed project is subject to Division of Water (DOW) jurisdiction because the following are or appear to be involved: water treatment plan upgrades. Prior approval must be obtained from the DOW before construction can begin. The applicant must cite the State Application Identifier (SAI #KY200806020715) when submitting plans and specifications

This project is consistent with the Muhlenberg County Water Management Plan. It is approved for water management planning. It is approved for water withdrawal by the Water Quantity Management Section of DOW. From the application data, DOW ascertains that a stream construction permit application will need to be submitted to our office for further review of this project.

This project will include an engineering study and construction to expand and upgrade Central City's Water Treatment Plant to a total of 8.0 million gallons per day (MGD). Central City's Water Treatment Plant is a regional facility that provides potable water to the majority of Muhlenberg County and a portion of McLean County through five water utilities. This project will allow for future growth in the county and help the system meet new water quality standards. Completion of this project will provide improved water service to 10,095 households and 282 commercial entities. The expansion and upgrade of Central City's water treatment plant is needed to address capacity issues and future water quality requirements. However, a comprehensive preliminary engineering report shall be submitted for review and approval by a registered professional engineer in Kentucky prior to the submittal of the final plans and specifications for the construction. Also, the preliminary engineering report shall consist of raw water sampling results if a new source water is proposed. See the Drinking Water website for sampling requirements. It is strongly suggested that consulting engineers contact Drinking Water Branch Supervisor for additional requirements prior to the submittal of the preliminary engineering report. In addition to the above, the water system is required to contact the Division of Water, Water Resource Management Branch to assure that adequate water quantity is available for the proposed expansion. This information together with predicted water demand must be included in the preliminary report.

The entity responsible for wastewater pressure planning should be advised of any service area expansion and other system construction proposed in this project so the wastewater system plans can be reexamined to consider the impacts. Concurrent utility piping installation can minimize disruptions for residents in the area and also may be cheaper. Extension of water to un-sewered areas has also been associated with increased wastewater impacts.

If the construction area disturbed is equal to or greater than 1 acre, the applicant will need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) storm water discharge permit.

Utility line projects that cross a stream will require a Section 404 permit from the US Army Corps of Engineers and a 401 Water Quality Certification from DOW.

The Heritage Council has made the following advisory comment pertaining to State Application Identifier Number KY200806020715

The applicant must ensure compliance with the Advisory Council on Historic Preservation's Rules and Regulations for the Protection of Historic and Cultural Properties (36CFR, Part 800) pursuant to the National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, and Executive Order 11593.

Those water lines in the existing right-of-way do not require an archaeological survey, however, the lines not in the right-of-way must be surveyed by a professional archaeologist to determine if sites eligible for listing in the National Register of Historic Places will be affected by the undertaking. New construction or expansion of existing plants into previously undisturbed areas must be surveyed by a professional archaeologist. Where a given project area or portions thereof have been disturbed by prior construction, the applicant may file documentation of that disturbance with the State Historic Preservation Officer and may request an opinion concerning the need of an archaeological survey. The State Historic Preservation Officer must review and approve the survey report.

The Transportation has made the following advisory comment pertaining to State Application Identifier Number KY200806020715

Hall (D2), Nick:
The Kentucky Department of Highways is responsible for controlling both public and private usage of right-of-way of the State road system. Any firm, individual, or governmental agency desiring access to a State road or desiring to perform any type of work (including signage) on State right-of-way must obtain a permit from the Department.

To obtain the necessary permits and/or discuss the details of this project, please contact our District Office in Madisonville at the following address/number:

Mr. Kenny Potts, Traffic Branch Manager
Kentucky Department of Highways
1840 North Main Street
P. O. Box 600
Madisonville, Kentucky 42431
Telephone (270) 824-7080
Fax (270) 824-7091

This review was based upon the information that was provided by the applicant through the Clearinghouse for this project. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented, other than those stated as conditions or comments.

Appendix B

Sample Contact Letter

City of Central City

214 North First Street
Central City, KY 42330

JERRY L. MITCHELL, Mayor
DAVID G RHOADES, City Administrator
MISSY HOLLAND, Deputy-City Clerk

Telephone 270-754-5097
270-754-2336
FAX 270-754-5745

June 2, 2008

Mayor Eddie DeArmond
City of Greenville
P. O. Box 283
Greenville, Kentucky 42345

RE: Central City Water Treatment Plant Expansion

Dear Mayor DeArmond:

The Central City Municipal Water and Sewer System is starting the process of expanding its water treatment plant to meet future demands. In order to allow us to predict future water production demands, we are contacting neighboring systems to ask if any might have a potential interest in purchasing treated water from Central City.

We have selected McGhee Engineering, Inc. as our consulting engineer on this project. A representative of McGhee will be in touch with you in the next few weeks to discuss the matter with you.

If you have any questions, please contact me at the number shown above, or Mike McGhee at (270) 483-9985. Thank you for your assistance.

Sincerely,

Central City Municipal Water & Sewer System

_____

David Rhoades
General Manager

KENTUCKY GUIDE 7
May 1998

SUMMARY/ADDENDUM

TO

PRELIMINARY ENGINEERING REPORT

Dated December 1, 2009 *(Updated 06-22-11)*

FOR THE

Central City Water & Sewer

Water Treatment Plant Expansion Project
(Name of Water Facility Project)

Applicant Contact Person	Mike McGhee, P.E.
Applicant Phone Number	(270) 483-9985
Applicant Tax ID Number (TIN)	61-6000449

In order to avoid unnecessary delays in application processing the applicant and its consulting engineer should prepare a summary of the preliminary engineering report in accordance with this Guide. Feasibility review and grant determinations may be processed more accurately and more rapidly if the Summary/Addendum is submitted simultaneously with the preliminary engineering report, or as soon thereafter as possible.

WD 4a

I. General

Proposed Project: Provide a brief description of the proposed project. In addition to this summary, the Applicant/engineer should submit a project map of the service area showing the following:

Central City serves 2,325 water and 2,325 sewer customers directly. In addition, the water plant provides water to the Muhlenberg County Water District, Muhlenberg County Water District No. 3, the Cities of Drakesboro and Sacramento, and to the TVA Paradise Steam Plant. In all, Central City is responsible for providing drinking water to over 11,500 households, businesses and industries, representing nearly 30,000 persons. Central City currently operates a 4 MGD water treatment plant and a 1.2 MGD wastewater treatment plant. Both plants are nearing capacity and will require expansion in the near future. Because the water treatment plant capacity issue is most critical, and because it serves the larger number of customers, Central City has elected to pursue a project to expand it first. The proposed project involves expansion of the existing 4 MGD water treatment plant to 7 MGD. This work will include expansion of the intake pumping capacity, construction of new flocculation and sedimentation basins, expansion and rehabilitation of existing chemical storage and feed systems, upgrade of the existing filters, construction of a new clearwell and high service pump station, rehabilitation and replacement of plant electrical and control equipment, renovation and repair some of plant piping, valves and mechanical systems and addition of generators at the intake and treatment plant.. **The proposed project is referred to as the Water Treatment Plant Expansion Project, and the total estimated project cost is $19,000,000**.

II. FACILITY CHARACTERISTICS OF EXISTING WATER SYSTEM

A. Water Source: Describe adequacy of source (quality and quantity). Include an explanation of raw water source, raw water intake structure, treatment plant capacity, and current level of production (WTP). Also describe the adequacy of Water Purchase Contract if applicable.

Central City currently operates a 4 MGD water treatment plant, and the raw water for the plant comes from their intake on the Green River. Currently, the plant operates at 90 percent capacity with an average daily usage of approximately 3.5 MGD. Of the current average, Central City's demand, internal usage and water loss only accounts for 33 percent of the total usage while all other usage is consumed by the other water districts and communities served by the plant.

If the applicant purchases water:

Seller(s): None
Price: Not applicable

B. Water Storage:

Type: Ground Storage Tank X . Elevated Tank X .
Standpipe _____ Other

Number of Storage Structures 4
Total Storage Volume Capacity 3,250,000 gallons
Date Storage Tank(s) Constructed 1938, 1967, 1982 and 2001

C. Water Distribution System:

Pipe Material PVC, Ductile Iron, and Cast Iron

Lineal Feet of Pipe: 4" Diameter and smaller: 10,000 ; 6": 92,400 ;
8": 15,000; 10": 10,000; 12" 26,500; 16": 8,000

Date(s) Water Lines Constructed varies

Number and Capacity of Pump Station(s): None in the distribution system. The tanks are filled via the plant's high service pumps

D. Condition of Existing Water System:

Briefly describe the condition and suitability for continued use of facility now owned by the applicant. Include any major renovation that will be needed within five to ten years.

The system is well managed and generally in good repair. Central City has operated a public water system for many years. The original system was developed to serve development within the city and the immediately surrounding area. In the 1960's, Central City built the first phase of the present water treatment plant to improve service to the city, and to provide service to the rural areas of Muhlenberg County via the rural water districts that were being formed. In the 1980's the plant was expanded to its current capacity of 4 million gallons per day (MGD). In the intervening time, the water districts have undergone steady growth as their service areas have expanded, and Central City has experienced more modest, but sustained growth in its customer base. Per capita consumption of water has also increased over time, further increasing demands on the water system.

E. Percentage of Water Loss in the Existing System: ~21% (Includes Internal Water Usage)

Present Estimated Market Value of Existing System *: $ 5,899,989
*NOTE = Based on Depreciated Value in the 2010 Financial Statements

III. EXISTING LONG-TERM INDEBTEDNESS

A. List of Bonds and Notes: (Information from 2010 Audit Report)

Date of Issue	Bond/Note Holder	Principal Balance	Payment Date	Bond Type	Amount on Deposit in Reserve
1997	Private	$ 335,000	2014	Rev	
Total		$ 335,000			Unknown

B. Principal and Interest Payments: (Information from 2010 Audit)

		Payment Year 2011		Payment Year 2012		Payment Year 2013	
Date of Issue	Bond/Note Holder	Principal Payment	Interest Payment	Principal Payment	Interest Payment	Principal Payment	Interest Payment
1997	Private	$ 80,000	$ 16,215	$ 80,000	$ 11,895	$ 85,000	$ 7,378
Total		$ 80,000	$ 16,215	$ 80,000	$ 11,895	$ 85,000	$ 7,378

IV. EXISTING SHORT-TERM INDEBTEDNESS

A. List of All Short Term Debts:

Lender or Lessor	Date of Issue (Mo. & Year)	Principal Balance	Purpose	Payment Date	Principal & Interest Payment (P&I)	Date to Be Paid In Full
NA	NA	$ -		NA	$0	

V. LAND AND RIGHTS - EXISTING SYSTEM(S):

Number of Treatment Plant Sites	1
Number of Storage Tank Sites	3
Number of Pump Stations	0
Total Acreage	~8 acre
Purchase Price*	$37,656

*Land & ROW value per 2010 Audit, includes Sewer land

VI. NUMBER OF EXISTING USERS

A. Water Users: (per Staff data in November 2009)

Residential Size Meters (In Town)*	1,571
Residential Size Meters/Farmers (Out of Town)*	184
Commercial & Other Users (In Town)	227
Commercial & Other Users (Out of Town)	26
Total	2,008
Number of Total potential Users Living in the Service Area	0 (est.)

VII. CURRENT WATER AND SEWER CONNECTION FEES FOR EACH SIZE WATER METER CONNECTION

WATER		
Meter Size	Water Connection Fee (Inside City)	Water Connection Fee (Outside City)
5/8"x3/4"	$400	$475
1"	$750 + parts	$550
1-1/2"	At Cost	-
2"	$1,500 + parts	-
SEWER		
Inspection Fee	$10	
Taps	$20 per foot plus cost of materials & street repair	
Grinder Pump	$2,500	

VIII. WATER RATES - EXISTING SYSTEM – ALL SIZES

Existing Rate Schedule: Date these rates went into effect: September 20, 2008

Inside City (All Meter Sizes)				
First	1,000	Gallons	$4.06	Minimum
Next	4,000	Gallons	$2.56	per 1,000 Gallons
Next	5,000	Gallons	$2.13	per 1,000 Gallons
Next	10,000	Gallons	$1.88	per 1,000 Gallons
Next	10,000	Gallons	$1.88	per 1,000 Gallons
Over	30,000	Gallons	$1.69	per 1,000 Gallons

Outside City (All Meter Sizes)				
First	2,000	Gallons	$18.78	Minimum
Over	2,000	Gallons	$6.08	per 1,000 Gallons

County Water Districts		
All Usage	$1.57	per 1,000 Gallons

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

For Period FYE June 30, 2009

Meter Size	MONTHLY WATER USAGE	Average	Residential (In-Town Rate)		Commercial (In-Town Rate)	
			No. of Users	Usage	No. of Users	Usage
All Sizes	0 - Gal.	0	659	-	195	-
	0 - 1,000 Gal.	599	1,703	1,064,100	680	364,300
	1,000 - 2,000 Gal.	1,551	3,148	4,910,800	376	555,200
	2,000 - 3,000 Gal.	2,546	3,160	8,051,200	218	550,300
	3,000 - 4,000 Gal.	3,527	2,823	9,954,800	156	552,000
	4,000 - 5,000 Gal.	4,521	2,209	9,984,600	129	586,300
	5,000 - 6,000 Gal.	5,504	1,621	8,919,900	101	558,700
	6,000 - 7,000 Gal.	6,522	1,138	7,420,800	82	536,300
	7,000 - 8,000 Gal.	7,512	775	5,820,200	73	549,900
	8,000 - 9,000 Gal.	8,498	488	4,145,600	56	477,300
	9,000 - 10,000 Gal.	9,513	300	2,852,200	43	410,900
	10,000 - 11,000 Gal.	10,500	211	2,217,100	37	386,900
	11,000 - 12,000 Gal.	11,523	125	1,440,200	21	242,100
	12,000 - 13,000 Gal.	12,527	83	1,038,000	22	277,300
	13,000 - 14,000 Gal.	13,594	81	1,099,100	27	369,100
	14,000 - 15,000 Gal.	14,501	56	810,200	16	233,900
	15,000 - 16,000 Gal.	15,529	45	697,900	17	264,900
	16,000 - 17,000 Gal.	16,536	31	513,300	19	313,500
	17,000 - 18,000 Gal.	17,558	20	351,600	4	69,800
	18,000 - 19,000 Gal.	18,507	15	277,400	14	259,300
	19,000 - 20,000 Gal.	19,531	20	390,400	15	293,200
	20,000 - 25,000 Gal.	22,287	53	1,178,500	64	1,429,100
	25,000 - 30,000 Gal.	27,492	30	818,000	48	1,326,400
	over - 30,000 Gal.	193,989	61	3,281,500	308	68,300,400
		Total	18,855	77,237,400	2,721	78,907,100
	Average Monthly "Meter Setting" Count		1,571		227	
	Average Usage (Gallons)			4,100		29,000

IX. ANALYSIS OF ACTUAL WATER USAGE - EXISTING SYSTEM - 12 MONTH PERIOD (cont-)

For Period FYE June 30, 2009

Meter Size	MONTHLY WATER USAGE	Average	Residential (Outside-Town Rate) No. of Users	Residential (Outside-Town Rate) Usage	Commercial (Outside-Town Rate) No. of Users	Commercial (Outside-Town Rate) Usage
	0 - Gal.	0	180	-	88	-
	0 - 1,000 Gal.	483	228	107,700	87	44,300
	1,000 - 2,000 Gal.	1,574	316	497,600	23	36,100
	2,000 - 3,000 Gal.	2,532	339	859,000	22	55,100
	3,000 - 4,000 Gal.	3,550	296	1,051,600	6	20,600
	4,000 - 5,000 Gal.	4,532	252	1,140,100	7	33,700
	5,000 - 6,000 Gal.	5,543	162	897,600	12	66,900
	6,000 - 7,000 Gal.	6,529	120	783,000	2	13,500
	7,000 - 8,000 Gal.	7,509	68	511,300	7	51,900
All	8,000 - 9,000 Gal.	8,543	56	478,100	2	17,400
Sizes	9,000 - 10,000 Gal.	9,459	24	226,000	5	48,300
	10,000 - 11,000 Gal.	10,600	28	297,100	1	10,300
	11,000 - 12,000 Gal.	11,544	17	196,400	1	11,400
	12,000 - 13,000 Gal.	12,476	14	174,700	3	37,400
	13,000 - 14,000 Gal.	13,691	11	150,600	-	-
	14,000 - 15,000 Gal.	14,267	5	71,500	1	14,100
	15,000 - 16,000 Gal.	15,646	13	203,400	-	-
	16,000 - 17,000 Gal.	16,420	4	65,600	1	16,500
	17,000 - 18,000 Gal.	17,688	7	123,500	1	18,000
	18,000 - 19,000 Gal.	18,563	6	111,300	2	37,200
	19,000 - 20,000 Gal.	19,100	2	38,200	-	-
	20,000 - 25,000 Gal.	22,760	17	383,500	8	185,500
	25,000 - 30,000 Gal.	28,146	5	143,800	8	222,100
	over - 30,000 Gal.	102,883	40	3,843,300	26	2,947,000
		Total	2,210	12,354,900	313	3,887,300
		Average Monthly "Meter Setting" Count	184		26	
		Average Usage (Gallons)		5,590		12,420

Total Actual Water Produced (Gallons) 1,310,432,804

Total Actual Water Sold to Districts (Gallons) 819,435,300

Total Actual Water Sold to City Customers (Gallons) 178,871,300

X. FACILITY CHARACTERISTICS OF PROPOSED WATER SYSTEM

A. Water Source: Describe adequacy of source (quality and quantity). Include an explanation of raw water source, raw water intake structure, treatment plant capacity, and current level of production (WTP). Also describe the adequacy of Water Purchase Contract if applicable.

For the recommended project, raw water will continue to be provided to the system by the Green River. The Green River has an abundant supply of raw water and serves as the source for many Kentucky cities and water districts. The water is readily treatable to potable standards. The existing raw water intake will be rehabilitated and expanded to accommodate the increased flow. Due to the increased plant capacity, additional storage capacity will be provided in the future for the Central City distribution system. Ultimately, an additional 1 million gallons of new elevated storage will be provided. Some improvements are necessary to the existing Central City potable water distribution system to allow for transmission of the larger supply of water from the expanded plant, and to correct existing deficiencies. These improvements may include upsizing of selected lines, construction of new lines, replacement of existing, non-functional valves and construction of a new, enhanced SCADA monitoring system. The primary construction component of the project includes the expansion of the existing water treatment plant from 4 MGD to 7 MGD capacity.

B. Water Storage:

Type: Ground Storage Tank ____. Elevated Tank _____
Standpipe _____ Other _____
Number of Storage Structures _____
Total Storage Volume Capacity _____

C. Water Distribution System:

Pipe Material PVC and DIP
Lineal Feet of Pipe: 16" Diameter TBD 12" TBD
10" TBD 8" TBD

Number, and Capacity of Pump Station(s): 0

XI. LAND AND RIGHTS - PROPOSED WATER SYSTEM(S)

Number of Treatment Plant Sites	No new sites
Number of Pump Sites	0
Number of Other Sites (Storage Tank)	0
Total Acreage	
Purchase Price	

XII. NUMBER OF NEW WATER USERS

Water Users:	
Residential Size Meters (In Town)*	0
Residential Size Meters/Farmers (Out of Town)*	0
Commercial Users (In Town)	0
Commercial Users (Out of Town)	0
Total	0
Number of total potential users living in the service area	0

XIII. PROPOSED CONNECTION FEES FOR EACH SIZE *(Note: No change anticipated)*

WATER		
Meter Size	Water Connection Fee (Inside City)	Water Connection Fee (Outside City)
5/8"x3/4"	$400	$475
1"	$750 + parts	$550
1-1/2"	At Cost	-
2"	$1,500 + parts	-
SEWER		
Inspection Fee	$10	
Taps	$20 per foot plus cost of materials & street repair	
Grinder Pump	$2,500	

XIV. WATER RATES - PROPOSED

A. Proposed Rate Schedule without RUS Grant (All Meter Sizes):

Monthly User Charge	$11.60
Usage Rate ($ per thousand gallons)	$3.20
Wholesale Rate to Water Districts ($ per thousand gallons)	$2.80

B. Recommended Rate Schedule with RUS Grant (All Meter Sizes):

Monthly User Charge	$11.00
Usage Rate ($ per thousand gallons)	$3.00
Wholesale Rate to Water Districts ($ per thousand gallons)	$2.63

XV. FORECAST OF WATER USAGE - INCOME - EXISTING USERS ONLY – EXISTING RATES

For Period FYE June 30, 2009

Meter Size	MONTHLY WATER USAGE	Residential/Commercial (In-City Rate) No. of Cust.	Total Usage	Average Usage	Average Bill	Annual Income	Residential/Commercial (Outside-City Rate) No. of Cust.	Total Usage	Average Usage	Average Bill	Annual Income
All	0	854	-	0	$ 4.06	$ 3,467	268	-	0	$ 18.78	$ 5,033
	0 - 1,000	2,383	1,428,400	599	$ 4.06	$ 9,675	315	152,000	483	$ 18.78	$ 5,916
	1,000 - 2,000	3,524	5,466,000	1,551	$ 5.47	$ 19,279	339	533,700	1,574	$ 18.78	$ 6,366
	2,000 - 3,000	3,378	8,601,500	2,546	$ 8.02	$ 27,087	361	914,100	2,532	$ 22.02	$ 7,948
	3,000 - 4,000	2,979	10,506,800	3,527	$ 10.53	$ 31,366	302	1,072,200	3,550	$ 28.21	$ 8,518
	4,000 - 5,000	2,338	10,570,900	4,521	$ 13.07	$ 30,569	259	1,173,800	4,532	$ 34.17	$ 8,851
	5,000 - 6,000	1,722	9,478,600	5,504	$ 15.37	$ 26,475	174	964,500	5,543	$ 40.32	$ 7,016
	6,000 - 7,000	1,220	7,957,100	6,522	$ 17.54	$ 21,402	122	796,500	6,529	$ 46.31	$ 5,650
	7,000 - 8,000	848	6,370,100	7,512	$ 19.65	$ 16,664	75	563,200	7,509	$ 52.28	$ 3,921
	8,000 - 9,000	544	4,622,900	8,498	$ 21.75	$ 11,832	58	495,500	8,543	$ 58.56	$ 3,397
	9,000 - 10,000	343	3,263,100	9,513	$ 23.91	$ 8,202	29	274,300	9,459	$ 64.13	$ 1,860
	10,000 - 11,000	248	2,604,000	10,500	$ 25.89	$ 6,421	29	307,400	10,600	$ 71.07	$ 2,061
	11,000 - 12,000	146	1,682,300	11,523	$ 27.81	$ 4,061	18	207,800	11,544	$ 76.81	$ 1,383
	12,000 - 13,000	105	1,315,300	12,527	$ 29.70	$ 3,119	17	212,100	12,476	$ 82.48	$ 1,402
	13,000 - 14,000	108	1,468,200	13,594	$ 31.71	$ 3,424	11	150,600	13,691	$ 89.86	$ 988
	14,000 - 15,000	72	1,044,100	14,501	$ 33.41	$ 2,406	6	85,600	14,267	$ 93.36	$ 560
	15,000 - 16,000	62	962,800	15,529	$ 35.34	$ 2,191	13	203,400	15,646	$ 101.75	$ 1,323
	16,000 - 17,000	50	826,800	16,536	$ 37.24	$ 1,862	5	82,100	16,420	$ 106.45	$ 532
	17,000 - 18,000	24	421,400	17,558	$ 39.16	$ 940	8	141,500	17,688	$ 114.16	$ 913
	18,000 - 19,000	29	536,700	18,507	$ 40.94	$ 1,187	8	148,500	18,563	$ 119.48	$ 956
	19,000 - 20,000	35	683,600	19,531	$ 42.87	$ 1,500	2	38,200	19,100	$ 122.75	$ 245
	20,000 - 25,000	117	2,607,600	22,287	$ 48.05	$ 5,622	25	569,000	22,760	$ 145.00	$ 3,625
	25,000 - 30,000	78	2,144,400	27,492	$ 57.84	$ 4,511	13	365,900	28,146	$ 177.75	$ 2,311
	over - 30,000	369	71,581,900	193,989	$ 339.69	$ 125,346	66	6,790,300	102,883	$ 632.15	$ 41,722
	Sub-totals	21,576	156,144,500			$ 368,607	2,523	16,242,200			$ 122,497

Total Projected **12 Month** Revenue With Current Rates	$ 491,104
Total Actual Water Districts Sales Revenue With Current Rates	$ 1,224,015
	$ 1,715,119
Actual Water Sales FY2009 (per June 30, 2009 Audit)	$ 1,679,584

XVI. FORECAST OF WATER USAGE - INCOME - NEW USERS - EXTENSION ONLY – EXISTING RATES

Note: No new customers are expected to be added as result of the proposed project.

XVII. FORECAST OF WATER USAGE - INCOME - EXISTING & NEW USERS – RECOMMENDED GRANT RATES

Meter Size	MONTHLY WATER USAGE	Residential/Commercial (In-City Rate)					Residential/Commercial (Outside-City Rate)				
		No. of Cust.	Total Usage	Average Usage	Average Bill	Annual Income	No. of Cust.	Total Usage	Average Usage	Average Bill	Annual Income
All	0	854	-	0	$ 11.00	$ 9,394	268	-	0	$ 11.00	$ 2,948
	0 - 1,000	2,383	1,428,400	599	$ 12.80	$ 30,498	315	152,000	483	$ 12.45	$ 3,921
	1,000 - 2,000	3,524	5,466,000	1,551	$ 15.65	$ 55,162	339	533,700	1,574	$ 15.72	$ 5,330
	2,000 - 3,000	3,378	8,601,500	2,546	$ 18.64	$ 62,963	361	914,100	2,532	$ 18.60	$ 6,713
	3,000 - 4,000	2,979	10,506,800	3,527	$ 21.58	$ 64,289	302	1,072,200	3,550	$ 21.65	$ 6,539
	4,000 - 5,000	2,338	10,570,900	4,521	$ 24.56	$ 57,431	259	1,173,800	4,532	$ 24.60	$ 6,370
	5,000 - 6,000	1,722	9,478,600	5,504	$ 27.51	$ 47,378	174	964,500	5,543	$ 27.63	$ 4,808
	6,000 - 7,000	1,220	7,957,100	6,522	$ 30.57	$ 37,291	122	796,500	6,529	$ 30.59	$ 3,732
	7,000 - 8,000	848	6,370,100	7,512	$ 33.54	$ 28,438	75	563,200	7,509	$ 33.53	$ 2,515
	8,000 - 9,000	544	4,622,900	8,498	$ 36.49	$ 19,853	58	495,500	8,543	$ 36.63	$ 2,125
	9,000 - 10,000	343	3,263,100	9,513	$ 39.54	$ 13,562	29	274,300	9,459	$ 39.38	$ 1,142
	10,000 - 11,000	248	2,604,000	10,500	$ 42.50	$ 10,540	29	307,400	10,600	$ 42.80	$ 1,241
	11,000 - 12,000	146	1,682,300	11,523	$ 45.57	$ 6,653	18	207,800	11,544	$ 45.63	$ 821
	12,000 - 13,000	105	1,315,300	12,527	$ 48.58	$ 5,101	17	212,100	12,476	$ 48.43	$ 823
	13,000 - 14,000	108	1,468,200	13,594	$ 51.78	$ 5,593	11	150,600	13,691	$ 52.07	$ 573
	14,000 - 15,000	72	1,044,100	14,501	$ 54.50	$ 3,924	6	85,600	14,267	$ 53.80	$ 323
	15,000 - 16,000	62	962,800	15,529	$ 57.59	$ 3,570	13	203,400	15,646	$ 57.94	$ 753
	16,000 - 17,000	50	826,800	16,536	$ 60.61	$ 3,030	5	82,100	16,420	$ 60.26	$ 301
	17,000 - 18,000	24	421,400	17,558	$ 63.68	$ 1,528	8	141,500	17,688	$ 64.06	$ 513
	18,000 - 19,000	29	536,700	18,507	$ 66.52	$ 1,929	8	148,500	18,563	$ 66.69	$ 534
	19,000 - 20,000	35	683,600	19,531	$ 69.59	$ 2,436	2	38,200	19,100	$ 68.30	$ 137
	20,000 - 25,000	117	2,607,600	22,287	$ 77.86	$ 9,110	25	569,000	22,760	$ 79.28	$ 1,982
	25,000 - 30,000	78	2,144,400	27,492	$ 93.48	$ 7,291	13	365,900	28,146	$ 95.44	$ 1,241
	over - 30,000	369	71,581,900	193,989	$ 592.97	$ 218,805	66	6,790,300	102,883	$ 319.65	$ 21,097
	Sub-totals	21,576	156,144,500			$ 705,770	2,523	16,242,200			$ 76,480

Total Projected 12 Month Revenue With Proposed Rates & Central City Users	$ 782,249	
Total Projected 12 Month Revenue With Proposed Rates & MCWD Usage (534,397,300 gallons)	$ 1,405,465	
Total Projected 12 Month Revenue With Proposed Rates & MCWD#3 Usage (285,038,000 gallons)	$ 749,650	
Total Projected Annual Revenue With Proposed Rates	**$ 2,937,364**	
Actual Water Sales FY2010	$ 1,749,079	
Additional Revenue from Rate Increase	$ 1,188,285	(~67.9% Increase in Water Sales)

XVIII. CURRENT OPERATING BUDGET - (FYE June 30, 2010 – Based on 2010 GAAP Basis)

A.	**Operating Income**	
	Water Sales - Domestic	$ 472,549
	Water Sales - Water Districts	$ 1,276,530
	Other Revenues	$ 7,424
	Total Operating Income	$ 1,756,503
B.	**Operation and Maintenance Expenses:**	
	Water Plant Operation	$ 673,810
	Water Distribution & Transmission	$ 266,003
	Administrative/Commissioner Salaries, Pensions, Uniforms & Taxes	$ 142,916
	Property Insurance & Other Insurance	$ 82,212
	Rent & Utilities	$ 178,986
	Professional & Contracted Fees	$ 8,319
	Office Supplies and Collection Expense	$ 17,680
	Miscellaneous Expense	$ 2,485
	Total Operating Expenses	$ 1,372,411
	Net Operating Income	$ 384,092
C.	**Non-Operating Income:**	
	Interests on Deposits	$ 14,084
	Other	$ -
	Total Non-Operating Income	$ 14,084
D.	**Net Income**	$ 398,176
E.	**Debt Repayment**	
	RUS Interest	$ -
	RUS Principal	$ -
	Non-RUS Interest	$ 20,324
	Non-RUS Principal	$ 75,000
	Total Debt Repayment	$ 95,324
F.	**Balance Available for Coverage and Depreciation**	$ 302,852

XIX. PROPOSED OPERATING BUDGET - EXISTING & NEW USERS – RECOMMENDED WATER RATES

(1st Full Year of Operation) Year Ending 2012 .

A.	**Operating Income**		
	Water Sales - Domestic	$ 782,249	(1)
	Water Sales - Water Districts	$ 2,155,115	(2)
	Other Revenues	$ 7,424	
	Total Operating Income	$ 2,944,788	
B.	**Operation and Maintenance Expenses:**		
	Water Plant Operation	$ 683,810	(3)
	Water Distribution & Transmission	$ 314,003	(4)
	Administrative/Commissioner Salaries, Pensions & Taxes	$ 142,916	
	Property Insurance & Other Insurance	$ 82,212	
	Rent & Utilities	$ 228,986	(5)
	Professional & Contracted Fees	$ 8,319	
	Office Supplies and Collection Expense	$ 17,680	
	Miscellaneous Expense	$ 2,485	
	Total Operating Expenses	$ 1,480,411	
	Net Operating Income	$ 1,464,377	
C.	**Non-Operating Income:**		
	Interests on Deposits	$ 14,084	
	Other	$ -	
	Total Non-Operating Income	$ 14,084	
D.	**Net Income**	$ 1,478,461	
E.	**Debt Repayment**		
	RUS Interest	$ 487,700	(6)
	RUS Principal	$ 260,800	(6)
	Non-RUS Interest	$ 11,895	
	Non-RUS Principal	$ 80,000	
	Total Debt Repayment	$ 840,395	
F.	**Balance Available for Coverage and Depreciation**	$ 638,066	

Notes.

(1) From Table XVII, based on Projected Water Sales at recommended rates.
(2) Based on sales of 2,245,028 gpd at $2.63 per 1,000 gallons.
(3) Allowance for additional plant operations costs.
(4) Allowance for additional transmission & distribution system operations costs.
(5) Estimated additional utility costs.
(6) Estimated P&I on $14.45M, 38 Yr., 3.375%, 10% Coverage

XX. PROPOSED OPERATING BUDGET - NEW USERS - IMPROVEMENTS ONLY – EXISTING WATER RATES

(1st Full Year of Operation) Year Ending 2012 .

A.	**Operating Income**			
	Water Sales - Domestic	$	291,145	(1)
	Water Sales - Water Districts	$	931,100	(2)
	Other Revenues	$	-	
	Total Operating Income	$	1,222,245	
B.	**Operation and Maintenance Expenses:**			
	Water Plant Operation	$	10,000	(3)
	Water Distribution & Transmission	$	48,000	(4)
	Administrative/Commissioner Salaries, Pensions & Taxes	$	-	
	Property Insurance & Other Insurance	$	-	
	Rent & Utilities	$	50,000	(5)
	Professional & Contracted Fees	$	-	
	Office Supplies and Collection Expense	$	-	
	Miscellaneous Expense	$	-	
	Total Operating Expenses	$	108,000	
	Net Operating Income	$	1,114,245	
C.	**Non-Operating Income:**			
	Interests on Deposits	$	-	
	Other	$	-	
	Total Non-Operating Income	$	-	
D.	**Net Income**	$	1,114,245	
E.	**Debt Repayment**			
	RUS Interest	$	487,700	(6)
	RUS Principal	$	260,800	(6)
	Non-RUS Interest	$	-	
	Non-RUS Principal	$	-	
	Total Debt Repayment	$	748,500	
F.	**Balance Available for Coverage and Depreciation**	$	365,745	

Notes.

(1) Difference from Table XV and Table XVII (Existing vs. Proposed)
(2) Based on increase from current wholesale rate of $1.57/kgal to $2.63/kgal (Table XV & Table XVII).
(3) Allowance for additional plant operations costs.
(4) Allowance for additional transmission and distribution system operations costs.
(5) Estimated additional utility cost.
(6) Estimated P&I on $14.45M, 38 Yr., 3.375%, 10% Coverage.

XXI. ESTIMATED PROJECT COST - WATER

Development	$ 14,500,000.00
Land and Rights	$ 10,000.00
Legal & Administration	$ 160,000.00
Engineering & Inspection	$ 1,930,000.00
Interest	$ -
Contingencies	$ 1,450,000.00
Initial Operating and Maintenance	$ 175,000.00
Other (Prelim. Eng. & Env. Asses.)	$ 775,000.00
TOTAL	$ 19,000,000.00

XXII. PROPOSED PROJECT FUNDING

Applicant - User Connection Fees	$ -
Other Applicant Contribution	$ -
RUS Loan	$ 14,450,000.00
RUS Grant	$ 3,000,000.00
State Appropriation (KIA)	$ 1,550,000.00
Federal Appropriation (CDBG)	$ -
Other (Logan Todd upgrade portion)	$ -
Other (Specify)	$ -
TOTAL	$ 19,000,000.00

PRELIMINARY ENGINEERING REPORT

Water Plant Expansion Project
PHASE II: Water Tank & Line Improvements

prepared for the

CCW&S
Central City Water & Sewer

prepared by

McGhee Engineering, Inc.
EIN# 61-1338167
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WD 4b

Preliminary Engineering Report

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Appendix

A Clearinghouse Review Letter

1.0 INTRODUCTION

Central City is a fourth class city with a population in the 2010 census of 5,978. It is the largest city in Muhlenberg County with about 19% of the county's 31,499 residents; however it is not the county seat. The community was first formed in 1826 and later incorporated as Central City in 1882. The city is governed by a Mayor and an eight member city council. Central City also has a full-time city administrator.

The Central City Municipal Water and Sewer Board is charged with managing and operating the Central City municipal water and wastewater system. The board is appointed by the Mayor and Council and consists of five members. The water and sewer department has approximately 17 employees and an annual budget of approximately $2,475,000.

Central City serves approximately 2,171 water and 1,901 sewer customers directly. In addition, the water plant provides water to the Muhlenberg County Water District, Muhlenberg County Water District No. 3, the Cities of Drakesboro and Sacramento, and to the TVA Paradise Steam Plant. Central City currently operates a 4 MGD water treatment plant and a 1.2 MGD wastewater treatment plant. Both plants are operating near capacity. Currently, the water treatment plant is in the construction phase of a major expansion project (Phase I). The first phase of the water project is estimated at $19,000,000, with construction completion expected in early 2013, and the project will take capacity from 4 MGD to 7 MGD. Furthermore, the City has faced two pressing issues in the past year with their wastewater treatment capacity: an opportunity to extend sewer service to the proposed Breman Elementary School (under construction with completion in April 2012) and state sanctions to correct dilapidated sewer mains and treatment limitations at the existing wastewater treatment plant. Hence, Central City has elected to pursue two new sewer projects (Sewer Expansion and Sewer Rehabilitation) simultaneously with their ongoing water project phases.

Phase I of the proposed project involves expansion of the existing 4 MGD water treatment plant to 7 MGD. This work will include expansion of the intake pumping capacity, construction of new flocculation and sedimentation basins, expansion and rehabilitation of existing chemical storage and feed systems, upgrade of the existing filters, construction of a new clearwell and high service pump station, rehabilitation and replacement of plant electrical and control equipment, renovation and repair some of plant piping, valves and mechanical systems and addition of generators at the intake and treatment plant.

Phase II of the proposed project involves distribution improvements that will be required to improve the capacity and operability of the system. These improvements will include construction of a new 1 million gallon water storage tank, replacement of undersized lines, addition and renovation of valves in the distribution system and rehabilitation of existing water storage tanks. The total cost of Phase II is estimated to be $3,750,000, and is expected to take 12-18 months to implement.

2.0 PROJECT PLANNING AREA

2.1 *Location*

The work will take place near the existing raw water intake on the Green River and within the Central City distribution system. A new water storage tank will be constructed adjacent to Madisonville Community College (Muhlenberg Campus) and near the Western Kentucky Parkway. The location of these improvements is shown on Exhibit E-1.

2.2 *Land Use and Environmental Resources Present*

All work proposed will take place within the city limits of Central City. The distribution system improvements will take place primarily in existing street right of way, or within existing easements. The project will affect two main resources during construction: residential and transportation. The general construction effect to the resources is the disturbances associated with building the facilities. Industrial, commercial, residential and agriculture resources within the majority of Muhlenberg County will be affected upon completion of the project by providing increased availability of treated water, enhanced fire protection and abundant storage capacity.

The project has been reviewed by the Kentucky State Clearinghouse. The Clearinghouse review identified no conflicts with state or local planning, and recommended approval of the project. The Clearinghouse review letter is included in Appendix A. An archeological investigation of the tank site has been completed, and the report was reviewed and accepted by the Kentucky Heritage Council. Other agencies, including US Fish & Wildlife and NRCS, have reviewed the project, and these findings were included in the project's overall Environmental Assessment, produced by Bill Norris.

The predominant natural resource in the area is coal. The area around Central City has been extensively mined over the past 100 years, and this mining activity continues today. In addition to mining, there is some oil and gas production and agricultural land use. The proposed project should not impact any of these uses negatively.

The following exhibits and comments indicate the environmental resources present within the project planning area:

- Topographic maps of the proposed Phase II of the project indicating the area to be affected and the surrounding area are attached as Exhibits 1 thru 5. The base maps are USGS issued topographic images.
- No soil data from the Soil Conservation Service was readily available.
- Exhibits 6 and 7 shows floodplain data available for the project area.

2.3 *Growth Areas and Population Trends*

The population history of Muhlenberg County is an important element in determining the growth patterns over recent years. Analysis of the population

history will assist in forming a reliable estimate of the future water needs of the project area.

According to historical records, Muhlenberg County's population has hovered around 32,000 persons for the past 40 years. Table 1 provides the population history and projections of the county based on data obtained from the U.S. Bureau of the Census.

Table 1
Population History and Projections

		Historical								Projections			
	YEAR	1940	1950	1960	1970	1980	1990	2000	2010	2015	2020	2025	2030
MUHLENBERG	Breman	239	410	328	299	179	267	365	197	360	358	354	349
	Central City	4,199	4,110	3,694	5,450	5,214	4,979	5,893	5,978	5,616	5,531	5,460	5,388
	Drakesboro	1,255	1,102	832	907	798	565	627	515	620	617	609	601
	Greenville	2,347	2,661	3,198	3,875	4,631	4,689	4,398	4,312	4,088	3,989	3,938	3,886
	Powderly	*	*	*	631	848	748	846	745	888	885	874	862
	So. Carrollton	296	289	234	218	262	202	184	184	181	180	178	175
	Rural Areas	29,218	23,929	19,505	16,157	20,306	19,868	19,526	19,568	19,099	18,947	18,710	18,460
	Muhl. County	37,554	32,501	27,791	27,537	32,238	31,318	31,839	31,499	30,852	30,507	30,120	29,721
	%Change		-13.5%	-14.5%	-0.9%	17.1%	-2.9%	1.7%	-1.1%	-2.1%	-1.1%	-1.3%	-1.3%
	Notes to Table 1:		1.	Shaded areas have been calculated based on census and projection data.									
	Sources to Table 1:		1.	Historical & Projections provided by the KY State Data Center and Census Bureau									
				University of Louisville, State Data Center (http://cbpa.louisville.edu/ksdc/)									

Analyzing Table 1 shows that Muhlenberg County grew steadily for the first part of the 20th century, lost population during the middle decades, then has held fairly steady through the last 30 years. As with most rural areas in western Kentucky, the Kentucky Data Center at the University of Louisville projects a steady decline in the population of Muhlenberg County for the next 20 years.

Several factors influence the growth of a community, some of which include accessibility, technology, education, water infrastructure, sewer facilities, and jobs. Muhlenberg County enjoys good access to Interstates 24 and 65 via the Western Kentucky Parkway. High speed internet and wireless technology have gradually entered the communities, creating greater and easier contact to the rest of the world. The local school system is strong and provides a quality education and quality medical care is readily available. Perhaps the most important development in recent years, however, is the resurgence in coal mining. While mine employment has not reached the levels experienced in the 1960's and 1970's, many good jobs have been created in the mining industry in recent years. With energy prices remaining relatively high, coal is expected to be an important industry in the United States for the foreseeable future, and an important source of jobs and growth in Muhlenberg County.

It should also be noted that population would eventually be impacted by the availability or unavailability of water supply. An ample supply of water will promote growth while the lack thereof will limit growth. It's unlikely that the lack of water

capacity has impacted growth much to date, but failure to act to augment the water supply could have a detrimental effect on growth in the future.

Considering all of these factors, it is prudent to plan for modest population growth in Muhlenberg County. Rather than adopt the negative growth projections from the University of Louisville for Muhlenberg County, the more optimistic projection of 0.6% annual growth for the Pennyrile region as a whole will be used.

3.0 EXISTING FACILITIES

3.1 *History and Assets*

Central City has operated a public water system for many years. The original system was developed to serve development within the city and the immediate surrounding area. In the 1960's, Central City built the first phase of the present water treatment plant to improve service to the city, and to provide service to the rural areas of Muhlenberg County via the rural water districts that were being formed. In the 1980's the plant was expanded to its current capacity of 4 million gallons per day (MGD). In the intervening time, the water districts have undergone steady growth as their service areas have expanded, and Central City has experienced more modest, but sustained growth in its customer base. Per capita consumption of water has also increased over time, further increasing demands on the water system.

Table 2
Current Usage* for Systems Supplied by Central City
(for the period July 1, 2008 to June 30, 2009)

System	Average Day Usage (Gal)
Central City	450,000
Muhlenberg Co. WD	920,000
Muhlenberg Co. WD No. 3	470,000
Sacramento	150,000
Drakesboro	55,000
TVA/Paradise	85,000
Internal Usage & Unaccounted	1,460,000
TOTAL	3,590,000

* Usage refers to the amount of water sold to customers of the system.

3.2 *Regulatory Compliance*

According to the Division of Water's remarks within the Clearinghouse Comments, the Central City water system is currently in compliance with appropriate regulatory agencies. No other remarks were given to suggest that the water system was in or near a noncompliance status. The comments of the Division of Water and other agencies are included in Appendix A.

3.3 *Existing Financial Charges and Status*

3.3.1 *Existing Water Rate Schedule (Rates effective 9-20-08)*

Inside City (Current)				
First	1,000	Gallons	$4.06	Minimum
Next	4,000	Gallons	$2.56	per 1,000 Gallons
Next	5,000	Gallons	$2.13	per 1,000 Gallons
Next	10,000	Gallons	$1.88	per 1,000 Gallons
Next	10,000	Gallons	$1.88	per 1,000 Gallons
Over	30,000	Gallons	$1.69	per 1,000 Gallons

Outside City (Current)				
First	2,000	Gallons	$18.78	Minimum
Over	2,000	Gallons	$6.08	per 1,000 Gallons

County Water Districts (Current)		
All Usage	$1.57	per 1,000 Gallons

This rate schedule went into effect in September of 2008. This rate increase was enacted to correct immediate cash flow deficiencies in the system, and to provide an interim step toward the higher rates that would result from the expansion project. Prior to this increase, the following rates (effective 7-1-02) were in effect.

Inside City (Prior)				
First	1,000	Gallons	$3.25	Minimum
Next	4,000	Gallons	$2.05	per 1,000 Gallons
Next	5,000	Gallons	$1.70	per 1,000 Gallons
Next	10,000	Gallons	$1.50	per 1,000 Gallons
Next	10,000	Gallons	$1.50	per 1,000 Gallons
Over	30,000	Gallons	$1.35	per 1,000 Gallons

Outside City (Prior)				
First	2,000	Gallons	$15.02	Minimum
Over	2,000	Gallons	$4.86	per 1,000 Gallons

County Water Districts (Prior)		
All Usage	$1.26	per 1,000 Gallons

3.3.2 *O&M Costs (FYE 06-30-11)*

Item No.	Expense Item	Amount
1	Water Plant Operations	$ 599,376.00
2	Water Distribution: Repairs/Mainten.	$ 200,651.00
3	Water Distribution: Equip. Mainten.	$ 6,721.00
4	Water Distribution: Parts & Supplies	$ 64,007.00
5	Water Distribution: Meters	$ 794.00
6	Water Distribution: Misc. Expense	$ 7,135.00
7	General/Admin: Employees	$ 209,956.00
8	General/Admin: Rent & Bldg Maint.	$ 22,020.00
9	General/Admin: Municipal Insur.	$ 17,159.00
10	General/Admin: Utilities	$ 163,775.00
11	General/Admin: Professional Fees	$ 8,653.00
12	General/Admin: Cust. Service & Office Supplies	$ 14,275.00
12	General/Admin: Misc. Expenses	$ 5,050.00
	Total Utility Expense	**$ 1,319,572.00**

3.3.3 *Long Term Debts (as of 6/30/11)*

Per the most recent audit, the Central City Water and Sewer system has two outstanding bond issues, but a new water related bond is anticipated with the currently on-going water treatment plant expansion project. Of the original bonds, one is referred to as the Water & Sewer Refunding Revenue Bond, Series 1997 (Issue VII), and the other is the Water & Sewer Revenue Bond, Series 1989 (Issue VI). An attempt was made through research of records and discussions with system employees to determine if the bonds were used to finance water improvements, sewer improvements or a combination of both. Although no definitive answer was found, there is some evidence that the 1997 issue was a refinancing of a 1988 issue that was used primarily in the water system, and the 1989 issue was used primarily for upgrade of the wastewater plant. For purposes of this report, we are assigning obligations in that manner, and listing the 1989 issue as debt of the sewer system.

Date of Issue	Utility Purpose	Bond/Note Holder	Principal Balance	Maturity Date	Bond Type	Interest Rate
1997	Water	Private	$ 335,000	2014	Revenue	4.0-5.6%
1989	Sewer	Private	$ 1,059,000	2028	Revenue	5.0%
2012	Water	Private	$ 14,450,000	2052	Revenue	3.375%
Total			$ 15,844,000			

4.0 NEED FOR PROJECT

There were many driving factors for the Central City Water Treatment Plant Expansion Project, including 1) The Central City water treatment plant is operating at approximately 90% of its design capacity of 4.0 MGD, and is in immediate need of expansion. 2) Central City and its two primary customers experience a high degree of water loss in their systems. 3) Central City produces and sells water at a very low cost in comparison to similar water providers.

Phase 1 of the Project addresses these three critical factors, and construction on the water treatment plant expansion is currently 25% complete. Phase 1 of the

project is scheduled for substantial completion in mid January 2013. In addition to the plant work, other components were planned for the original overall project. However, due to higher plant costs and other funding not coming through for the total financing package required, the deleted distribution and transmission components are proposed as a second phase of the project. These components, consisting of a new tank and waterline work, are critical to insure a reliable delivery of water to the Central City water system and their large rural water district customers.

4.1 *Health and Safety*

Portions of the Central City water system are currently strained due to the continued growth of their water district customers and recent rural expansion projects to serve unserved areas. Furthermore, both the City and water districts constantly battles line breaks of older pipelines as well as water loss within their respective systems, which is a vast area of Muhlenberg County. Unfortunately, the attempts to solve the water loss problems also create pressure problems as more flow is forced into fewer pipelines rather than multiple loops. Thus, the City constantly has to balance its effort to minimize water loss with its requirement to deliver proper pressure.

The proposed project will include additional storage and correction of a number of deficiencies within the Central City distribution system. These improvements will allow more flexibility in system operations, and more stable pressure and supply to customers.

4.2 *System O&M*

System operations and maintenance will be enhanced in several ways by the overall project. A modern SCADA system will be implemented with the plant expansion to allow the plant and distribution system operators to better monitor critical parameters, and to address problems earlier than now possible.

The current distribution system has several deficiencies, including several non-functional valves and several locations where valves are needed but not present. This results in disruption in service to a wide area of the city when repairs or maintenance are needed, and exposes more of the system than necessary to the risk of contamination.

Additional storage will allow for continued service for a longer period in the event of a disruption in the treatment plant, and will allow other tanks to be taken out of service for inspection and maintenance.

4.3 *Growth*

As described earlier, Central City is projected to grow only modestly in the foreseeable future. Water demands over the next forty years are expected to grow from the recent usage of 3,590,000 gallons per day (gpd) to about 4,600,000 gpd. Making an arbitrary allowance for growth in per capita usage, we recommended a

minimum planning capacity of 5,000,000 gpd to serve current customers and their anticipated growth.

In discussions with the Board of Directors of the Central City Municipal Water and Sewer System, it was decided that an additional 2,000,000 gpd should be included for potential industrial users and other growth, all of which resulted in a total treatment capacity of 7,000,000 gpd. Consequently, it is imperative to make similar capacity improvements within the distribution system to deliver and store the planned flow.

5.0 ALTERNATIVES CONSIDERED

A resolution to the distribution and transmission needs of the Central City Water & Sewer Board is a relatively simple project with two alternatives.

5.1 *Alternative 1*

The first obvious alternative is to do nothing or a smaller variation of the project. However, the City would continue their current endurance of operation, maintenance and water delivery problems to their own system and water district customers. Therefore, the 'do nothing' alternative is not a viable option as it would only prolong the inevitable.

5.2 *Alternative 2*

The second alternative is one that offers several advantages and completes the overall Water Plant Expansion Project. Phase II of the proposed project involves distribution improvements that will be required to improve the capacity and operability of the system. The current distribution system has several deficiencies, including several non-functional valves and several locations where valves are needed but not present. This results in disruption in service to a wide area of the city when repairs or maintenance are needed, and exposes more of the system than necessary to the risk of contamination.

Additional storage will allow for continued service for a longer period in the event of a disruption in the treatment plant, and will allow other tanks to be taken out of service for inspection and maintenance.

5.2.1 *Description*

The project involves construction of a new 1 million gallon water storage tank, replacement of undersized lines, addition and renovation of valves in the distribution system and rehabilitation of existing water storage tanks. The alternative is illustrated overall in Exhibit 1 separately in Exhibits 2 thru 5.

The new tank will be constructed along the Western Kentucky Parkway, near the Muhlenberg campus of Madisonville Community College. This site places the tank equal distance from the two primary feed points of the Muhlenberg County Water District (MCWD). Other construction includes

approximately one mile of 16-inch pipeline to feed the new tank and better serve the MCWD pump station on US Highway 431 South, and it includes just over a mile of 12-inch pipeline to feed Muhlenberg County Water District #3 (MCWD#3), replacing an inaccessible cross-country line presently in use. Furthermore, the project will include a half mile of 8-inch pipeline to deliver fire protection to the renovated raw water intake facility.

5.2.2 *Environmental Impacts and Land Requirements*

The alternative has little to no impact upon the environment and land resources because the proposed construction will be done along existing easements and highways. The line extensions and upgrades are proposed for construction in existing pipeline easements where possible or in county/state right-of-way and easements as necessary. As mentioned earlier, the project will affect two main resources during construction: residential and transportation. The general construction effect to the resources is the disturbances associated with building the facilities. Industrial, commercial, residential and agriculture resources within the majority of Muhlenberg County will be affected upon completion of the project by providing increased availability of treated water, enhanced fire protection and abundant storage capacity. No other effect to the resources is expected after construction of the facilities is complete.

5.2.3 *Construction Problems*

There are no severe construction problems foreseen for the project. The Central City service area has varying soil conditions ranging from near ideal in some parts to sporadic instances of rock outcrops in other parts, and there is little evidence of a high water table along the waterline routes. Based on the current scope of the project, all of the construction should be contained to properties previously obtained or existing easements, all previously disturbed by earlier construction. Some new easements have been obtained, and they've been cleared by regulatory agencies. Although the size of these city tracts may limit the mobility and staging of the proposed construction, general mobilization of construction equipment should be minimal.

5.2.4 *Cost Estimates*

Phase II of the Central City Water & Sewer's Water Plan Expansion Project is estimated to have a total cost of $3,750,000. The project cost consists of construction, non-construction and contingency costs, which are $3,035,000, $465,000 and $250,000 respectively. The project is anticipated to be funded in part by a $1,000,000 CDBG Grant plus an $850,000 grant and $1,900,000 loan from Rural Development

6.0 PROPOSED PROJECT

6.1 *Project Design*

6.1.1 *Water Supply*

Raw Water will continue to be provided to the system by the Green River. The Green River has an abundant supply of raw water and serves as the source for many Kentucky cities and water districts. The water is readily treatable to potable standards. Under Phase I of the project, the existing raw water intake located as shown on Exhibit E-1 will be rehabilitated and expanded to accommodate the increased flow to the expanded water treatment plant.

6.1.2 *Storage*

Due to the increased plant capacity, additional storage capacity will be provided in the Central City distribution system. An additional 1 million gallons of new elevated storage will be provided at a location as shown on Exhibit E-1.

6.1.3 *Distribution Layout*

The waterline construction of the Phase II portion of the Central City Water Plant Expansion Project will be spread out to three independent areas of the city limits. The upgrades consist of approximately 5,400 LF of new 16-inch piping to feed the new water storage tank and running from the Stringtown elevated water tank to the intersection of US Highway 431 and WK Parkway. The project includes approximately 6,750 LF of 12-inch piping to better supply the Muhlenberg County Water District #3, running along Prison Road and US Highway 431 North to the existing pump station site. Also, the upgrades include approximately 2,100 LF of 8-inch pipeline to provide fire protection at the raw water intake. Other valve additions and valve replacements will be installed in the distribution to better manage flow during repairs and for tank level management.

The proposed line extensions and upgrades are illustrated in Exhibit 1.

6.1.4 *Regulatory Compliance*

The proposed project has been submitted to the Kentucky State Clearinghouse for their comments. The clearinghouse comments are included in Appendix A. The clearinghouse review of the proposal indicates there are no identifiable conflicts with any state or local plan, goal, or objective. Furthermore, no notices have been received and none are expected to suggest that the water system is in or near a noncompliance status.

6.1.5 *Hydraulic Calculations*

For preliminary planning purposes, the computer hydraulic simulator, KYPIPE 2000, was used to construct a system wide model to determine the hydraulic characteristics of the Central City potable water distribution system, as it currently exists. The proposed line additions and upgrades, and the new tank were then added and a 48-hour extended period simulation of the distribution system was run to analyze the diurnal pressure and flow variations.

The "existing conditions" model verified the existence of low pressure areas during future high demand periods, and identified the need for additional water storage capacity. The "future conditions" model verified that the new tank will correct the storage problem, and that the new areas can be successfully served with adequate pressure and flow. The requirement to provide a line flushing velocity of at least 2.5 feet per second has also been considered. Detailed model results are available upon request.

6.2 *Cost Estimate*

An itemized cost estimate of Phase II of the Central City Water Treatment Plant Expansion Project is shown in Table 3.

Table 3
Project Cost Estimate

Construction	
Item	**Total**
1 MG Elevated Water Storage Tank	$ 1,600,000
Water Line Upgrades	$ 935,000
Water Tank Rehabilitation	$ 500,000
SUBTOTAL - Construction	**$ 3,035,000**
Non-Construction Items	
Administrative	$ 50,000
Legal Costs	$ 20,000
Preliminary Engineering	$ 35,000
Additional Services - Environmental, Special Studies	$ 25,000
Design Engineering	$ 150,000
Construction Phase Engineering Services	$ 65,000
Construction Inspection	$ 120,000
SUBTOTAL - Non-Construction	$ 465,000
Contingency	$ 250,000
TOTAL ESTIMATED PROJECT COST	**$ 3,750,000**

6.3 *Annual Operating Budget*

Table 4

Proposed Operating Budget

	BEFORE PROJECT (1)	PHASE 1 ONLY		PHASE 2 ONLY	AFTER PROJECT (2013)
OPERATING REVENUE					
Retail Sales	$ 459,934	$ 385,959	(4)	$ -	$ 845,893
MCWD	$ 814,352	$ 549,817	(5)	$ -	$ 1,364,169
MCWD#3	$ 406,652	$ 274,555	(5)	$ -	$ 681,207
Penalties & Allowances	$ 3,394	$ -		$ -	$ 3,394
Service Charges & Sales	$ 4,838	$ -		$ -	$ 4,838
Miscellaneous	$ 500	$ -		$ -	$ 500
TOTAL REVENUE	$ 1,689,670	$ 1,210,331		$ -	$ 2,900,001
OPERATING EXPENSE					
Water Plant Operations					
Labor	$ 233,551	$ 50,000	(2)	$ -	$ 283,551
Supplies	$ 33,392	$ 5,000	(2)	$ -	$ 38,392
Repair & Maintenance	$ 34,545	$ 10,000	(2)	$ -	$ 44,545
Chemicals	$ 297,888	$ -		$ -	$ 297,888
Subtotal - WTP Oper	$ 599,376	$ 65,000		$ -	$ 664,376
Water Distribution					
Labor	$ 190,097	$ -		$ 10,000	(3) $ 200,097
Repair & Maintenance	$ 10,554	$ -		$ 5,000	(3) $ 15,554
Equipment Maintenance	$ 6,721	$ -		$ -	$ 6,721
Parts & Supplies	$ 47,914	$ -		$ 5,000	(3) $ 52,914
Gas & Oil	$ 16,093	$ -		$ -	$ 16,093
Meters	$ 794	$ -		$ -	$ 794
Miscellaneous & Rehab Expense	$ 7,135	$ -		$ -	$ 7,135
Subtotal - Collection	$ 279,308	$ -		$ 20,000	$ 299,308
Administrative					
Office Salaries	$ 46,261	$ -		$ -	$ 46,261
Office Suppies	$ 12,374	$ -		$ -	$ 12,374
Rent	$ 21,600	$ -		$ -	$ 21,600
Municipal Insurance	$ 17,159	$ 20,000	(2)	$ -	$ 37,159
Personel Insurances	$ 64,523	$ -		$ -	$ 64,523
Payroll Taxes	$ 27,441	$ -		$ -	$ 27,441
Commission Salaries	$ 3,600	$ -		$ -	$ 3,600
Bad Debts & ACH Fees	$ 1,901	$ -		$ -	$ 1,901
Building Maintenance	$ 420	$ -		$ -	$ 420
Legal, Accounting & Audit Expenses	$ 7,585	$ -		$ -	$ 7,585
Engineering Expenses	$ 1,068	$ -		$ -	$ 1,068
Utilities	$ 163,775	$ 25,000	(2)	$ -	$ 188,775
Pension Expense	$ 63,400	$ -		$ -	$ 63,400
Uniforms	$ 4,731	$ -		$ -	$ 4,731
Miscellaneous Expense	$ 5,050	$ -		$ -	$ 5,050
Subtotal - Admin.	$ 440,888	$ 45,000		$ -	$ 485,888
TOTAL OPERATING EXPENSE	$ 1,319,572	$ 110,000		$ 20,000	$ 1,449,572
NON-OPERATING REVENUE					
Interest Income (Est. 50:50 W&S)	$ 5,917	$ -		$ -	$ 5,917
Interest Expense (1997 Bond)	$ (16,215)	$ -		$ -	$ (7,378)
Principal Repayment (1997 Bond)	$ (80,000)	$ -		$ -	$ (85,000)
Interest Expense (Phase1-WTP)	$ -	$ (487,700)	(6)	$ -	$ (487,700)
Principal Repayment (Phase1-WTP)	$ -	$ (175,900)	(6)	$ -	$ (175,900)
Interest Expense (Phase2-Distrib)	$ -	$ -		$ (71,250)	(7) $ (71,250)
Principal Repayment (Phase2-Distrib)	$ -	$ -		$ (21,200)	(7) $ (21,200)
Debt Service Coverage	$ -	$ (66,400)	(6)	$ (9,200)	(7) $ (75,600)
	$ (90,299)	$ (730,000)		$ (101,650)	$ (918,112)
NET INCOME					
Net for Depreciation	$ 279,800	$ 370,331		$ (121,650)	$ 532,317
Depreciation (Existing 50:50 W&S)	$ (222,555)	$ (345,450)	(8)	$ (68,200)	(8) $ (636,205)
Net Income	$ 57,245	$ 24,881		$ (189,850)	$ (103,887)

Notes

(1) From FYE 6-30-11 audit - GAAP statement.
(2) Allowance for additional plant operations costs, including Estimated additional insurance cost (by Eaves Insurance).
(3) Allowance for additional distribution system operations cost.
(4) Based on 83.9% net rate increase over current (post-2008) user rates, typical of a 5,000 gallon user.
(5) Based on 67.5% nominal increase due to wholesale increase of $1.57/1,000 gallons to $2.63/1,000 gallons
(6) P&I on $14.45M, 40 Yr.,3.375%, 10% Coverage.
(7) P&I on $1.9M, 40 Yr.,3.75%, 10% Coverage.
(8) $19,000,000 & $3,750,000 straight line over 55 years.

Table 5
Proposed Funding Package

FUNDING SOURCES	
Community Development Block Grant	$1,000,000
Rural Development Grant	$850,000
Rural Development Loan	$1,900,000
TOTAL ESTIMATED PROJECT COST	**$3,750,000**

Based on the projections and assumptions outlined above, the commitment of a $850,000 Rural Development Grant, a $1,900,000 Rural Development Loan and $1,000,000 CDBG grant plus added revenues from the proposed water rate increase is expected to produce an adequate Net for Depreciation. Without securing the referenced Rural Development grant, it is estimated that an additional 1.6% increase to the proposed water rates would be required to offset the increase in debt service and maintain the equivalent Net for Depreciation.

Table 6 illustrates the City's current rate schedule with the requested RUS Grant, and Table 7 shows the necessary rate schedule if the project is undertaken without the requested RUS Grant and funded entirely with the RUS loan and CDBG Grant.

Table 6
Project Rate Schedule with RUS Grant
Residential & Commercial Meter Accounts (All meter sizes)

Inside City (Current)				
First	0	Gallons	$11.00	Minimum
Over	0	Gallons	$3.06	per 1,000 Gallons

Outside City (Current)				
First	0	Gallons	$25.00	Minimum
Over	0	Gallons	$3.06	per 1,000 Gallons

County Water Districts (Current)		
All Usage	$2.63	per 1,000 Gallons

Table 7
Project Rate Schedule without RUS Grant
Residential & Commercial Meter Accounts (All meter sizes)

Inside City (Current)				
First	0	Gallons	$11.18	Minimum
Over	0	Gallons	$3.11	per 1,000 Gallons

Outside City (Current)				
First	0	Gallons	$25.40	Minimum
Over	0	Gallons	$3.11	per 1,000 Gallons

County Water Districts (Current)		
All Usage	$2.67	per 1,000 Gallons

7.0 RECOMMENDED SOLUTION

In order to address the problems and needs of the water system, the Central City Water & Sewer Board should do the following:

- Continue with the expansion of the existing water treatment plant from 4 MGD to 7 MGD capacity (Phase I).
- Construct a new 1 million gallon elevated water storage tank (Phase II).
- Perform miscellaneous distribution system improvements including addition of valves, expansion of certain lines, construction of certain interconnecting lines and implementation of a new SCADA control system (Phase II).
- Continue the second application process for $850,000 in grant and $1,900,000 in loan from Rural Development plus a $1,000,000 grant from CDBG.
- Renew previous environmental comments and concerns to limit any regulatory delays.
- Continue discussions among wholesale customers and the public concerning projected rate increases that may be necessary to fund the project's second phase.
- Continue pursuing all available means of grant financing.

EXIST. MCWD#3 PUMP STATION

P/MM

NEW 12" MCWD#3 SUPPLY LINE

EXISTING 10" MCWD#3 SUPPLY LINE—TO BE ABANDONED

NEW 8" WATER LINE TO INTAKE FOR FIRE PROTECTION

EXISTING MCWD#3 METER STATION—TO BE ABANDONED

WTP

MM

PHASE I: EXISTING 4 MGD WATER PLANT—TO BE EXPANDED TO 7 MGD

NEW 16" WATER LINE & 1 MG TANK TO IMPROVE MCWD SUPPLY

LEGEND

Water Treatment Plant	WTP	Proposed Water Tank	
Existing Water Line		Proposed Water Line	
Existing Master Meter	MM	Proposed Master Meter	MM
Existing Water Tank		Existing Raw Water Intake	

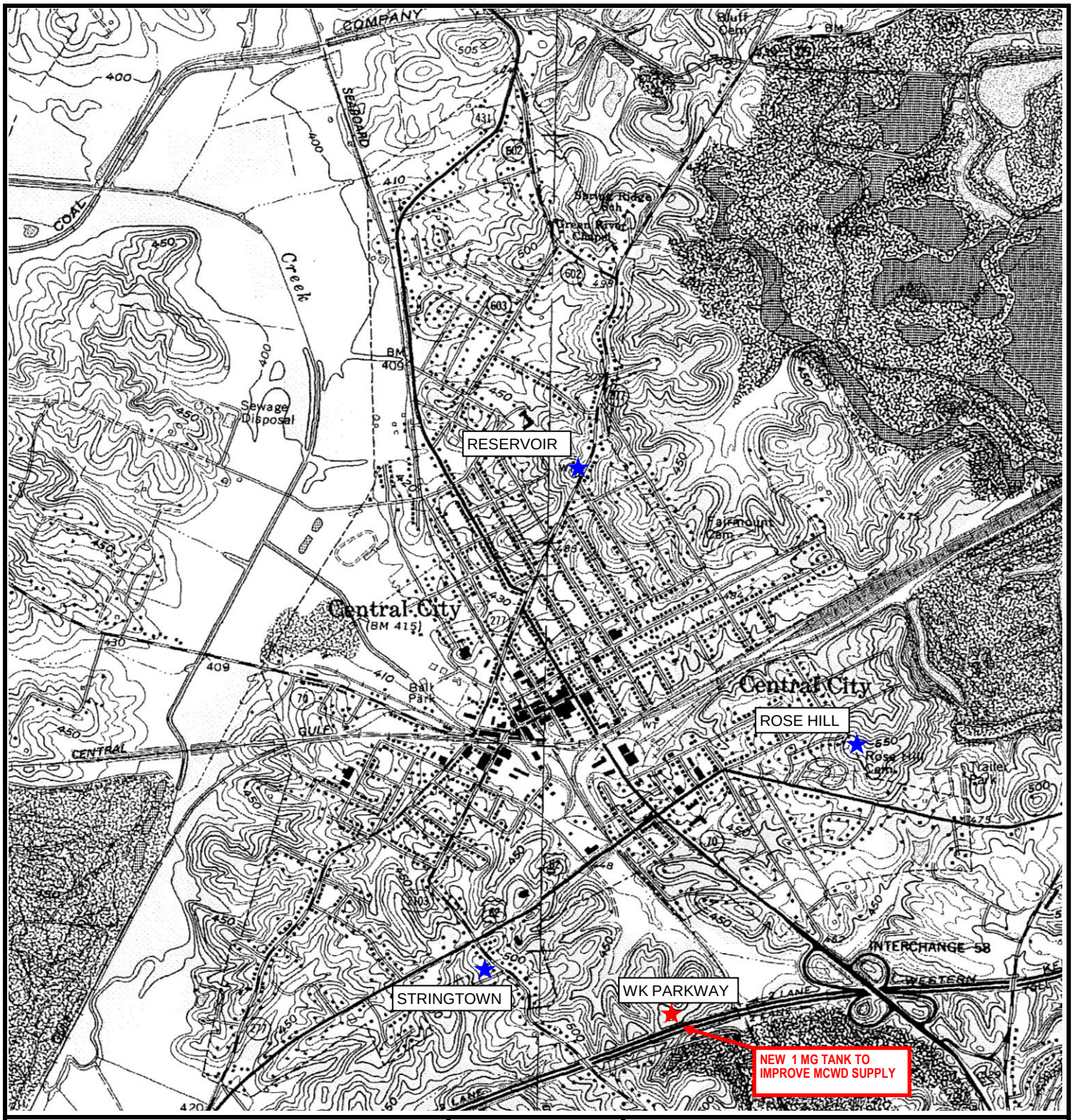
Background: USGS "Central City (West & East)" 7.5 Minute Topographic Quadrangles

CENTRAL CITY WATER & SEWER

Distribution System Improvements
SYSTEM LAYOUT

McGHEE ENGINEERING, INC.
Guthrie, Kentucky

Scale	Drawn By	Date	Page
1"=2,000'	C. Wilcutt	01-20-12	E-1



Legend

- Proposed Water Line
- Existing Tank
- Proposed Tank

Base Map: "Central City East & West" 7.5-minute Quadrangles

N

McGhee Engineering, Inc.

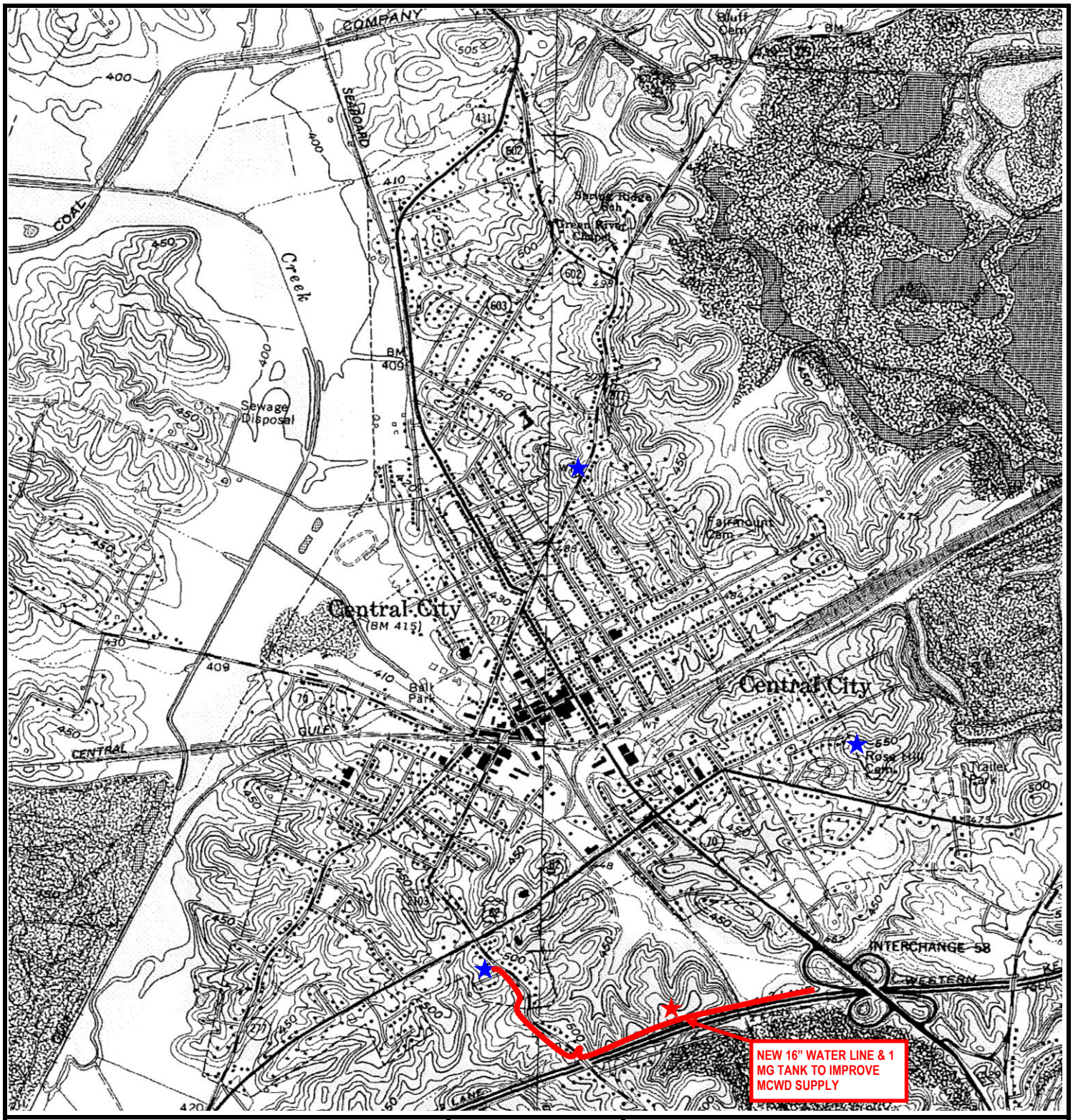
Central City Water & Sewer

Water Treatment Plant Expansion Project

EXHIBIT 2

WK Parkway Tank Addition - Vicinity Map

January 1, 2012	Not to Scale	Page E-2



Legend

Proposed Water Line

Existing/Proposed Tank

N

Base Map: "Central City East & West" 7.5-minute Quadrangles

McGhee Engineering, Inc.

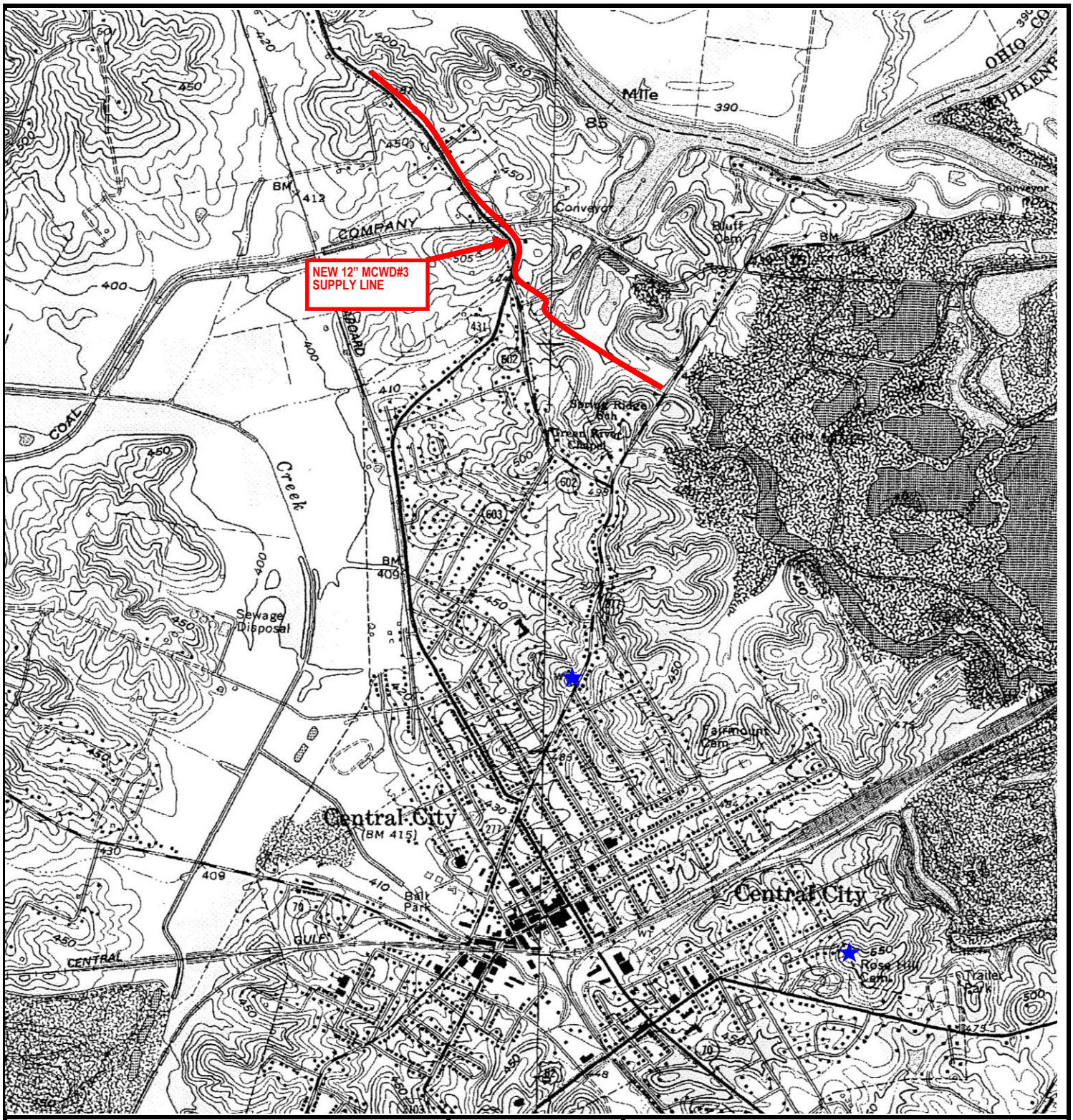
Central City Water & Sewer

Water Treatment Plant Expansion Project

EXHIBIT 3

WK Parkway Line Extension - Vicinity Map

January 2012	Not to Scale	Page E-3



Legend

Proposed Water Line

★ Existing/Proposed Tank

Base Map: "Central City East & West" 7.5-minute Quadrangles

N

McGhee Engineering, Inc.

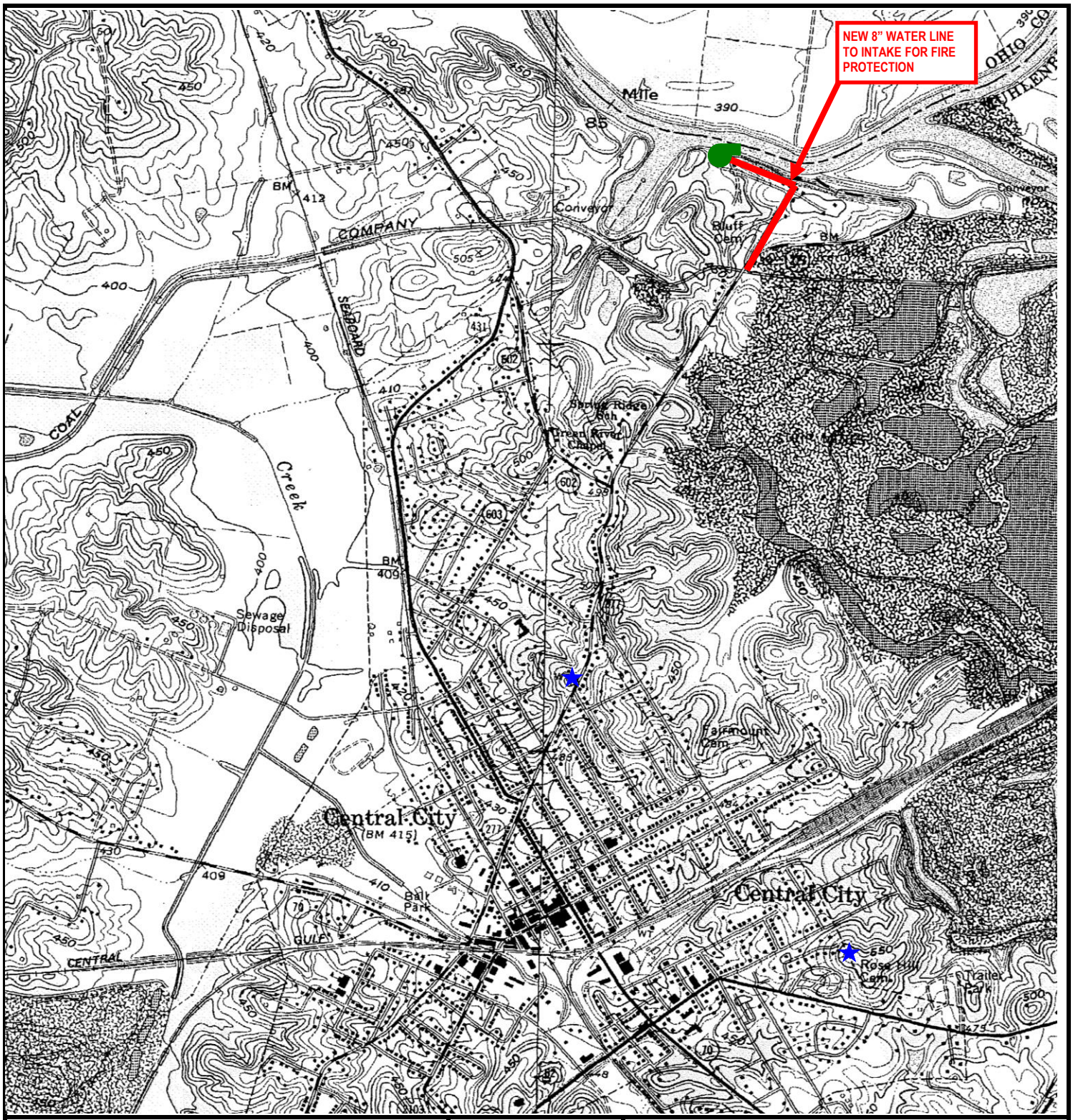
Central City Water & Sewer

Water Treatment Plant Expansion Project

EXHIBIT 4

MCWD#3 Transmission Line - Vicinity Map

January 2012	Not to Scale	Page E-4



Legend

Proposed Water Line

★ Existing/Proposed Tank

Base Map: "Central City East & West" 7.5-minute Quadrangles

N

McGhee Engineering, Inc.

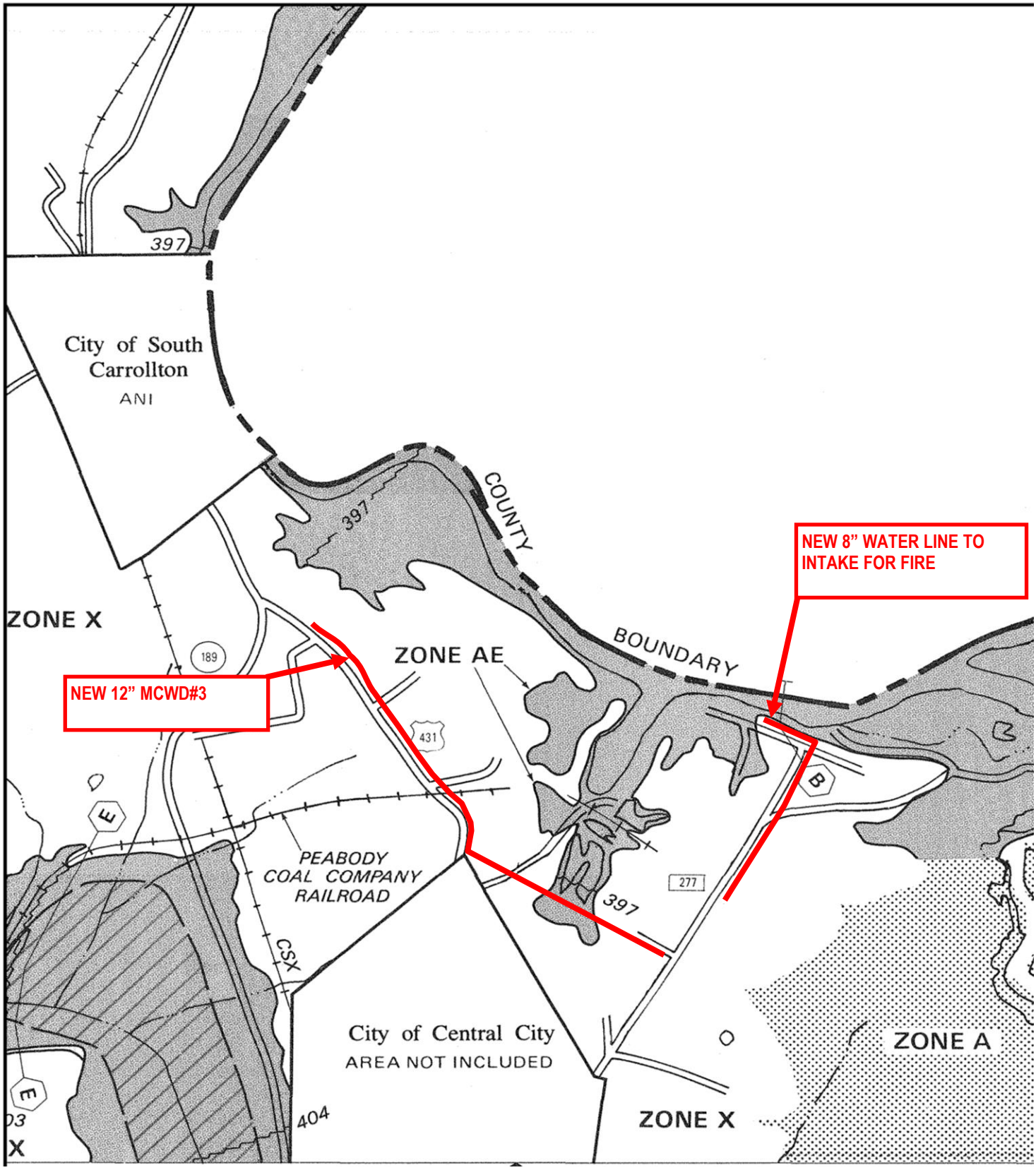
Central City Water & Sewer

Water Treatment Plant Expansion Project

EXHIBIT 5

Intake Fire Line - Vicinity Map

January 2012	Not to Scale	Page E-5



Legend

- Proposed Water Line
- Existing Tank
- Proposed Tank

Source: FEMA-Flood Insurance Rate Map #210293-0050B
Muhlenberg County—February 6, 1991

N

McGhee Engineering, Inc.

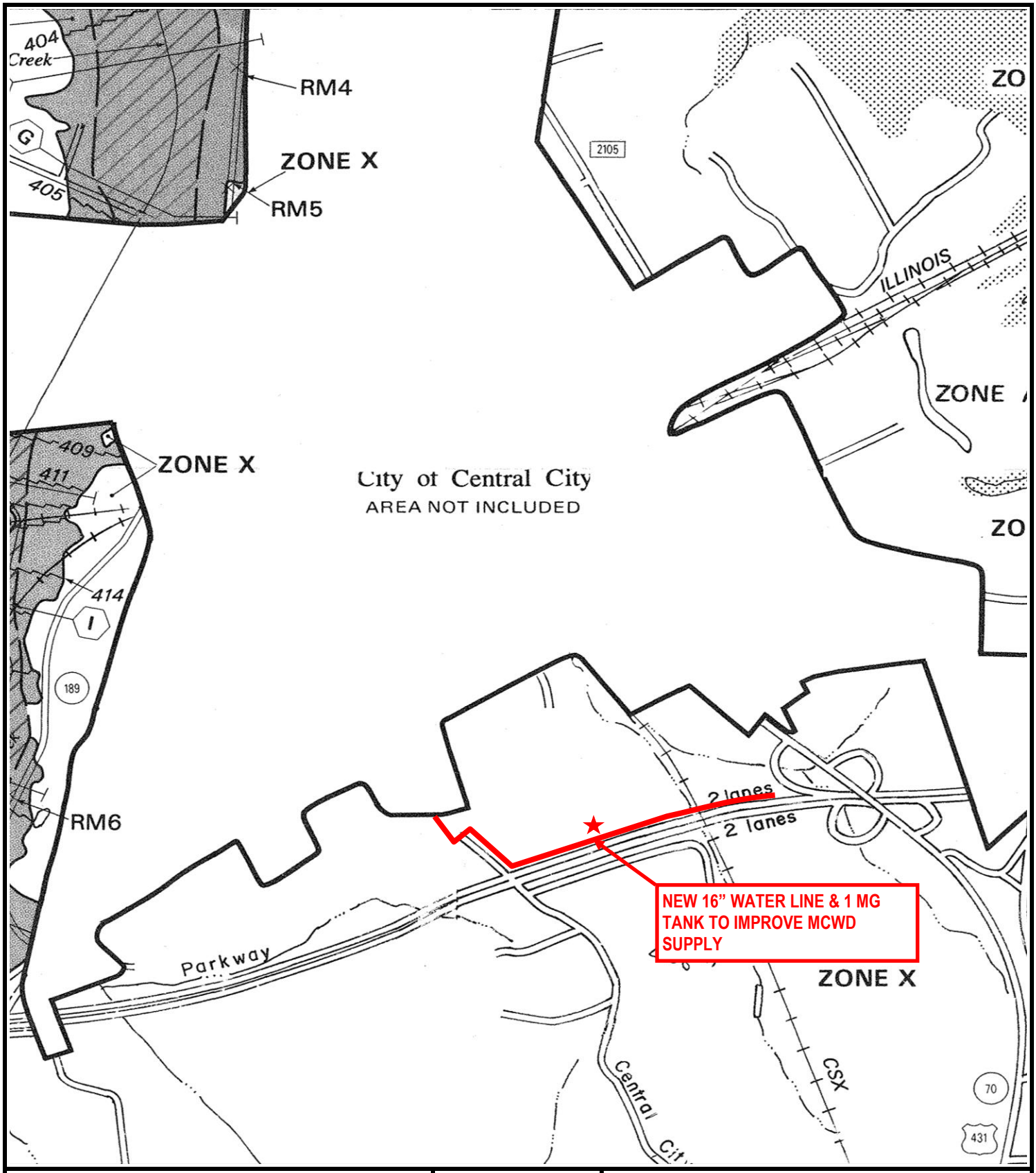
Central City Water & Sewer

Water Treatment Plant Expansion Project

EXHIBIT 6

MCWD#3 & Intake Fire Line - Flood Map

January 2012	Not to Scale	Page E-6



Legend

- Proposed Water Line
- Existing Tank
- Proposed Tank

Source: FEMA-Flood Insurance Rate Map #210293-0100B
Muhlenberg County—February 6, 1991

N

McGhee Engineering, Inc.

Central City Water & Sewer

Water Treatment Plant Expansion Project

EXHIBIT 7

WK Parkway Line Extension - Flood Map

January 2012	Not to Scale	Page E-7

Appendix A

Kentucky State Clearinghouse Comments
*Curr*ent Version: SAI##KY20110902-1165

STEVEN L. BESHEAR
GOVERNOR

DEPARTMENT FOR LOCAL GOVERNMENT
OFFICE OF THE GOVERNOR
1024 CAPITAL CENTER DRIVE, SUITE 340
FRANKFORT, KENTUCKY 40601-8204
PHONE (502) 573-2382 FAX (502) 573-2939
TOLL FREE (800) 346-5606
WWW.DLG.KY.GOV

TONY WILDER
COMMISSIONER

September 30, 2011

Mr. John-Michael Herring
Pennyrile Area Development District
300 Hammond Drive
Hopkinsville, KY 42240

RE: CENTRAL CITY - REGIONAL WATER PROJECT PHASE II
WX21177026
SAI# KY20110902-1165

Dear Mr. Herring:

The Kentucky State Clearinghouse, which has been officially designated as the Commonwealth's Single Point of Contact (SPOC) pursuant to Presidential Executive Order 12372, has completed its evaluation of your proposal. The clearinghouse review of this proposal indicates there are no identifiable conflicts with any state or local plan, goal, or objective. Therefore, the State Clearinghouse recommends this project be approved for assistance by the cognizant federal agency.

Although the primary function of the State Single Point of Contact is to coordinate the state and local evaluation of your proposal, the Kentucky State Clearinghouse also utilizes this process to apprise the applicant of statutory and regulatory requirements or other types of information which could prove to be useful in the event the project is approved for assistance. Information of this nature, if any, concerning this particular proposal will be attached to this correspondence.

You should now continue with the application process prescribed by the appropriate funding agency. This process may include a detailed review by state agencies that have authority over specific types of projects.

This letter signifies only that the project has been processed through the State Single Point of Contact. It is neither a commitment of funds from this agency or any other state of federal agency.

The results of this review are valid for one year from the date of this letter. Continuation or renewal applications must be submitted to the State Clearinghouse annually. An application not submitted to the funding agency, or not approved within one year after completion of this review, must be re-submitted to receive a valid intergovernmental review.

If you have any questions regarding this letter, please feel free to contact my office at 502-573-2382.

Sincerely,

Lee Nalley
Kentucky State Clearinghouse

Attachments

The Pennyrile ADD has made the following advisory comment pertaining to State Application Identifier Number KY201109021165
no comments

The Transportation has made the following advisory comment pertaining to State Application Identifier Number KY201109021165

Hall (D2), Nick: If any work will be down on a state route, please see comments below.

Hall (D2), Nick: The Kentucky Department of Highways is responsible for controlling both public and private usage of right-of-way of the State road system. Any firm, individual, or governmental agency desiring access to a State road or desiring to perform any type of work (including signage) on State right-of-way must obtain a permit from the Department.

To obtain the necessary permits and/or discuss the details of this project, please contact our District Office in Madisonville at the following address/number:

Mr. Kenny Potts, TEBM for Engineering Support
Kentucky Department of Highways
1840 North Main Street
Madisonville, Kentucky 42431
Telephone (270) 824-7080
Fax (270) 824-7091

This review was based upon the information that was provided by the applicant through the Clearinghouse for this project. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented, other than those stated as conditions or comments.

The Fish & Wildlife has made the following advisory comment pertaining to State Application Identifier Number KY201109021165

To minimize impacts to the aquatic environment the Kentucky Dept. of Fish & Wildlife Resources recommends that erosion control measures be developed and implemented prior to construction to reduce siltation into waterways located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed. Please contact Dan Stoelb, Wildlife Biologist, @ 502-564-7109 ex. 4453 or Daniel.stoelb@ky.gov if you have further questions or require additional information.

The Housing, Building, Construction has made the following advisory comment pertaining to State Application Identifier Number KY201109021165
no comment

The Heritage Council has made the following advisory comment pertaining to State Application Identifier Number KY201109021165

The applicant must ensure compliance with the Advisory Council on Historic Preservation's Rules and Regulations for the Protection of Historic and Cultural Properties (36CRF, Part 800) pursuant to the National Historic Preservation Act of 1966, the National Environmental Policy Act of 1969, and Executive Order 11593.

In order to make a preliminary determination if properties eligible for listing in the National Register of Historic Places will be affected by this project, the applicant must submit photographs of all structures 50 years or older that are within or adjacent to the project area and that will be visible from the new elevated water tank. Each photograph should be labeled by street address with a brief description of potential impacts or proposed treatment, and should be accompanied by a project map showing their location. Upon completion of our review, the State Historic Preservation Officer will advise the applicant if further consultation is required.

The project area must be surveyed by a professional archaeologist to determine if sites eligible for listing in the National Register of Historic Places will be affected by the undertaking. The State Historic Preservation Officer must review and approve the survey report. Where a given project area or portions thereof have been disturbed by prior construction, the applicant may file documentation of that disturbance with the State Historic Preservation Officer and request an opinion concerning the need of an archaeological survey (note: farming does not constitute disturbance).

If you have any questions, please contact Philip Mink at 502-564-7005 ext 140.

The Labor Cabinet has made the following advisory comment pertaining to State Application Identifier Number KY201109021165

PW RATES MAY APPLY IF TOTAL PROJECT COST EXCEEDS $250K. CONTACT KY LABOR CABINET AT 502 564 3534

The Natural Resources has made the following advisory comment pertaining to State Application Identifier Number KY201109021165

This review was based upon the information that was provided by the applicant through the Clearinghouse for this project. An endorsement of this project does not satisfy, or imply, the acceptance or issuance of any permits, certifications or approvals that may be required from this agency under Kentucky Revised Statutes or Kentucky Administrative Regulations. Such endorsement means this agency has found no major concerns from the review of the proposed project as presented other than those stated as conditions or comments.

Division for Air Quality (John Gowins, 502-564-3999)
Kentucky Division for Air Quality Regulation 401 KAR 63:010 Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at http://air.ky.gov/Pages/OpenBurning.aspx

Kentucky Division for Air Quality Regulation 401 KAR 63:005 states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. However, open burning may be utilized for the expressed purposes listed on the Open Burning Brochure located at http://air.ky.gov/Pages/OpenBurning.aspx

The Division would like to offer the following suggestions on how this project can help us stay in compliance with the NAAQS. More importantly, these strategies are beneficial to the health of citizens of Kentucky.

- **Utilize alternatively fueled equipment.**
- **Utilize other emission controls that are applicable to your equipment.**
- **Reduce idling time on equipment.**

The Division also suggests an investigation into compliance with applicable local government regulations.

The proposed project is subject to Division of Water (DOW) jurisdiction because the following are or appear to be involved: 1 MILLION GALLON ELEVATED TANK AND NEW DUCTILE IRON DISTRIBUTION LINES. Prior approval must be obtained from the DOW before construction can begin. When submitting plans and specifications, the applicant must cite the State Application Identifier: SAI # KY201109021165

This project is consistent with the Muhlenberg County Water Management Plan. It is approved for water management planning. It is approved for water withdrawal by the Water Quantity Management Section of DOW. From the application data, DOW ascertains that the proposed project is not located in a floodplain area; therefore, a floodplain construction permit is not required for this project. Julia Harrod 502 564 3410

THIS PROJECT INCLUDES A 1 MILLION GALLON ELEVATED TANK AND NEW DUCTILE IRON DISTRIBUTION LINES. ONE 12" LINE (7,000') FEEDING THE NORTH PORTION OF THE COUNTY AND THE OTHER A 16" LINE (5,500') FEEDING THE SOUTH.

The Engineering Section of the Water Infrastructure Branch has no objections to the proposed project. Plans and specifications along with hydraulic analysis of the proposed project must be submitted to the Division of Water's Water Infrastructure Branch by a registered professional engineer in Kentucky. A written approval must be received from the Division of Water prior to beginning construction Terry Humphries, Environmental Engineering Assistant III (502) 564-3410 x4837 terry.humphries@ky.gov

Contractors working on the tank may need a Groundwater Protection Plan depending on the onsite activities. Phil O'dell, 502 564 3410

Best management practices shall be used to reduce runoff from the project into adjacent streams. John Brumley, Environmental Scientist II, 564-3410

If the construction area disturbed is equal to or greater than 1 acre, the applicant will need to apply for a Kentucky Pollutant Discharge Elimination System (KPDES) storm water discharge permit.

Utility line projects that cross a stream will require a Section 404 permit from the US Army Corps of Engineers and a 401 Water Quality Certification from DOW.

The Kentucky Division of Water supports the goals of EPA's Sustainable Infrastructure Initiative. This Initiative seeks to promote sustainable practices that will help to reduce the potential gap between funding needs and spending at the local and national level. The Sustainable Infrastructure Initiative will guide our efforts in changing how Kentucky views, values, manages, and invests in its water infrastructure. This website, www.epa.gov/waterinfrastructure/, contains information that will help you ensure your facility and operations are consistent with and can benefit from the aims of the Sustainable Infrastructure Initiative.

The Kentucky Housing Corporation has made the following advisory comment pertaining to State Application Identifier Number KY201109021165
No comments.

KENTUCKY GUIDE 7
May 1998

SUMMARY/ADDENDUM

TO

PRELIMINARY ENGINEERING REPORT

Dated April 30, 2012

FOR THE

Central City Water & Sewer

Water Treatment Plant Expansion Project: Phase II – Water Tank & Line Improvements

(Name of Water Facility Project)

Applicant Contact Person	Mike McGhee, P.E.
Applicant Phone Number	(270) 483-9985
Applicant Tax ID Number (TIN)	61-6000449

In order to avoid unnecessary delays in application processing the applicant and its consulting engineer should prepare a summary of the preliminary engineering report in accordance with this Guide. Feasibility review and grant determinations may be processed more accurately and more rapidly if the Summary/Addendum is submitted simultaneously with the preliminary engineering report, or as soon thereafter as possible.

WD 4c

I. General

Proposed Project: Provide a brief description of the proposed project. In addition to this summary, the Applicant/engineer should submit a project map of the service area showing the following:

Central City serves 2,005 water and 1,901 sewer customers directly. In addition, the water plant provides water to the Muhlenberg County Water District, Muhlenberg County Water District No. 3, the Cities of Drakesboro and Sacramento, and to the TVA Paradise Steam Plant. In all, Central City is responsible for providing drinking water to over 11,500 households, businesses and industries, representing nearly 30,000 persons. Central City currently operates a 4 MGD water treatment plant and a 1.2 MGD wastewater treatment plant. Both plants are operating near capacity. Currently, the water treatment plant is in the construction phase of a major expansion project (Phase I). The first phase of the water project is estimated at $19,000,000, with construction completion expected in early 2013, and the project will take capacity from 4 MGD to 7 MGD. This work will include expansion of the intake pumping capacity, construction of new flocculation and sedimentation basins, expansion and rehabilitation of existing chemical storage and feed systems, upgrade of the existing filters, construction of a new clearwell and high service pump station, rehabilitation and replacement of plant electrical and control equipment, renovation and repair some of plant piping, valves and mechanical systems and addition of generators at the intake and treatment plant. Phase II of the proposed project involves distribution improvements that will be required to improve the capacity and operability of the system. These improvements will include construction of a new 1 million gallon water storage tank, replacement of undersized lines, addition and renovation of valves in the distribution system and rehabilitation of existing water storage tanks. The total cost of Phase II is estimated to be $3,750,000.

II. FACILITY CHARACTERISTICS OF EXISTING WATER SYSTEM

A. Water Source: Describe adequacy of source (quality and quantity). Include an explanation of raw water source, raw water intake structure, treatment plant capacity, and current level of production (WTP). Also describe the adequacy of Water Purchase Contract if applicable.

Central City currently operates a 4 MGD water treatment plant that is being expanded to 7 MGD, and the raw water for the plant comes from their intake on the Green River. Currently, the plant operates at 90 percent capacity with an average daily usage of approximately 3.6 MGD.

If the applicant purchases water:

Seller(s): None
Price: Not applicable

B. Water Storage:

Type: Ground Storage Tank X (3) . Elevated Tank X (1) .
Standpipe ____ Other

Number of Storage Structures 4

Total Storage Volume Capacity 3,250,000 gallons

Date Storage Tank(s) Constructed 1938, 1967, 1982 and 2001

C. Water Distribution System:

Pipe Material PVC, Ductile Iron, and Cast Iron

Lineal Feet of Pipe: 4" Diameter and smaller: 10,000 ; 6": 92,400 ;
8": 15,000; 10": 10,000; 12" 26,500; 16": 8,000

Date(s) Water Lines Constructed varies

Number and Capacity of Pump Station(s): None in the distribution system. The tanks are filled via the plant's high service pumps

D. Condition of Existing Water System:

Briefly describe the condition and suitability for continued use of facility now owned by the applicant. Include any major renovation that will be needed within five to ten years.

The system is well managed and generally in good repair. Central City has operated a public water system for many years. The original system was developed to serve development within the city and the immediately surrounding area. In the 1960's, Central City built the first phase of the present water treatment plant to improve service to the city, and to provide service to the rural areas of Muhlenberg County via the rural water districts that were being formed. In the 1980's the plant was expanded to its current capacity of 4 million gallons per day (MGD). In the intervening time, the water districts have undergone steady growth as their service areas have expanded, and Central City has experienced more modest, but sustained growth in its customer base. Per capita consumption of water has also increased over time, further increasing demands on the water system.

E. Percentage of Water Loss in the Existing System: ~28% (Per Operator Input)

Present Estimated Market Value of Existing Water & Sewer System *: $ 6,885,460
*NOTE = Based on Depreciated Value in the 2011 Financial Statements

III. EXISTING LONG-TERM INDEBTEDNESS

A. List of Bonds and Notes: (Information from 2011 Audit Report)

Date of Issue	Bond/Note Holder	Principal Balance	Payment Date	Bond Type	Amount on Deposit in Reserve
1997	Private	$ 255,000	2014	Rev	
Total		$ 255,000			Unknown

B. Principal and Interest Payments: (Information from 2011 Audit)

		Payment Year 2012		Payment Year 2013		Payment Year 2014	
Date of Issue	Bond/Note Holder	Principal Payment	Interest Payment	Principal Payment	Interest Payment	Principal Payment	Interest Payment
1997	Private	$ 80,000	$ 11,895	$ 85,000	$ 7,378	$ 90,000	$ 2,520
Total		$ 80,000	$ 11,895	$ 85,000	$ 7,378	$ 90,000	$ 2,520

IV. EXISTING SHORT-TERM INDEBTEDNESS

A. List of All Short Term Debts:

Lender or Lessor	Date of Issue (Mo. & Year)	Principal Balance	Purpose	Payment Date	Principal & Interest Payment (P&I)	Date to Be Paid In Full
Morgan Keegan	Feb-11	$ 7,395,000	Interim	12-Feb		12-Feb

V. LAND AND RIGHTS - EXISTING SYSTEM(S):

Number of Treatment Plant Sites	1
Number of Storage Tank Sites	3
Number of Pump Stations	0
Total Acreage	~8 acre
Purchase Price*	$37,656

*Land & ROW value per 2011 Audit, includes Sewer land

VI. NUMBER OF EXISTING USERS

A. Water Users: (Averages per 2011 Utility bills)

Residential Size Meters (In Town)*	1,567
Residential Size Meters/Farmers (Out of Town)*	190
Commercial & Other Users (In Town)	223
Commercial & Other Users (Out of Town)	25
Total	2,005
Number of Total potential Users Living in the Service Area	0 (est.)

VII. CURRENT WATER AND SEWER CONNECTION FEES FOR EACH SIZE WATER METER CONNECTION

WATER		
Meter Size	Water Connection Fee (Inside City)	Water Connection Fee (Outside City)
5/8"x3/4"	$400	$475
1"	$750 + parts	$550
1-1/2"	At Cost	-
2"	$1,500 + parts	-
SEWER		
Inspection Fee	$10	
Taps	$20 per foot plus cost of materials & street repair	
Grinder Pump	$2,500	

VIII. WATER RATES - EXISTING SYSTEM – ALL SIZES

Existing Rate Schedule: Date these rates went into effect: September 20, 2008

Inside City (All Meter Sizes)				
First	1,000	Gallons	$4.06	Minimum
Next	4,000	Gallons	$2.56	per 1,000 Gallons
Next	5,000	Gallons	$2.13	per 1,000 Gallons
Next	10,000	Gallons	$1.88	per 1,000 Gallons
Next	10,000	Gallons	$1.88	per 1,000 Gallons
Over	30,000	Gallons	$1.69	per 1,000 Gallons

Outside City (All Meter Sizes)				
First	2,000	Gallons	$18.78	Minimum
Over	2,000	Gallons	$6.08	per 1,000 Gallons

County Water Districts		
All Usage	$1.57	per 1,000 Gallons

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

For Period FYE June 30, 2011

Meter Size	MONTHLY WATER USAGE	Average	Residential (In-Town Rate)		Commercial (In-Town Rate)	
			No. of Users	Usage	No. of Users	Usage
All Sizes	0 - Gal.	0	456	-	140	-
	0 - 1,000 Gal.	589	1,714	1,068,900	787	403,300
	1,000 - 2,000 Gal.	1,555	3,113	4,855,200	377	571,600
	2,000 - 3,000 Gal.	2,550	3,438	8,775,000	198	495,900
	3,000 - 4,000 Gal.	3,533	3,007	10,621,600	120	425,800
	4,000 - 5,000 Gal.	4,528	2,302	10,424,500	126	568,600
	5,000 - 6,000 Gal.	5,523	1,560	8,616,400	85	469,500
	6,000 - 7,000 Gal.	6,513	1,006	6,551,900	65	423,100
	7,000 - 8,000 Gal.	7,514	634	4,765,300	53	396,700
	8,000 - 9,000 Gal.	8,512	490	4,172,200	33	279,500
	9,000 - 10,000 Gal.	9,526	330	3,141,000	36	345,400
	10,000 - 11,000 Gal.	10,523	163	1,711,700	36	382,400
	11,000 - 12,000 Gal.	11,523	132	1,521,900	23	264,200
	12,000 - 13,000 Gal.	12,481	91	1,136,600	23	286,200
	13,000 - 14,000 Gal.	13,498	56	754,700	29	392,600
	14,000 - 15,000 Gal.	14,424	63	907,600	22	318,400
	15,000 - 16,000 Gal.	15,457	31	479,000	16	247,500
	16,000 - 17,000 Gal.	16,553	47	779,800	25	412,000
	17,000 - 18,000 Gal.	17,530	29	509,200	11	192,000
	18,000 - 19,000 Gal.	18,581	28	521,600	14	258,800
	19,000 - 20,000 Gal.	19,527	16	312,400	17	332,000
	20,000 - 25,000 Gal.	22,163	37	803,700	70	1,567,700
	25,000 - 30,000 Gal.	27,191	24	660,400	42	1,134,200
	over - 30,000 Gal.	191,077	32	1,927,400	330	67,242,400
		Total	18,799	75,018,000	2,678	77,409,800
	Average Monthly "Meter Setting" Count		1,567		223	
	Average Usage (Gallons)			3,990		28,910

IX. ANALYSIS OF ACTUAL WATER USAGE - EXISTING SYSTEM - 12 MONTH PERIOD (cont-)

For Period FYE June 30, 2011

Meter Size	MONTHLY WATER USAGE	Average	Residential (Outside-Town Rate) No. of Users	Residential (Outside-Town Rate) Usage	Commercial (Outside-Town Rate) No. of Users	Commercial (Outside-Town Rate) Usage
All Sizes	0 - Gal.	0	170	-	55	-
	0 - 1,000 Gal.	497	266	132,800	69	33,800
	1,000 - 2,000 Gal.	1,536	385	597,000	44	62,000
	2,000 - 3,000 Gal.	2,531	333	842,700	18	45,700
	3,000 - 4,000 Gal.	3,571	301	1,076,200	14	48,700
	4,000 - 5,000 Gal.	4,549	242	1,100,900	13	59,200
	5,000 - 6,000 Gal.	5,491	169	926,700	13	72,600
	6,000 - 7,000 Gal.	6,528	106	690,500	10	66,800
	7,000 - 8,000 Gal.	7,548	75	565,500	4	30,800
	8,000 - 9,000 Gal.	8,512	42	357,500	1	8,500
	9,000 - 10,000 Gal.	9,567	31	296,300	2	19,400
	10,000 - 11,000 Gal.	10,555	24	251,900	5	54,200
	11,000 - 12,000 Gal.	11,569	11	127,000	2	23,400
	12,000 - 13,000 Gal.	12,430	9	112,000	1	12,300
	13,000 - 14,000 Gal.	13,638	8	109,100	-	-
	14,000 - 15,000 Gal.	14,556	7	101,800	2	29,200
	15,000 - 16,000 Gal.	15,467	6	92,800	-	-
	16,000 - 17,000 Gal.	16,483	5	82,700	1	16,200
	17,000 - 18,000 Gal.	17,200	-	-	1	17,200
	18,000 - 19,000 Gal.	18,800	2	37,600	-	-
	19,000 - 20,000 Gal.	19,250	2	38,400	2	38,600
	20,000 - 25,000 Gal.	22,437	15	338,200	4	88,100
	25,000 - 30,000 Gal.	27,560	15	413,300	5	137,900
	over - 30,000 Gal.	61,176	54	3,012,600	32	2,248,500
		Total	2,278	11,303,500	298	3,113,100
		Average Monthly "Meter Setting" Count	190		25	
		Average Usage (Gallons)		4,960		10,450

Total Water Produced (Gallons) 1,296,918,359

Total Water Sold to Districts (Gallons) 777,709,700

Total Water Sold to City Customers (Gallons) 166,844,400

X. FACILITY CHARACTERISTICS OF PROPOSED WATER SYSTEM

A. Water Source: Describe adequacy of source (quality and quantity). Include an explanation of raw water source, raw water intake structure, treatment plant capacity, and current level of production (WTP). Also describe the adequacy of Water Purchase Contract if applicable.

For the recommended project, raw water will continue to be provided to the system by the Green River. The Green River has an abundant supply of raw water and serves as the source for many Kentucky cities and water districts. The water is readily treatable to potable standards. During Phase I, the existing raw water intake will be rehabilitated and expanded to accommodate the increased flow to the expanded water plant. Due to the increased plant capacity, additional storage capacity will be required in the Central City distribution system. An additional 1 million gallons of new elevated storage will be provided. Some improvements are necessary to the existing Central City potable water distribution system to allow for transmission of the larger supply of water from the expanded plant, and to correct existing deficiencies. These improvements will include upsizing of selected lines, construction of new lines, replacement of existing, non-functional valves and construction of a new, enhanced SCADA monitoring system.

B. Water Storage:

Type: Ground Storage Tank ____. Elevated Tank ____X____
Standpipe _____ Other _____
Number of Storage Structures One
Total Storage Volume Capacity 1,000,000

C. Water Distribution System:

Pipe Material DIP
Lineal Feet of Pipe: 16" Diameter 5,400 12" 6,800
10" TBD 8" TBD

Number, and Capacity of Pump Station(s): 0

XI. LAND AND RIGHTS - PROPOSED WATER SYSTEM(S)

Number of Treatment Plant Sites	0
Number of Pump Sites	0
Number of Other Sites (Storage Tank)	1
Total Acreage	1.0 Ac.
Purchase Price	~$10,000

XII. NUMBER OF NEW WATER USERS

Water Users:	
Residential Size Meters (In Town)*	0
Residential Size Meters/Farmers (Out of Town)*	0
Commercial Users (In Town)	0
Commercial Users (Out of Town)	0
Total	0
Number of total potential users living in the service area	0

XIII. PROPOSED CONNECTION FEES FOR EACH SIZE

WATER		
Meter Size	Water Connection Fee (Inside City)	Water Connection Fee (Outside City)
5/8"x3/4"	$400	$475
1"	$750 + parts	$750 + parts
1-1/2"	At Cost	-
2"	$1,500 + parts	-
SEWER		
Inspection Fee	$10	
Taps	$20 per foot plus cost of materials & street repair	
Grinder Pump	$2,500	

XIV. WATER RATES - PROPOSED

A. Proposed Rate Schedule without RUS Grant (All Meter Sizes):

Monthly User Charge (Inside City)	$11.18
Monthly User Charge (Outside City)	$25.40
Usage Rate ($ per thousand gallons)	$3.11
Wholesale Rate to Water Districts ($ per thousand gallons)	$2.67

B. Recommended Rate Schedule with RUS Grant (All Meter Sizes):

Monthly User Charge	$11.00
Monthly User Charge (Outside City)	$25.00
Usage Rate ($ per thousand gallons)	$3.06
Wholesale Rate to Water Districts ($ per thousand gallons)	$2.63

XV. FORECAST OF WATER USAGE - INCOME - EXISTING USERS ONLY – EXISTING RATES

For Period FYE June 30, 2011

Meter Size	MONTHLY WATER USAGE	Residential/Commercial (In-City Rate)					Residential/Commercial (Outside-City Rate)				
		No. of Cust.	Total Usage	Average Usage	Average Bill	Annual Income	No. of Cust.	Total Usage	Average Usage	Average Bill	Annual Income
All	0	596	-	0	$ 4.06	$ 2,420	225	-	0	$ 18.78	$ 4,226
	0 - 1,000	2,501	1,472,200	589	$ 4.06	$ 10,154	335	166,600	497	$ 18.78	$ 6,291
	1,000 - 2,000	3,490	5,426,800	1,555	$ 5.48	$ 19,128	429	659,000	1,536	$ 18.78	$ 8,057
	2,000 - 3,000	3,636	9,270,900	2,550	$ 8.03	$ 29,188	351	888,400	2,531	$ 22.01	$ 7,725
	3,000 - 4,000	3,127	11,047,400	3,533	$ 10.54	$ 32,972	315	1,124,900	3,571	$ 28.33	$ 8,925
	4,000 - 5,000	2,428	10,993,100	4,528	$ 13.09	$ 31,784	255	1,160,100	4,549	$ 34.28	$ 8,742
	5,000 - 6,000	1,645	9,085,900	5,523	$ 15.41	$ 25,357	182	999,300	5,491	$ 40.00	$ 7,281
	6,000 - 7,000	1,071	6,975,000	6,513	$ 17.52	$ 18,766	116	757,300	6,528	$ 46.31	$ 5,372
	7,000 - 8,000	687	5,162,000	7,514	$ 19.65	$ 13,503	79	596,300	7,548	$ 52.51	$ 4,148
	8,000 - 9,000	523	4,451,700	8,512	$ 21.78	$ 11,391	43	366,000	8,512	$ 58.37	$ 2,510
	9,000 - 10,000	366	3,486,400	9,526	$ 23.94	$ 8,762	33	315,700	9,567	$ 64.79	$ 2,138
	10,000 - 11,000	199	2,094,100	10,523	$ 25.93	$ 5,161	29	306,100	10,555	$ 70.80	$ 2,053
	11,000 - 12,000	155	1,786,100	11,523	$ 27.81	$ 4,311	13	150,400	11,569	$ 76.96	$ 1,000
	12,000 - 13,000	114	1,422,800	12,481	$ 29.61	$ 3,376	10	124,300	12,430	$ 82.19	$ 822
	13,000 - 14,000	85	1,147,300	13,498	$ 31.53	$ 2,680	8	109,100	13,638	$ 89.54	$ 716
	14,000 - 15,000	85	1,226,000	14,424	$ 33.27	$ 2,828	9	131,000	14,556	$ 95.12	$ 856
	15,000 - 16,000	47	726,500	15,457	$ 35.21	$ 1,655	6	92,800	15,467	$ 100.66	$ 604
	16,000 - 17,000	72	1,191,800	16,553	$ 37.27	$ 2,683	6	98,900	16,483	$ 106.84	$ 641
	17,000 - 18,000	40	701,200	17,530	$ 39.11	$ 1,564	1	17,200	17,200	$ 111.20	$ 111
	18,000 - 19,000	42	780,400	18,581	$ 41.08	$ 1,725	2	37,600	18,800	$ 120.92	$ 242
	19,000 - 20,000	33	644,400	19,527	$ 42.86	$ 1,414	4	77,000	19,250	$ 123.66	$ 495
	20,000 - 25,000	107	2,371,400	22,163	$ 47.82	$ 5,116	19	426,300	22,437	$ 143.04	$ 2,718
	25,000 - 30,000	66	1,794,600	27,191	$ 57.27	$ 3,780	20	551,200	27,560	$ 174.18	$ 3,484
	over - 30,000	362	69,169,800	191,077	$ 334.77	$ 121,187	86	5,261,100	61,176	$ 378.57	$ 32,557
	Sub-totals	21,477	152,427,800			$ 360,904	2,576	14,416,600			$ 111,713

Total Projected **12 Month** Revenue With Current Rates	$ 472,617
Total Projected Water Districts Sales Revenue With Current Rates	$ 1,221,004
	$ 1,693,621
Actual Water Sales FY2011 (per June 30, 2011 General Ledger)	$ 1,680,938

XVI. FORECAST OF WATER USAGE - INCOME - NEW USERS - EXTENSION ONLY – EXISTING RATES

Note: No new customers are expected to be added as result of the proposed project.

XVII. FORECAST OF WATER USAGE - INCOME - EXISTING & NEW USERS – RECOMMENDED GRANT RATES

Period FYE June 30, 2011.

Meter Size	MONTHLY WATER USAGE	Residential/Commercial (In-City Rate) No. of Cust.	Total Usage	Average Usage	Average Bill	Annual Income	Residential/Commercial (Outside-City Rate) No. of Cust.	Total Usage	Average Usage	Average Bill	Annual Income
All	0	596	-	0	$ 11.00	$ 6,556	225	-	0	$ 25.00	$ 5,625
	0 - 1,000	2,501	1,472,200	589	$ 12.80	$ 32,016	335	166,600	497	$ 26.52	$ 8,885
	1,000 - 2,000	3,490	5,426,800	1,555	$ 15.76	$ 54,996	429	659,000	1,536	$ 29.70	$ 12,742
	2,000 - 3,000	3,636	9,270,900	2,550	$ 18.80	$ 68,365	351	888,400	2,531	$ 32.75	$ 11,494
	3,000 - 4,000	3,127	11,047,400	3,533	$ 21.81	$ 68,202	315	1,124,900	3,571	$ 35.93	$ 11,317
	4,000 - 5,000	2,428	10,993,100	4,528	$ 24.85	$ 60,347	255	1,160,100	4,549	$ 38.92	$ 9,925
	5,000 - 6,000	1,645	9,085,900	5,523	$ 27.90	$ 45,898	182	999,300	5,491	$ 41.80	$ 7,608
	6,000 - 7,000	1,071	6,975,000	6,513	$ 30.93	$ 33,125	116	757,300	6,528	$ 44.98	$ 5,217
	7,000 - 8,000	687	5,162,000	7,514	$ 33.99	$ 23,353	79	596,300	7,548	$ 48.10	$ 3,800
	8,000 - 9,000	523	4,451,700	8,512	$ 37.05	$ 19,375	43	366,000	8,512	$ 51.05	$ 2,195
	9,000 - 10,000	366	3,486,400	9,526	$ 40.15	$ 14,694	33	315,700	9,567	$ 54.27	$ 1,791
	10,000 - 11,000	199	2,094,100	10,523	$ 43.20	$ 8,597	29	306,100	10,555	$ 57.30	$ 1,662
	11,000 - 12,000	155	1,786,100	11,523	$ 46.26	$ 7,170	13	150,400	11,569	$ 60.40	$ 785
	12,000 - 13,000	114	1,422,800	12,481	$ 49.19	$ 5,608	10	124,300	12,430	$ 63.04	$ 630
	13,000 - 14,000	85	1,147,300	13,498	$ 52.30	$ 4,446	8	109,100	13,638	$ 66.73	$ 534
	14,000 - 15,000	85	1,226,000	14,424	$ 55.14	$ 4,687	9	131,000	14,556	$ 69.54	$ 626
	15,000 - 16,000	47	726,500	15,457	$ 58.30	$ 2,740	6	92,800	15,467	$ 72.33	$ 434
	16,000 - 17,000	72	1,191,800	16,553	$ 61.65	$ 4,439	6	98,900	16,483	$ 75.44	$ 453
	17,000 - 18,000	40	701,200	17,530	$ 64.64	$ 2,586	1	17,200	17,200	$ 77.63	$ 78
	18,000 - 19,000	42	780,400	18,581	$ 67.86	$ 2,850	2	37,600	18,800	$ 82.53	$ 165
	19,000 - 20,000	33	644,400	19,527	$ 70.75	$ 2,335	4	77,000	19,250	$ 83.91	$ 336
	20,000 - 25,000	107	2,371,400	22,163	$ 78.82	$ 8,433	19	426,300	22,437	$ 93.66	$ 1,779
	25,000 - 30,000	66	1,794,600	27,191	$ 94.20	$ 6,217	20	551,200	27,560	$ 109.33	$ 2,187
	over - 30,000	362	69,169,800	191,077	$ 595.69	$ 215,642	86	5,261,100	61,176	$ 212.20	$ 18,249
	Sub-totals	21,477	152,427,800			$ 702,676	2,576	14,416,600			$ 108,515

Total Projected 12 Month Revenue With Proposed Rates & Central City Users	$ 811,191	
Total Projected 12 Month Revenue With Proposed Rates & Water District Users	$ 2,045,377	
Total Projected Annual Revenue With Proposed Rates	$ 2,856,567	
Actual Water Sales FY2011	$ 1,680,938	
Additional Revenue from Rate Increase	$ 1,175,629	(~69.9% Increase in Water Sales)

XVIII. CURRENT OPERATING BUDGET - (FYE June 30, 2011 – Based on 2011 Audit Report)

A.	**Operating Income**	
	Water Sales - Domestic	$ 459,934
	Water Sales - Water Districts	$ 1,221,004
	Other Revenues (Portion is 50:50 w/ Sewer)	$ 8,727
	Total Operating Income	$ 1,689,665
B.	**Operation and Maintenance Expenses:**	
	Water Plant Operation	$ 599,376
	Water Distribution	$ 279,308
	Administrative/Commissioner Salaries, Pensions & Taxes	$ 141,833
	Property Insurance & Other Insurance	$ 81,682
	Building Expense & Utilities	$ 187,056
	Professional & Contracted Fees	$ 8,653
	Office Supplies and Collection Expense	$ 16,194
	Miscellaneous Expense	$ 5,470
	Total Operating Expenses	$ 1,319,572
	Net Operating Income	$ 370,093
C.	**Non-Operating Income:**	
	Interests on Deposits (50:50 w/ Sewer)	$ 5,917
	Other	$ -
	Total Non-Operating Income	$ 5,917
D.	**Net Income**	$ 376,010
E.	**Debt Repayment**	
	RUS Interest	$ -
	RUS Principal	$ -
	Non-RUS Interest	$ 16,215
	Non-RUS Principal	$ 80,000
	Total Debt Repayment	$ 96,215
F.	**Balance Available for Coverage and Depreciation**	$ 279,795

XIX. PROPOSED OPERATING BUDGET - EXISTING & NEW USERS – RECOMMENDED WATER RATES

(1st Full Year of Operation) Year Ending 2013 .

A.	**Operating Income**			
	Water Sales - Domestic	$	811,191	(1)
	Water Sales - Water Districts	$	2,045,377	(2)
	Other Revenues (Portion is 50:50 w/ Sewer)	$	8,727	
	Total Operating Income	$	2,865,295	
B.	**Operation and Maintenance Expenses:**			
	Water Plant Operation	$	664,376	(3)
	Water Distribution	$	299,308	(4)
	Administrative/Commissioner Salaries, Pensions & Taxes	$	141,833	
	Property Insurance & Other Insurance	$	101,682	(5)
	Building Expense & Utilities	$	212,056	(3)
	Professional & Contracted Fees	$	8,653	
	Office Supplies and Collection Expense	$	16,194	
	Miscellaneous Expense	$	5,470	
	Total Operating Expenses	$	1,449,572	
	Net Operating Income	$	1,415,723	
C.	**Non-Operating Income:**			
	Interests on Deposits (50:50 w/ Sewer)	$	5,917	
	Other	$	-	
	Total Non-Operating Income	$	5,917	
D.	**Net Income**	$	1,421,640	
E.	**Debt Repayment**			
	RUS Interest	$	614,845	(6)
	RUS Principal	$	216,810	(6)
	Non-RUS Interest	$	7,378	
	Non-RUS Principal	$	85,000	
	Total Debt Repayment	$	924,033	
F.	**Balance Available for Coverage and Depreciation**	$	497,607	

Notes.

(1) From Table XVII, based on Projected Water Sales at recommended rates.
(2) Based on sales of 2,130,711 gpd at $2.63/kgal.
(3) Allowance for additional plant operations costs.
(4) Allowance for additional distribution system operations costs.
(5) Estimated additional insurance cost.
(6) Estimated P&I on $14.45M @ 3.375% & $1.9M @ 3.75%, 40 Years, 10% Coverage.

XX. PROPOSED OPERATING BUDGET - NEW USERS - IMPROVEMENTS ONLY – EXISTING WATER RATES

(1st Full Year of Operation) Year Ending 2013 .

A.	**Operating Income**			
	Water Sales - Domestic	$	338,574	(1)
	Water Sales - Water Districts	$	824,373	(2)
	Other Revenues	$	-	
	Total Operating Income	$	1,162,947	
B.	**Operation and Maintenance Expenses:**			
	Water Plant Operation	$	65,000	(3)
	Water Distribution	$	20,000	(4)
	Administrative/Commissioner Salaries, Pensions & Taxes	$	-	
	Property Insurance & Other Insurance	$	20,000	(5)
	Building Expense & Utilities	$	25,000	(3)
	Professional & Contracted Fees	$	-	
	Office Supplies and Collection Expense	$	-	
	Miscellaneous Expense	$	-	
	Total Operating Expenses	$	130,000	
	Net Operating Income	$	1,032,947	
C.	**Non-Operating Income:**			
	Interests on Deposits	$	-	
	Other	$	-	
	Total Non-Operating Income	$	-	
D.	**Net Income**	$	1,032,947	
E.	**Debt Repayment**			
	RUS Interest	$	614,845	(6)
	RUS Principal	$	216,810	(6)
	Non-RUS Interest	$	-	
	Non-RUS Principal	$	-	
	Total Debt Repayment	$	831,655	
F.	**Balance Available for Coverage and Depreciation**	$	201,292	

Notes.

(1) From Tables XV & XVII, based on 69.9% increase from existing to proposed rates.
(2) From Tables XV & XVII, based on increase from current wholesale rate of $1.57/kgal to $2.63/kgal.
(3) Allowance for additional plant operations costs.
(4) Allowance for additional distribution system operations costs.
(5) Estimated additional insurance cost.
(6) Estimated P&I on $14.45M @ 3.375% & $1.9M @ 3.75%, 40 Years, 10% Coverage.

XXI. ESTIMATED PROJECT COST - WATER

Development	$ 3,035,000.00
Land and Rights	$ -
Legal & Administration	$ 70,000.00
Engineering & Inspection	$ 335,000.00
Interest	$ -
Contingencies	$ 250,000.00
Initial Operating and Maintenance	$ -
Other (Prelim. Eng. & Env. Asses.)	$ 60,000.00
TOTAL	$ 3,750,000.00

XXII. PROPOSED PROJECT FUNDING

Applicant - User Connection Fees	$ -
Other Applicant Contribution	$ -
RUS Loan	$ 1,900,000.00
RUS Grant	$ 850,000.00
State Appropriation (KIA)	$ -
Federal Appropriation (CDBG)	$ 1,000,000.00
Other (Logan Todd upgrade portion)	$ -
Other (Specify)	$ -
TOTAL	$ 3,750,000.00

Central City WTP
Water System Upgrade Project

McGHEE ENGINEERING, INC.
June 26, 2013

FINAL ENGINEERING REPORT - PROJECT BUDGET

Construction

No.	Item	Contract	Change Order	Revised Cost
1	Water Treatment Plant (3D Construction)	$13,282,000.00	$253,936.22	$13,535,936.22
2	Wells Community	$289,534.11	$0.00	$289,534.11
3	WTP & Distribution Controls	$583,290.44	$0.00	$583,290.44
4	Plant and Intake Generators	$497,602.00		$497,602.00
5	Distribution SCADA (PPMI)	$665,000.00	$0.00	$665,000.00
6	Transmission Lines (Horsley)	$70,120.00		$70,120.00
	Subtotal - Development	**$15,387,546.55**	**$253,936.22**	**$15,641,482.77**
	Non-Construction			
1	Legal Costs	$59,825.68	$0.00	$59,825.68
2	Administrative Expense	$95,974.12	$0.00	$95,974.12
3	Land & Right-of-way	$9,529.01	$0.00	$9,529.01
4	Preliminary Engineering & Environmental	$30,000.00	$0.00	$30,000.00
5	Engineering/Construction Phase Design (8.37%) - *%Fee Based on Base Bid Line Contract*	$948,703.00	$0.00	$948,703.00
6	Construction Inspection (5.20%) - *%Fee Based on Baes Bid Line Contract*	$584,743.00	$0.00	$584,743.00
7	Additional Engineering (KIA)	$1,316,554.00	$0.00	$1,316,554.00
8	Interest during Construction	$175,000.00	$286,942.95	$461,942.95
	Subtotal - Nonconstruction	**$3,220,328.81**	**$286,942.95**	**$3,507,271.76**
	Total Project Cost			
	Contingency	**$0.00**	**$0.00**	**$0.00**
	TOTAL ESTIMATED PROJECT COST	**$18,607,875.36**	**$540,879.17**	**$19,148,754.53**
	Project Funding Sources			
Rural Development Grant			$3,000,000.00	$3,000,000.00
Rural Development Loan			$14,450,000.00	$14,450,000.00
KIA			$1,550,000.00	$1,550,000.00
City			$148,754.53	$148,754.53
	Total Estimated Project Financing		**$19,148,754.53**	**$19,148,754.53**

Change Order Considerations for Future Action

		(Based on Present As-Bid Prices & Fee Curve)	
	Total Estimated Change Orders (Alternate Bid Items)		**$0.00**

WD 4d

Final Engineering Report
Phase II - Water Tank and Line Improvements

Item	Total
Construction	
1 MG Elevated Water Storage Tank *(per final contract value)*	$ 1,745,779
Water Line Upgrades *(per final contract value)*	$ 816,063
Water Tank Rehabilitation	$ 500,000
SUBTOTAL - Construction	**$ 3,061,842**
Non-Construction Items	
Administrative - *Pennyrile Area Development District*	$ 50,000
Legal Costs	$ 16,436
Land & ROW	$ 1,808
Preliminary Engineering	$ 15,000
Additional Services - Environmental, Special Studies	$ 144,000
Design Engineering *(Tank, Distribution Lines & Tank Rehab)*	$ 155,400
Construction Phase Engineering Services *(Tank, Distribution Lines & Tank Rehab)*	$ 66,600
Construction Inspection *(Tank, Distribution Lines & Tank Rehab)*	$ 160,000
Additional Inspections - *Wet or Dry Tank Inspection*	$ 16,000
SUBTOTAL - Non-Construction	$ 625,244
Contingency	$ 62,914
TOTAL ESTIMATED PROJECT COST	**$ 3,750,000**

Preliminary Project Financing Sources

CDBG Grant	$ 1,000,000
USDA Rural Development Grant	$ 800,000
USDA Rural Development Loan	$ 1,950,000
TOTAL	**$ 3,750,000**

WD 4e

5. Provide a copy of all cost of service studies that Central City has conducted or commissioned since 2013.

Response: See attached. A description of this analysis is provided in the testimony of Michael W. McGhee, which was filed with the Commission on July 7, 2017.

Witness: Michael McGhee

Central City Water Rate Analysis 3/7/2017

Income Statements

	2012 Projected from RD Ap	FYE 6/30/2016 Audit (GAAP)	Projected FYE 6/30/2018
Operating Income			
City	$ 782,249	$ 762,354	$ 923,973
MCWD	$ 1,405,465	$ 1,180,411	$ 1,430,658
MCWD#3	$ 749,650	$ 728,794	$ 883,298
Other	$ 7,424	$ 22,937	$ 22,937
Total Operating Income	$ 2,944,788	$ 2,694,496	$ 3,260,867
Operating Expenses			
Water Plant Operation	$ 683,810	$ 787,302	$ 787,302
Water Distribution & Transmission	$ 314,003	$ 390,059	$ 390,059
Administrative	$ 142,916	$ 261,897	$ 261,897
Insurance	$ 82,212	$ 125,491	$ 125,491
Rent & Utilities	$ 228,986	$ 246,317	$ 246,317
Professional Fees	$ 8,319	$ 7,740	$ 7,740
Office Supplies	$ 17,680	$ 16,897	$ 16,897
Miscellaneous	$ 2,485	$ 10,936	$ 10,936
Total Operating Expenses	$ 1,480,411	$ 1,846,639	$ 1,846,639
Net Operating Income	$ 1,464,377	$ 847,857	$ 1,414,228
Non-Operating Income			
Interest on Deposits	$ 14,084	$ 4,851	$ 4,851
Other	$ -	$ -	$ -
Total Non-Operating Income	$ 14,084	$ 4,851	$ 4,851
Net Income	$ 1,478,461	$ 852,708	$ 1,419,079
Debt Repayment	$ 840,395	$ 781,513	$ 781,513
Balance for Coverage & Depreciation	$ 638,066	$ 71,195	$ 637,566
Debt Service Coverage & Reserves			
Debt Service Coverage (10%)	$ 84,040	$ 78,151	$ 78,151
Short-Lived Assest Replacement	$ 76,400	$ 76,400	$ 76,400
Total - Debt Service & Reserve Funds	$ 160,440	$ 154,551	$ 154,551
Net for Depreciation	$ 477,627	$ (83,356)	$ 483,014
Depreciation	$ 423,000	$ -	$ 482,582
Net Income	$ 54,627	$ (83,356)	$ 432

Rate Analysis

Percent Change in Rates	0%	0%	21.2%
Wholesale Rate	$ 2.63	$ 2.63	$ 3.19
In-Town Rate			
Base Rate	$ 11.00	$ 11.00	$ 11.00
Per Gallon Charge	$ 3.06	$ 3.06	$ 3.71
Water Charge for 5,000 Gallon Bill	$ 23.24	$ 23.24	$ 25.83
Increase Over Current	$ -	$ -	$ 2.59
Water Charge for 10,000 Gallon Bill	$ 38.54	$ 38.54	$ 44.38
Increase Over Current	$ -	$ -	$ 5.84

WD 5

6. Provide a copy of all of Central City's accounting instructions, assumptions, directives, manuals, policies, and procedures.

Response: The City of Central City does not have any written accounting instructions, assumptions, directives, manuals, policies, and procedures that have been adopted specifically for the City.

Witness: David Rhoades

7. Provide Central City's cost allocation manual and all other documents, including policy statements, memoranda, correspondence, and official guidance, that address how Central City allocates shared or joint costs between city departments and operations.

Response: The City of Central City does not have a cost allocation manual or other documents addressing how Central City allocates shared or joint costs between city departments or operations. A description of how Central City allocates shared or joint costs between its water and sewer operations is provided in response to Item 8 below.

Witness: David Rhoades

8. Describe how Central City allocates shared or joint costs between its water and sewer operations. Provide all documents that establish these cost allocation methods.

Response: The City of Central City uses a 60/40 allocation factor of shared or joint costs of its water and sewer operations. In other words, if a cost that is attributable to both water and sewer operations is incurred, 60 percent of the total cost is allocated to the water operations and 40 percent of the cost is allocated to the sewer operations. This allocation method has been used for years, and the City has not located any documentation that originally established this methodology. The 60/40 methodology appears to be appropriate because for a variety of reasons, and maybe under allocating expenses to the water operations based on certain factors. The water-to-sewer revenue ratio is approximately 3.5 to 1, and the water-to-sewer expense ratio is approximately 3.8 to 1. The water treatment plant has significantly more capacity (7.0 MGD) as compared to the wastewater treatment plant's capacity (1.2 MGD). We have estimated that City employees that jointly work on water and sewer operations spend approximately 60 percent of their time on water operations. And there are more retail water customers (2,058) than sewer customers (1,819). Accordingly, we believe that the 60/40 allocation factor is appropriate.

Witness: David Rhoades

9. Provide the system of accounts that Central City uses for its water and sewer operations.

Response: Please see response to Commission Staff's First Request for Information, Item 2.

Witness: David Rhoades

10. List each charge to the water fund during Fiscal Year ("FY") 2016 for the costs other than Central City's water operations. The response shall include a detailed explanation of why the water fund was charged for each non-water operation cost.

Response: Central City is not aware of any charges to the water fund during Fiscal Year ("FY") 2016 for the costs other than Central City's water operations.

Witness: David Rhoades

11. Identify all persons or entities to which Central City provides wholesale water service.

Response: Muhlenberg County Water District and Muhlenberg County Water District No. 3.

Witness: David Rhoades

12. Provide the rates that Central City currently charges its retail customers and each wholesale customer and the date when these rates were placed into effect.

Response: Please see the attached document.

Witness: David Rhoades

P. 4 Ex. 12

Municipal Water and Sewer System

208 North 1st Street • P.O. Box 430 • Central City, KY 42330 • Phone (270) 754-3066 • Fax (270) 754-9711

WATER & SEWER RATE SCHEDULE

WATER RATE - In town users - effective April 1, 2013

First 1,000 gallons	$11.00	Minimum Bill
All usage	$3.06	per 1,000 gallons

WATER RATE - Outside city limits - effective Sept. 20, 2008

First 2,000 gallons	$18.76	Minimum bill
All over 2,000 gallons	$6.08	per 1,000 gallons

WATER RATES - CO UTILITY DISTRICTS - effective March 17, 2013

	$2.63	per 1,000 gallons

SEWER RATES - In town users - effective Feb. 1, 2016

First 1,000 gallons	$9.56	$9.56	per 1,000 gallons
Up to 3,000 gallons	$19.54	$4.99	per 1,000 gallons
Up to 4,000 gallons	$24.53	$4.99	
Up to 5,000 gallons	$29.52	$4.99	
Up to 6,000 gallons	$34.51	$4.99	
Up to 8,000 gallons	$44.35	$4.92	
Up to 10,000 gallons	$53.93	$4.79	
Up to 20,000 gallons	$101.13	$4.72	
Over 20,000 gallons		$4.72	per 1,00 gallons additional usage

SEWER RATES - Outside city limits - effective Feb. 1, 2013

Service Charge (all usages, including no usage)	$10.00	per month
Usage	$7.00	per 1,000 gallons

$4,500 for tap & grinder pump; $4000 if paid in full; $2,000 down to finance for 36 months

RATE SCHEDULES ARE APPLICABLE FOR BOTH RESIDENTIAL & COMMERCIAL

RECONNECTION FEE FOR INTOWN USERS	$25.00
RECONNECTION FEE FOR OUTSIDE USERS	$65.00
DEPOSITS FOR NON-COMMERCIAL USER	$100.00
COMMERCIAL	$150.00

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13. Refer to the Testimony of David Rhoades at page 3, lines 15-17. Provide a copy of the ordinance to which Mr. Rhoades refers.

Response: Please see a copy of the attached document.

Witness: David Rhoades

Dt 13 Dt. 24+ 25 P. 7

KOC #610.02

CITY OF CENTRAL CITY, KENTUCKY
ORDINANCE BILL #2017-02

AN ORDINANCE AMENDING SECTION 9(A); SECTION 9(C); AND SECTION 9(D) OF ORDINANCE KOC #610.02, WHICH IS ENTITLED:

AN ORDINANCE OF THE CITY OF CENTRAL CITY RELATING TO THE COMBINED AND CONSOLIDATED WATER AND SEWER SYSTEM AND THE COMMISSION ESTABLISHED TO OPERATE AND MANAGE SAID SYSTEM: PROHIBITING UNAUTHORIZED DISPOSAL OF SEWAGE: DETERMINING THAT IT IS NECESSARY TO INCREASE THE RATES AND CHARGES FOR WATER SERVICE AND FOR SEWER SERVICE PROVIDED THROUGH THE FACILITIES OF SAID SYSTEM: PRESCRIBING RATES AND CHARGES FOR SUCH SERVICES, AND THE EFFECTIVE DATES THEREOF: PRESCRIBING TIMES FOR METER READING, RENDITION OF BILLS, PAYMENT OF BILLS, PENALTIES FOR LATE PAYMENT, AND DISCONTINUANCE OF SERVICE TO DELINQUENTS: AND ESTABLISHING OTHER CHARGES

BE IT ORDAINED BY THE CITY OF CENTRAL CITY AS FOLLOWS:

FIRST:

Section 9(A) of Ordinance KOC #610.02 is hereby amended as follows:

SECTION 9. SERVICE, RATES AND CHARGES. Rates and charges for the use of the services and facilities of the System are hereby established and prescribed, effective in the manner and upon the respectable dates hereinafter set forth as follows:

WATER RATES SHALL BE:

A. In-town users:

Monthly user charge	$11.00	
All usage	@$3.70	per 1,000 gallons

SECOND:

Section 9(C) of Ordinance KOC #610.02 is amended as follows:

SECTION 9. SERVICE, RATES AND CHARGES. Rates and charges for the use of the services and facilities of the System are hereby established

WD 13

and prescribed, effective in the manner and upon the respectable dates hereinafter set forth, as follows:

METERED WATER SERVICE

C. Resale:

Muhlenberg County Water District - $3.19 per 1,000 gallons and Muhlenberg County Water District #3 $3.19 per 1,000 gallons.

THIRD:

Section 9(D) of Ordinance KOC # 610.02 is hereby amended as follows:

D. Retail Users of water outside the city limits with or without sewer service:

First 1,000 gallons @ $18.76 Minimum Bill

All over 2,000 gallons @ $7.35 per 1,000 gallons

FOURTH:

All other provisions of City of Central City Ordinance KOC #0610.02, except as amended herein, shall remain in full force and effect, including, without limitation, the provisions of Section 10(II) of such ordinance, which is quoted below:

(II) EXISTING RATES: It is hereinabove provided that the prescribed rates and charges for water service and for sewer service are to become effective as applied to bills rendered on and after specified dates. It is the intention that the rates and charges herein prescribed shall supersede any rates and charges presently in force under existing Ordinances, Resolutions, Rules and Regulations but it is not intended that the rates and charges presently in force under existing Ordinances, Resolutions, Rules and Regulations; be rescinded unless and until effectively replaced or superseded; nor that there shall ever be a period of time when no lawful rate or charge for water service or sewer service prevails. Subject to the provisions of this Ordinance, it is ordained that presently prevailing rates, charges, rules and regulations continue in force until lawfully superseded.

FIFTH:

The provisions of this ordinance are severable, and any valid declaration of unenforceability by a court or other tribunal of competent jurisdiction of any provision hereof shall not invalidate the remaining provisions of this ordinance.

SIXTH:

This Ordinance shall take effect upon its passage, approval and publication according to law. "Approval" shall include, without limitation, any approval required by law by any agency, department, or cabinet of the Commonwealth of Kentucky, including, without limitation, the Kentucky Public Service Commission.

This the 14th day of June, 2017.

Barry Shaver, Mayor

ATTEST:

David G. Rhoades, City Clerk

Date of First Reading: May 10th, 2017

ROLL CALL

	YES	NO
BROWN	✓	
CHRISTMAS	✓	
COOMBS	✓	
JENKINS	✓	
LANCASTER	✓	
MILLER	✓	
MITCHELL	✓	
WEST	✓	
TOTAL:	8	

14. Provide the following for FY 2014, FY 2015, and FY 2016:

    a. Total gallons of water sold to MCWD;

    b. Total gallons of water sold to MCWD3;

    c. Total gallons of water sold to Central City's retail customers; and

    d. Total gallons of water produced at Central City's Water Treatment Plant.

Response: Please see the attached documents. Please note that the number of gallons sold is identified in 100 gallon increments on the attached documents, but the total gallons produced are actual totals.

Witness: David Rhoades

Water Sold

2013-2014	Total	Dist. #1	Dist. #3	City
July	1,075,883	515,790	257,942	302,151
August	922,708	376,072	232,701	313,935
September	850,556	371,080	240,246	239,230
October	821,632	362,125	222,119	237,388
November	835,850	368,346	215,536	251,968
December	779,980	340,474	194,974	244,532
January	985,645	464,856	254,064	266,725
February	846,660	391,858	226,553	228,249
March	852,427	408,242	241,603	202,582
April	824,066	370,989	231,723	221,354
May	877,988	409,981	249,452	218,555
June	977,207	435,086	258,931	283,190
Total	10,650,602	4,814,899	2,825,844	3,009,859

WD 14abc

2014-2015	Total	Dist. #1	Dist. #3	City
July	939,433	424,893	259,482	255,058
August	1,015,092	391,088	225,188	398,816
September	907,548	407,686	233,436	266,426
October	819,220	368,060	214,627	236,533
November	776,381	362,513	192,728	221,140
December	872,821	421,490	217,834	233,497
January	833,833	401,598	212,852	219,383
February	878,595	395,071	212,821	270,703
March	903,658	439,830	237,333	226,495
April	802,109	364,759	211,877	225,473
May	847,620	397,365	217,950	232,305
June	971,060	429,904	260,164	280,992
Total	10,567,370	4,804,257	2,696,292	3,066,821

2015-2016	Total	Dist. #1	Dist. #3	City
July	912,818	418,163	242,027	252,628
August	915,189	413,407	234,840	266,942
September	873,270	414,325	229,435	229,510
October	801,612	361,490	208,247	231,875
November	847,134	371,717	201,227	274,190
December	800,435	376,147	208,215	216,073
January	831,423	370,023	199,782	261,618
February	821,160	379,897	212,925	228,338
March	797,338	371,865	208,128	217,345
April	765,938	348,874	206,966	210,098
May	841,700	385,579	228,170	227,951
June	929,467	430,010	237,875	261,582
Total	10,137,484	4,641,497	2,617,837	2,878,150

Water Treated
2013-2014

TREATED WATER

July	109,409,827
August	92,451,591
September	85,407,414
October	84,908,755
November	78,360,803
December	82,565,201
January	95,848,190
February	87,440,900
March	89,871,052
April	83,198,102
May	94,778,873
June	86,054,866
Total	1,070,295,574

WD 14d

July 2014-June 2015

TREATED WATER

July	85,708,635
August	82,237,560
September	75,093,211
October	73,420,434
November	73,235,527
December	77,381,813
January	84,472,287
February	84,773,308
March	86,817,985
April	74,256,310
May	81,693,062
June	78,534,384
Total	957,624,516

July 2015-June 2016

TREATED WATER

July	81,135,999
August	78,082,456
September	77,446,400
October	70,716,297
November	68,276,161
December	71,966,184
January	78,125,051
February	67,789,761
March	71,077,970
April	70,641,688
May	83,810,579
June	87,032,130
Total	906,100,676

15. State whether Central City provides unmetered water service to any city departments or related entities (e.g., service to municipal buildings, fire departments, fire protection services, city parks, swimming pools, water parks, and sports parks). If unmetered service is provided, estimate the unmetered water provided for each entity or type of service.

Response: Please see the attached document. It identifies the city departments or related entities that receive unmetered service and an estimate of the annual amount of water provided for each category.

Witness: Michael McGhee and David Rhoades

Unmetered Service	Estimate
Municipal Buildings	10,000
Fire Protection Services	150,000
Swimming Pools, etc.	278,000
Water Parks	320,000
Total	758,000

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