



**AGENDA**  
**Water and Wastewater Financing Board**

September 8, 2016  
10:00 am  
Room 31, Legislative Plaza  
301 Sixth Avenue North  
(6<sup>th</sup> Avenue between Charlotte Avenue and Union Street)  
Nashville, Tennessee

Call to Order

Approval of Minutes		March 10, 2016	Pg. 2
Cases – Financial Distress	Town of Gainesboro	Jackson County	Pg. 10
Status – Financial Distress	Rocky Top	Anderson County	Pg. 26
	City of Luttrell	Union County	Pg. 33
	Town of Vonore	Blount/Monroe Counties	Pg. 35
	City of Niota	McMinn County	Pg. 57
	City of Middleton	Hardeman County	Pg. 59
	Town of Westmoreland	Sumner County	Pg. 68
	Watauga River Regional Water Authority	Carter County	Pg. 74
Status – Investigation	Coffee County WWTA	Coffee County	Pg. 89
Cases – Water loss:	City of Brentwood	Williamson County	Pg. 92
	Lauderdale County Water System	Lauderdale County	Pg. 101
	City of Friendship	Crockett County	Pg. 112
	City of Smithville	Dekalb County	Pg. 118
	Town of Englewood	McMinn County	Pg. 124
Status – Water loss:	City of Copperhill	Polk County	Pg. 130
	City of Cowan	Franklin County	Pg. 139
	City of Hohenwald	Lewis County	Pg. 163
Technical Assistance	Town of Carthage	Smith County	Pg. 177
Miscellaneous:	Oversight List		Pg. 193
	Next meeting		Pg. 195
Open Discussion			

Visitors to the Legislative Plaza are required to pass through a metal detector and must present photo identification. Individuals with disabilities who wish to participate in this meeting or to review filings should contact the Comptroller's Office to discuss any auxiliary aids or services needed to facilitate such participation. Such contact may be in person or by writing, telephone or other means, and should be made prior to the scheduled meeting date to allow time to provide such aid or service. Contact the Comptroller's Office (Mr. John Greer) for further information.

505 Deaderick Street, Suite 1700  
James K. Polk State Office Building  
Nashville, TN 37243-1402  
Telephone (615) 747-5260  
Fax (615) 741-1551  
[Utilities@cot.tn.gov](mailto:Utilities@cot.tn.gov)

**WWFB**

**Minutes**

**March 10, 2016**

**MINUTES**  
**of the**  
**WATER AND WASTEWATER FINANCING BOARD MEETING**  
**March 10, 2016**  
**10:00 a.m.**

Chair Ann Butterworth detected a quorum and called to order the meeting of the Water and Wastewater Financing Board (Board) in Legislative Plaza, Room 31, in Nashville, Tennessee.

**Board members present and constituting a quorum:**

Ann Butterworth, Chair, Comptroller Designee  
Randy Wilkins, Representing Utility Districts  
Kenneth Wiggins, Active Employee of a Municipal Water System  
Drexel Heidel, Active Employee of a Water Utility District  
Rick Graham, Representing Municipalities  
Tamika Parker, Representing Environmental Interests  
Mechele Williams, Representing Government Finance

**Board members absent:**

Tom Moss, Department of Environment and Conservation (TDEC), Commissioner Designee  
VACANT, Representing Manufacturing Interests

**Staff present:**

John Greer, Comptroller's Office  
Kirbie Ferrell, Comptroller's Office

**Counsel:**

Betsy Knotts, Comptroller's Office

Ms. Butterworth asked that all members and staff introduce themselves.

There were two members present from TDEC as expert witnesses in place of Tom Moss who was unable to attend the meeting. Alan Schwendimann, the Deputy Director with the division of water resources, and Wade Murphy, another representative with the division of water resources, introduced themselves as requested.

**Annual Water Loss Report:**

Mr. Greer distributed the annual water loss report to the Board.

**Conflict of Interest**

Ms. Knotts provided a brief summary of the conflict of interest statute and informed the Board that the conflict of interest forms will be required annually.

**Approval of Minutes:**

Mr. Wiggins moved approval of the minutes of December 3, 2015. Mr. Heidel seconded the motion, which passed unanimously.

**Staff Update:**

Mr. Greer gave a brief staff update, detailing the visits that he and Ms. Knotts have made to various cities and counties to work with their water and sewer representatives. The utilities segment of the Comptroller's office has been moved into the administration branch of the office. Mr. Greer explained that he and Ms. Knotts are hoping to streamline office functions and take a more holistic approach to working with these cities and counties.

Ms. Butterworth encouraged the Board members to offer their perspective and opinions on the work being done by the utilities portion of the Comptroller's office.

**Cases – Financial distress**

Mr. Greer presented the following cases:

**City of Crossville**

The City of Crossville (City) has been referred as having two consecutive years with a negative net change in net position, in its water and sewer fund, as of June 30, 2015. On July 1, 2015, the City raised water rates 10% and sewer rates 25%. The City is also proposing an additional 10% rate increase in sewer over the next two fiscal years, and an additional 4% rate increase for water over the same period.

Mr. Wilkins moved that the Board endorse, by formal order, the corrective action plan of the City. Ms. Williams seconded the motion, which passed unanimously.

**City of Luttrell**

The City of Luttrell (City) has had an operating loss for a minimum of 9 years, but grants and capital contributions have allowed them to be in financial compliance. The City received a total of \$474,820 in grant money during the 2015 fiscal year. The City will continue to work to have a positive change in net position without grants. An update will be provided by staff at the next meeting.

Mr. Wiggins moved to defer action and direct staff to work closely with the city going forward. Mr. Graham seconded the motion, which passed unanimously.

**Town of Monterey**

The Town of Monterey (Town) has been referred as having two consecutive years with a negative net change in net position, in its water and sewer fund, as of June 30, 2015. The Town has had an operating loss for a minimum of 5 years, but grants and capital contributions have allowed them to be in financial compliance. The Town raised rates on July 1, 2015, and has passed an ordinance to have automatic rate increases on July 1, 2016 and July 1, 2017. Staff's recommendation was to endorse, by formal order, the corrective action plan for the town.

Mr. Heidel moved that the Board endorse, by formal order, the corrective action plan of the Town. Ms. Williams seconded the motion, which carried unanimously.

#### **Watauga River Regional Water Authority**

Mr. Greer explained that Watauga was proactive in addressing their money loss. The Authority contacted Mr. Greer before the referral was received. Watauga quickly fixed their issue and will continue to improve on their system. They are on track to financial compliance. Staff's recommendation was to endorse by formal order the plan implemented by the authority.

Due to discrepancies and uncertainty about units of measurement in Watauga's information, Mr. Heidel moved to defer action until the next Board meeting. Mr. Graham seconded the motion, which carried unanimously.

#### **Status reports – Financial Distress**

Mr. Greer explained that status reports are presented simply to update the Board on certain matters specific to the entities involved. No action is taken unless specified by members. The entities will continue to be monitored by the Board until compliance is reached. Mr. Greer presented the following cases:

#### **Coffee County Sewer**

The Coffee County Sewer System was referred for a negative change in net position for the last six fiscal years as of June 30, 2014. The County was in technical compliance as of June 30, 2015, but only because of a \$35,000 transfer from the general fund.

The system has 57 customers which makes long term financial stability uncertain. Mr. Greer discussed the plan that the Board endorsed in 2012. When Mr. Greer went to the county to meet with officials, most aspects of the plan had not been implemented.

Margaret Cunningham of the Coffee County Water and Wastewater Authority and Lee Duncan, a former County commissioner, were present to represent the county and discuss their sewer system. Ms. Cunningham explained the following aspects of Coffee County's plan:

This subdivision where the sewer system is located houses a majority of low to middle families who cannot afford a 100% rate increase as suggested by staff; this subdivision was improperly permitted in the beginning by representatives of TDEC in the late 60's when it was very obvious(as it still is) this area was a wetland with large ditches for rain runoff; while we understand that's not the problem here, it cannot be ignored that were it not for the State permitting these homes, the County would not be in the Wastewater business but had no choice due to the mounting environmental issues. The building of the facility in 2005 coincided with the rapid increase in oil prices which more than doubled the costs of materials. This rapid increase took place between the time we estimated the costs of building the plant, applied for USDA loans and started the project.

We have adjusted operating procedure to maximize contributions from the County Rural Infrastructure Fund. The County Commission has been reluctant from the beginning of the Wayside Acres sewer system to fund this project, instead insisting that the residents utilizing the system pay the costs of the system. Funding has been strictly limited to resident fees until 2015.

Ms. Cunningham also discussed the option of merging and the lack of interest on merging that has been shown by not only other systems, but the County.

The board would like to see the sales tax fund discussed by Ms. Cunningham checked out for more information on the method and legality of transfers from this fund. The Board would also like the investigation to look into putting additional customers on the system, merger possibilities and rate change options. The investigation timeline was set to six months.

Mr. Heidel moved to initiate a 6 month investigation of the system. The investigation was to include at a minimum:

- Legality of the sales tax used to subsidize the sewer fund
- Options of connecting additional customers
- Merger possibilities
- A study of the rate structure and possible increases

Mr. Graham seconded the motion, which passed unanimously.

#### **City of Munford**

The city was brought back in front of the Board simply to show the members the progress made by the city. The Board took no action.

#### **City of Bluff City**

At the previous Board meeting, a formal order was issued requesting a revised water audit, revised financials that include depreciation and the repayment of certain interfund transfers, and a corrective action plan. The city will be raising rates by 9% for the next two fiscal years, and by 5% the year after that. Mr. Wiggins moved to endorse, by formal order, the corrective action plan of the City. Ms. Williams seconded the motion, which passed unanimously.

#### **City of Rocky Top**

At the previous Board meeting, a formal order was issued requesting a rate study prepared by MTAS, the finalization of a Community Development Block Grant and exploring possibilities of a merger with Anderson County. The City presented a rate study which suggested rates would need to be raised 45% in the next two years to come into compliance.

Mr. Wiggins moved, by formal order, for the City to increase rates by 15% the next three fiscal years and 1% every year after that. Ms. Parker seconded the motion, which carried unanimously.

#### **City of Sunbright**

The City of Sunbright has been referred for a negative change in net position for the last four consecutive fiscal years as of June 30, 2014. Effective February 22, 2016, the City increased sewer rates by 5%. Staff projected the City would need an additional 60% rate increase to reach financial stability. The City Council has voted not to initiate consolidation negotiations with Plateau Utility District. The office of the Comptroller offered to provide funding for one hour of mediation between Sunbright and Plateau Utility District to discuss merging.

Ms. Parker moved to initiate a 6 month investigation of the system. The investigation should explore possibilities for a merger or long-term solution for the city. The motion also included the option to provide a mediator for a meeting between Sunbright and Plateau Utility District. Mr. Wilkins seconded the motion, which passed unanimously.

#### **Cases – Water loss**

Mr. Greer explained that water loss cases are simply presented, but no action is taken unless specifically requested by individual members. The cases will continue to be reviewed annually until they are in compliance. Mr. Greer presented the following cases:

#### **City of Sweetwater**

The City of Sweetwater was referred for having excessive non-revenue water as a percentage of operating cost of 44.4%. The city attached a corrected version and the Board took no action.

#### **City of Copperhill**

The City of Copperhill was referred for having excessive non-revenue water as a percentage of operating cost of 47.2%. Staff requested the Board require more detailed responses to the most recent non-revenue water questionnaire.

Mr. Heidel moved to endorse staff recommendations. Mr. Wiggins seconded the motion, which passed unanimously.

#### **City of Cowan**

The City of Cowan was referred for having excessive non-revenue water as a percentage of operating cost of 34.2%. The Board requested more information as a follow up to the City of Cowan's questionnaire responses. The Board would like to see more information on non-revenue water loss policies and procedures. This information would include whether various policies exist and would look into what steps would need to be taken in order to get new policies in place.

#### **City of Springfield**

The City of Springfield was referred for having a low validity score of 70. No action was taken.

#### **Status reports – Water loss**

Mr. Greer explained that status reports are presented simply to update the Board on certain matters specific to the entities involved. No action is taken unless specified by members. The entities will continue to be monitored by the Board until compliance is reached.

#### **Town of Chapel Hill**

The Town of Chapel Hill was referred for having a low validity score of 68. No action was taken.

#### **City of Collinwood**

The city was referred for having non-revenue water score of 86.8%. Staff suggested to the city that the City seek guidance on how to fill out the AWWA reporting worksheet. No action was taken.

#### **City of Dunlap**

The City of Dunlap was referred for having a low validity score of 68. No action was taken.

### **Town of Tiptonville**

The Town of Tiptonville was referred for having a low validity score of 58. No action was taken.

### **City of Erin**

The City of Erin was referred for having excessive non-revenue water as a percentage of operating cost of 26.3%. This was down from over 40% as of their last audit. No action was taken.

### **Miscellaneous**

#### **Conflict of Interest**

Staff received the conflict of interest forms from all members. Mr. Greer reiterated that the form will be collected annually and if anything comes up, the members should contact either Ms. Knotts or himself to discuss the issue.

#### **Water Loss Discussion**

On May 11<sup>th</sup>, Chris Leauber will teach a class pertaining to the two new questionnaires. In preparation for the next meeting, the Board requested that as much information as possible from the class with TAUD and Chris Leauber be available for presentation.

Ms. Knotts suggested that the questionnaires be used to help educate the utilities at the local level on their water loss information. It is important that the counties and cities understand their water system independent of state assistance for the times when they are not before the Board.

Mr. Greer reiterated that staff is always open to new information and suggestions by members because they are interacting at the local level, while the Board does not have that day to day experience.

#### **Oversight List**

The oversight list was placed on the agenda and copies of that can be accessed through staff.

All water systems are under the jurisdictions of the Board – they simply do not go under Board oversight until they are referred.

#### **Next Meeting**

The next meeting is scheduled for May 12, 2016. There will be several cases on the agenda and staff will be visiting several entities in West Tennessee over the next month. If anyone has any conflicts, they should let Mr. Greer know as soon as possible.

Ms. Butterworth adjourned the meeting at 12:20 pm.

**Respectfully submitted,**

**Ann Butterworth  
Chair**

# Financial Distress

# Town of Gainesboro

**WATER AND WASTEWATER FINANCING BOARD  
Case Study**

**Case:** Town of Gainesboro  
**Mayor:** Lloyd Williams  
**Customers:** 665 Water, 490 sewer  
**Validity Score:** 84  
**Non-Revenue Water:** 24.40%

The Town of Gainesboro (Town) has been reported to the Water and Wastewater Financing Board (Board) as having four consecutive years with a negative net change in net position, in its water and sewer fund, as of June 30, 2015. A sheet reflecting the financial and rate history is attached.

The Town has had an operating loss for a minimum of 9 years, but grants and capital contributions have allowed them to not be referred to the Board.

Staff had recommended that new revenue of 20% would be needed for long term sustainable success. Staff also recommended that the Town consider changing the declining rate schedule to better reflect costs, and an automatic rate increase annually.

On July 1, 2015/2016, the Town raised water and sewer rates by 10%. The Town is also replacing all meters with AMRs and installing a new computer system. Staff informed us of plans to change the rate structure when the new computer system is put in place. The Town has not planned for any additional rate increases in the future.

**Staff recommends the Board endorse, by formal order, the Town of Gainesboro's corrective action plan (CAP) as stated below:**

- 1. A 10% rate increase, in water and sewer, effective July 1, 2015**
- 2. A 10% rate increase, in water and sewer, effective July 1, 2016**
- 3. A new rate structure that accurately reflects cost must be put in place when the new computer system is installed**
- 4. Starting July 1, 2017, an automatic rate increase annually based on the CPI (but no less than 2%)**
- 5. Update staff to the Water and Wastewater Financing Board every 6 months of the Town's progress, and immediately if any changes to the CAP are proposed**

**TOWN OF GAINESBORO**

**HISTORY FILE**

	<b>Audited</b>	<b>Audited</b>	<b>Audited</b>						
<b>Fiscal Year 6/30</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Water/sewer revenues	\$ 516,827	\$ 528,160	\$ 336,793	\$ 510,603	\$ 502,525	\$ 567,742	\$ 580,622	\$ 655,730	\$ 751,370
Other revenues	\$ 44,202	\$ 41,217	\$ 189,487	\$ 29,263	\$ 65,211	\$ 26,922	\$ 15,353	\$ 16,281	\$ 22,173
Capital Contributions		\$ 504,301	\$ 96,200		\$ 474,920	\$ 69,077	\$ 31,894	\$ 195,804	\$ -
<b>Total Rev.</b>	<b>\$ 561,029</b>	<b>\$ 1,073,678</b>	<b>\$ 622,480</b>	<b>\$ 539,866</b>	<b>\$ 1,042,656</b>	<b>\$ 663,741</b>	<b>\$ 627,869</b>	<b>\$ 867,815</b>	<b>\$ 773,543</b>
<b>Total Exp.</b>	<b>\$ 602,192</b>	<b>\$ 646,563</b>	<b>\$ 644,480</b>	<b>\$ 635,751</b>	<b>\$ 676,175</b>	<b>\$ 719,866</b>	<b>\$ 727,238</b>	<b>\$ 837,501</b>	<b>\$ 756,340</b>
Operating Income	\$ (41,163)	\$ 427,115	\$ (22,000)	\$ (95,885)	\$ 366,481	\$ (56,125)	\$ (99,369)	\$ 30,314	\$ 17,203
Interest Expense	\$ 81,941	\$ 88,794	\$ 84,285	\$ 100,103	\$ 83,148	\$ 80,903	\$ 77,080	\$ 79,065	\$ 69,158
<b>Change Net Position</b>	<b>\$ (123,104)</b>	<b>\$ 338,321</b>	<b>\$ (106,285)</b>	<b>\$ (195,988)</b>	<b>\$ 283,333</b>	<b>\$ (137,028)</b>	<b>\$ (176,449)</b>	<b>\$ (48,751)</b>	<b>\$ (51,955)</b>
<u>Additional Info</u>									
Principal payment	\$ 27,586	\$ 28,700	\$ 37,619	\$ 34,807	\$ 36,147	\$ 36,126	\$ 38,908	\$ 38,788	\$ 1,416,021
Depreciation	\$ 185,164	\$ 214,954	\$ 203,840	\$ 202,029	\$ 219,002	\$ 226,287	\$ 223,748	\$ 228,433	\$ 223,783
<b>Water inside rates</b>									
First 2,000 gallons	\$ 10.45	\$ 10.45	\$ 10.45	\$ 10.45	\$ 13.16	\$ 13.16	\$ 13.16	\$ 14.48	\$ 15.93
2,001 -2,500 gallons	\$ 4.83	\$ 4.83	\$ 4.83	\$ 4.83	\$ 6.08	\$ 6.08	\$ 6.08	\$ 6.69	\$ 7.36
2,501 - 3,000 gallons	\$ 4.46	\$ 4.46	\$ 4.46	\$ 4.46	\$ 5.61	\$ 5.61	\$ 5.61	\$ 6.17	\$ 6.79
2,001 - 10,000 gallons	\$ 3.97	\$ 3.97	\$ 3.97	\$ 3.97	\$ 4.99	\$ 4.99	\$ 4.99	\$ 5.49	\$ 6.04
10,001 - 20,000 gallons	\$ 3.45	\$ 3.45	\$ 3.45	\$ 3.45	\$ 4.74	\$ 4.74	\$ 4.74	\$ 4.77	\$ 5.25
20,001 - 30,000 gallons	\$ 2.95	\$ 2.95	\$ 2.95	\$ 2.95	\$ 3.70	\$ 3.70	\$ 3.70	\$ 4.07	\$ 4.48
All over	\$ 2.08	\$ 2.08	\$ 2.08	\$ 2.08	\$ 2.61	\$ 2.61	\$ 2.61	\$ 2.87	\$ 3.87
<b>Water outside rates</b>									
First 2,000 gallons	\$ 12.86	\$ 12.86	\$ 12.86	\$ 12.86	\$ 16.20	\$ 16.20	\$ 16.20	\$ 17.82	\$ 19.60
2,001 -2,500 gallons	\$ 7.20	\$ 7.20	\$ 7.20	\$ 7.20	\$ 9.07	\$ 9.07	\$ 9.07	\$ 9.98	\$ 10.98
2,501 - 3,000 gallons	\$ 6.68	\$ 6.68	\$ 6.68	\$ 6.68	\$ 8.41	\$ 8.41	\$ 8.41	\$ 9.25	\$ 10.18
2,001 - 10,000 gallons	\$ 4.66	\$ 4.66	\$ 4.66	\$ 4.66	\$ 5.86	\$ 5.86	\$ 5.86	\$ 6.45	\$ 7.10
10,001 - 20,000 gallons	\$ 3.98	\$ 3.98	\$ 3.98	\$ 3.98	\$ 5.00	\$ 5.00	\$ 5.00	\$ 5.50	\$ 6.05
20,001 - 30,000 gallons	\$ 3.22	\$ 3.22	\$ 3.22	\$ 3.22	\$ 4.05	\$ 4.05	\$ 4.05	\$ 4.60	\$ 4.91
All over	\$ 2.40	\$ 2.40	\$ 2.40	\$ 2.40	\$ 3.02	\$ 3.02	\$ 3.02	\$ 3.32	\$ 4.32
Utility districts per 1,000	\$ 1.85	\$ 1.85	\$ 1.85	\$ 1.85	\$ 2.82	\$ 2.82	\$ 2.82	\$ 3.32	\$ 3.41
<b>Sewer is 100% of water</b>									
Water customers	649	653	651	651	650	650	655	665	665
Sewer customers	468	469	467	467	470	470	475	490	490
<b>Water loss</b>		<b>35%</b>	<b>34%</b>	<b>34%</b>	<b>33%</b>	<b>31%</b>			
Validity Score							<b>83</b>	<b>83</b>	<b>84</b>
Non-revenue water							<b>25.10%</b>	<b>39.30%</b>	<b>24.40%</b>

**TOWN OF GAINESBORO**

P.O. BOX 594

402 E. Hull Ave.

Gainesboro, TN 38562

Phone: 931-268-9315

**Mayor: Lloyd Williams**

**Aldermen: Travis Agee, John Cassetty, and Jacob Stafford**

April 20, 2016

John Greer, Utilities Board Manager  
State of Tennessee  
Water and Wastewater Financing Board  
Suite 1500 James K. Polk State Office Building  
505 Deaderick Street  
Nashville, TN 37243

Re: **Response to Non-Revenue Water Letter**

Dear Mr. Greer:

This letter is written in response to our previous meeting where we discussed the Town's water loss and current/future financial responsibilities. During the meeting, it was noted that the Town needed to repay a loan that was granted to the Water/Sewer Fund from the General Fund. This loan has since been repaid, and a copy of the certificate of deposit is attached to this correspondence. Additionally, the Town was informed that their water/sewer rates needed to be raised in order to meet their current financial responsibility. A new water/sewer rate ordinance that increases rates 10% over the previous year has passed its first reading by Gainesboro's council. Because the documentation provided to Gainesboro at your last visit did not reflect the rate increase that was passed in 2015, both the new ordinance and current ordinance are attached for your review.

The Town was informed that their auditor could assist in reducing the amount of depreciation required to be funded, and is currently investigating this possibility. Additionally, you had requested a copy of the contract that exists between Gainesboro and Jackson County Utility District which is also attached. The fire hydrant rental price has also been increased to \$50,000, from \$25,000 last year in order to offset losses.

Finally, Gainesboro is working diligently with James C. Hailey & Company and the Upper Cumberland Development District in order to reduce its non-revenue water, thereby decreasing expenses and maximizing operating income. A new radio read meter system, zone flow meters, service line replacements, and water line replacements are anticipated to accomplish this goal. The Town of Gainesboro has been awarded a \$525,000 CDBG grant and an SRF Loan for \$648,150 (with 25% principle forgiveness) in order to reduce its water loss.

Please find attached to this letter, responses to the questionnaire received with your correspondence.

If you have any questions or if we can be of assistance please let us know.

Sincerely,



Lloyd Williams, Mayor  
Town of Gainesboro

Cc: Nathaniel Green, Project Engineer – James C. Hailey & Company

# CERTIFICATE OF DEPOSIT

12 - 17 Month Certificate of Deposit

Term: 12 month(s)

Number:

Date Opened: 04/18/2016 Account No.:

This Certificate Evidences a Deposit in the

Initial Amount of:

Three Hundred Sixty Eight Thousand Five Hundred Ninety and 09/100

Maturity 04/18/2017

dollars \$ 368,590.09

### Account Holder:

TOWN OF GAINESBORO  
GENERAL ACCOUNT  
402 E HULL AVE  
GAINESBORO, TN 38562

### Financial Institution:

Citizens Bank of Lafayette  
116 South Grundy Quarles Hwy  
Gainesboro, TN 38562  
931-268-2141

Not Negotiable - Not Transferable - Additional terms are below.

BY 

## Account Features

Following are the basic features of the account. The separate account disclosure contains more detailed information.

**RATE:** The interest rate is .600% with disclosed annual percentage yield (APY) of .60%. The rate applies until the first maturity.

**CREDITING, COMPOUNDING:** Earnings are typically credited out of this account quarterly, but you have arranged crediting into this account monthly. Typically compounding does not occur; however, you have arranged for compounding monthly.

**AUTOMATIC RENEWAL:** The account automatically renews at maturity. Each renewal term will be the same as the original term. The interest rate upon renewal will be the rate we offer at the time of renewal on new accounts with the same features as the account being renewed. The account has a grace period of 10 calendar day(s) after maturity for withdrawal without penalty. You may prevent renewal by withdrawing the funds at maturity.

**EARLY WITHDRAWAL PENALTY:** The penalty will equal one month's interest on the amount withdrawn subject to penalty. Some exceptions may apply.

**EARNINGS COMPUTATION:** Earnings will be calculated using the daily balance method.

**NO ADDITIONS:** Additions are not permitted prior to maturity.

**WITHDRAWAL LIMITS:** Early withdrawals of principal are allowed, only if we agree, subject to penalty. Prearranged periodic withdrawals of credited interest are permitted. Earnings can only be withdrawn on the crediting dates.

### Ownership of Account

Public Funds

### ENDORSEMENTS

Sign only when requesting withdrawal.

X \_\_\_\_\_ (Date)

X \_\_\_\_\_ (Date)

X \_\_\_\_\_ (Date)

### Signatures for Withdrawal

Required number of signatures for withdrawal: 2

X \_\_\_\_\_ (Date)

**ORDINANCE NO. 2015-05-02**

**WHEREAS**, THE Mayor and Board of Alderman of the Town of Gainesboro, Tennessee deem it necessary to restructure the town's water rate schedule to meet the financial obligations of the Water and Sewer System.

**BE IT ORDAINED** by the Mayor and Board of Alderman of the Town of Gainesboro that the following water rate schedules be adopted and shall go into effect on the July 1, 2015 billings, the public welfare requiring it.

**INSIDE TOWN**

Residential, Commercial, and Industrial (per 1,000 gallons)

First	2,000 gallons (minimum)	17.52
Next	500 gallons	8.10
Next	500 gallons	7.47
Next	7,000 gallons	6.64
Next	10,000 gallons	5.78
Next	10,000 gallons	4.93
All over	30,000 gallons	4.26

**OUTSIDE TOWN**

Residential, Commercial, and Industrial (per 1,000 gallons)

First	2,000 gallons	21.56
Next	500 gallons	12.08
Next	500 gallons	11.20
Next	7,000 gallons	7.81
Next	10,000 gallons	6.66
Next	10,000 gallons	5.40
All over	30,000 gallons	4.75
Jackson County Utility District		3.75

PASSED FIRST READING 7 May 2015

PASSED SECOND READING 4 June 2015

  
Lloyd Williams, Mayor

  
Joe E. Bowman, Town Recorder

**ORDINANCE NO. 2016-04-01**

**WHEREAS**, THE Mayor and Board of Alderman of the Town of Gainesboro, Tennessee deem it necessary to restructure the town's water and sewer rate schedule to meet the financial obligations of the Water and Sewer System.

**BE IT ORDAINED** by the Mayor and Board of Alderman of the Town of Gainesboro that the following water rate schedules be adopted and shall go into effect on the July 1, 2016 billings, the public welfare requiring it.

**INSIDE TOWN**

Residential, Commercial, and Industrial (per 1,000 gallons)

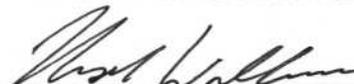
First	2,000 gallons (minimum)	19.27
Next	500 gallons	8.91
Next	500 gallons	8.22
Next	7,000 gallons	7.30
Next	10,000 gallons	6.36
Next	10,000 gallons	5.42
All Over	30,000 gallons	4.69

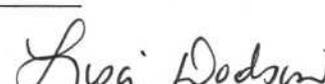
**OUTSIDE TOWN**

Residential, Commercial, and Industrial (per 1,000 gallons)

First	2,000 gallons (minimum)	23.72
Next	500 gallons	13.29
Next	500 gallons	12.32
Next	7,000 gallons	8.59
Next	10,000 gallons	7.33
Next	10,000 gallons	5.94
All Over	30,000 gallons	5.23
Jackson County Utility District		4.13

PASSED FIRST READING April 7<sup>th</sup>, 2016  
PASSED SECOND READING \_\_\_\_\_

  
\_\_\_\_\_  
Lloyd Williams, Mayor

  
\_\_\_\_\_  
Lisa Dodson, Town Clerk

WATER PURCHASE CONTRACT

This contract for the sale and purchase of water is entered into as of the 7<sup>th</sup> day of April,  
 19 88, between the City of Gainesboro  
P.O. Box 594, Gainesboro, TN 38562  
 (Address)  
 hereinafter referred to as the "Seller" and the Jackson County Utility District  
P.O. Box 367, Gainesboro, TN 38562  
 (Address)  
 hereinafter referred to as the "Purchaser",

WITNESSETH:

Whereas, the Purchaser is organized and established under the provisions of 48-1-201 thru 48-1-210 of the  
 Code of Tennessee, for the purpose of constructing and operating a water supply distribution  
 system serving water users within the area described in plans now on file in the office of the Purchaser and to accomplish  
 this purpose, the Purchaser will require a supply of treated water, and

Whereas, the Seller owns and operates a water supply distribution system with a capacity currently capable of serving the  
 present customers of the Seller's system and the estimated number of water users to be served by the said Purchaser as shown  
 in the plans of the system now on file in the office of the Purchaser, and

Whereas, by Resolution No. \_\_\_\_\_ enacted on the \_\_\_\_\_ day  
 of \_\_\_\_\_, 19 \_\_\_\_\_, by the Seller, the sale of water to the Purchaser in accordance  
 with the provisions of the said Resolution was approved, and the execution of this contract  
 carrying out the said Resolution by the Mayor  
 and attested by the Secretary, was duly authorized, and

Whereas, by Resolution of the Board of Water Directors  
 of the Purchaser, enacted on the \_\_\_\_\_ day of \_\_\_\_\_, 19 \_\_\_\_\_,  
 the purchase of water from the Seller in accordance with the terms set forth in the said Resolution  
 was approved, and the execution of this contract by the Chairman of the Board of Water Directors and  
 attested by the Secretary was duly authorized;

Now, therefore, in consideration of the foregoing and the mutual agreements hereinafter set forth,

A. The Seller Agrees:

1. (Quality and Quantity) To furnish the Purchaser at the point of delivery hereinafter specified, during the term of  
 this contract or any renewal or extension thereof, potable treated water meeting applicable purity standards of the \_\_\_\_\_  
Tennessee State Department of Public Health

in such quantity as may be required by the Purchaser not to exceed 3,000,000 gallons per month.

2. (Point of Delivery and Pressure) That water will be furnished at a reasonably constant pressure calculated at 8 psig from an existing Six (6") inch main supply at a point located \_\_\_\_\_

If a greater pressure than that normally available at the point of delivery is required by the Purchaser, the cost of providing such greater pressure shall be borne by the Purchaser. Emergency failures of pressure or supply due to main supply line breaks, power failure, flood, fire and use of water to fight fire, earthquake or other catastrophe shall excuse the Seller from this provision for such reasonable period of time as may be necessary to restore service.

3. (Metering Equipment) To furnish, install, operate, and maintain at its own expense at point of delivery, the necessary metering equipment, including a meter house or pit, and required devices of standard type for properly measuring the quantity of water delivered to the Purchaser and to calibrate such metering equipment whenever requested by the Purchaser but not more frequently than once every twelve (12) months. A meter registering not more than two percent (2%) above or below the test result shall be deemed to be accurate. The previous readings of any meter disclosed by test to be inaccurate

shall be corrected for the \_\_\_\_\_ months previous to such test in accordance with the percentage of inaccuracy found by such tests. If any meter fails to register for any period, the amount of water furnished during such period shall be deemed to be the amount of water delivered in the corresponding period immediately prior to the failure, unless Seller

and Purchaser shall agree upon a different amount. The metering equipment shall be read on \_\_\_\_\_ . An appropriate official of the Purchaser at all reasonable times shall have access to the meter for the purpose of verifying its readings.

4. (Billing Procedure) To furnish the Purchaser at the above address not later than the 5th day of each month, with an itemized statement of the amount of water furnished the Purchaser during the preceding month.

B. The Purchaser Agrees:

1. (Rates and Payment Date) To pay the Seller, not later than the 15th day of each month, for water delivered in accordance with the following schedule of rates:

a. \$ N/A for the first N/A gallons, which amount shall also be the minimum rate per month.

b. \$ N/A cents per 1000 gallons for water in excess of N/A gallons but less than N/A gallons.

c. \$ N/A cents per 1000 gallons for water in excess of N/A gallons.

d. Water shall be sold at the rate of \$1.21 cents per 1000 gallons, regardless of quantity, or at the rate the seller is charging the Jackson County Utility District at the time of connection of the new system.

e. By signing this contract, purchasers and seller agree to terminate the water purchase contract of October 12, 1978, and agree to be governed under the terms of this agreement.

2. (Connection Fee) To pay as an agreed cost, a connection fee to connect the Seller's system with the system of the Purchaser, the sum of 0 dollars which shall cover any and all costs of the Seller for installation of the metering equipment and N/A

C. It is further mutually agreed between the Seller and the Purchaser as follows:

1. (Term of Contract) That this contract shall extend for a term of 40 years from the date of the initial delivery of any water as shown by the first bill submitted by the Seller to the Purchaser and, thereafter may be renewed or extended for such term, or terms, as may be agreed upon by the Seller and Purchaser.

2. (Delivery of Water) That 30 days prior to the estimated date of completion of construction of the Purchaser's water supply distribution system, the Purchaser will notify the Seller in writing the date for the initial delivery of water.

3. (Water for Testing) When requested by the Purchaser the Seller will make available to the contractor at the point of delivery, or other point reasonably close thereto, water sufficient for testing, flushing, and trench filling the system of the Purchaser during construction, irrespective of whether the metering equipment has been installed at that time, at a flat charge of \$ 150.00 which will be paid by the contractor or, on his failure to pay, by the Purchaser.

4. (Failure to Deliver) That the Seller will, at all times, operate and maintain its system in an efficient manner and will take such action as may be necessary to furnish the Purchaser with quantities of water required by the Purchaser. Temporary or partial failures to deliver water shall be remedied with all possible dispatch. In the event of an extended shortage of water, or the supply of water available to the Seller is otherwise diminished over an extended period of time, the supply of water to Purchaser's consumers shall be reduced or diminished in the same ratio or proportion as the supply to Seller's consumers is reduced or diminished.

5. (Modification of Contract) That the provisions of this contract pertaining to the schedule of rates to be paid by the Purchaser for water delivered are subject to modification at the end of every One year period. Any increase or decrease in rates shall be based on a demonstrable increase or decrease in the costs of performance hereunder, but such costs shall not include increased capitalization of the Seller's system. Other provisions of this contract may be modified or altered by mutual agreement.

6. (Regulatory Agencies) That this contract is subject to such rules, regulations, or laws as may be applicable to similar agreements in this State and the Seller and Purchaser will collaborate in obtaining such permits, certificates, or the like, as may be required to comply therewith.

7. (Miscellaneous) That the construction of the water supply distribution system by the Purchaser is being financed by a loan made or insured by, and/or a grant from, the United States of America, acting through the Farmers Home Administration of the United States Department of Agriculture, and the provisions hereof pertaining to the undertakings of the Purchaser are conditioned upon the approval, in writing, of the State Director of the Farmers Home Administration.

8. (Successor to the Purchaser) That in the event of any occurrence rendering the Purchaser incapable of performing under this contract, any successor of the Purchaser, whether the result of legal process, assignment, or otherwise, shall succeed to the rights of the Purchaser hereunder.

In witness whereof, the parties hereto, acting under authority of their respective governing bodies, have caused this contract to be duly executed in three (3) counterparts, each of which shall constitute an original.

Seller:

CITY OF GAINESBORO

By Charles H. Settle  
Charles H. Settle

Title Mayor

Attest:

Dewayne Chaffin  
Secretary  
Dewayne Chaffin, Recorder

Purchaser:

JACKSON COUNTY UTILITY DISTRICT

By Eddie Strong  
Eddie Strong

Title President

Attest:

John Bybee  
Secretary  
John Bybee, Secretary

This contract is approved on behalf of the Farmers Home Administration this \_\_\_\_\_ day of \_\_\_\_\_,

19 \_\_\_\_\_.

By \_\_\_\_\_

Title State Director

4-7-88

Initial Checklist for Addressing Water Loss

1. Are you billing for all general government water use? Examples: City Hall, Parks, Community Centers, etc...

**Yes, all governmental entities pay a monthly bill for water consumption.**

2. Are you accounting for the water used by the water and/or sewer department?

**Yes, water consumption at both the Water Treatment Plant and Sewer Treatment Plant are metered and billed. Water used to blow-off (flush) dead end lines is estimated as closely as possible, and when available, also metered. None of the water being used to flush lines is currently billed to the Town.**

3. Do you periodically check or inspect all 2" and larger meters?

**Gainesboro has only a small number of 2" and larger meters. At this time, they do not have an official policy for checking and inspecting these meters, but at the time of this letter, they are working on one.**

4. Do you have a recalibration policy and procedure in place?

**Gainesboro follows the standard yearly protocol for recalibrating its finished water meter at the plant. This meter is critical in telling Gainesboro how much water they are producing. After talking with department staff, they have indicated that they will adopt an official policy and procedure to perform this undertaking.**

5. Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons?

**Gainesboro does have a meter replacement in which the trigger is based on age (or length of time in service). They are constantly working to remove the oldest meters in the system from service.**

6. Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered?

**At the time of this letter, Gainesboro does not have a process to inspect for unauthorized consumption; however, the addition of zone flow meters within the distribution system (part of the current \$1,173,150.00 water loss project) will allow for this in the very near future.**

7. Do you have a leak detection program currently in place?

**The Town of Gainesboro does not. Within the last past year we had Mr. Richards with Richards LMC survey the system and provided a report.**

8. Do you have written policies, including a policy for billing adjustments? Are the written policies followed correctly by all levels of staff?

**Yes, there are written policies for billing adjustments based on customer consumption history. These policies are followed by all levels of staff and can only be deviated from by an act of the Town's Council.**

9. Do you have authorized non-customer users (volunteer fire departments, etc?) Do you account for the use? Do you have a method for the user to report water usage?

**Yes, there are volunteer fire departments who use water from hydrants. These users are expected to estimate their consumption and provide that information to the Town each month.**

10. Is your system "zoned" to isolate water loss?

**The system is not currently zoned to isolate water loss; however, after the completion of the current water loss project, the distribution system will be isolated into approximately 4 zones. The Town will be able to monitor these zones for suspect leaks.**

11. Do you search for leaks at night when there is little traffic or small household usage?

**At this time, the Town of Gainesboro only checks for leaks at night if customers report pressure or service loss.**

12. Do you or can you control pressure surges?

**The Town of Gainesboro has, within their system, water tanks which provide additional storage, but also act to control pressure surges for certain areas.**

13. Do you have or have access to leak detection equipment?

**The Town of Gainesboro does not currently have access to leak detection equipment.**

14. What is your policy for notifying customers they have a leak?

**If a customer experiences unusually high usage, the meter reader places a tag on the customer's door.**

15. Do you have a public relations program to encourage citizens to report leaks?

**Customers are urged to contact the Town when leaks are apparent. The Town is appreciative to any customer calling to report a leak.**

16. Do you have a policy to prosecute water theft or meter tampering/damage?

**Yes, there is a policy to prosecute water theft or meter tampering/damage.**

17. What is the monetary value of the lost water?

**According to Gainesboro 2015 Audit (AWWA reporting worksheet), Gainesboro's Current Annual Real Losses (CARL) were approximately 48,360,000 gallons. At the same time, the "Variable production cost" was calculated to be \$2,105.00 per million gallons. This means the loss would equate to approximately \$101,800.00 per year.**

18. Is the cost to repair the leak justified based on the amount of water being lost?

**Gainesboro's water loss problem is not being caused by a single leak, but a combination of service line leaks, transmission main leaks, and flushing. A system wide project that reduces the Town's water loss is important and justified, considering that an average of nearly half of the water produced is unaccounted for. Gainesboro will continue to find and fix leaks, repair aging infrastructure, and become more efficient at flushing dead end water lines.**

# Status

# Financial Distress

# Rocky Top



STATE OF TENNESSEE  
**WATER AND WASTEWATER FINANCING BOARD**  
505 DEADERICK STREET, SUITE 1700  
JAMES K. POLK STATE OFFICE BUILDING  
NASHVILLE, TENNESSEE 37243-1402  
PHONE (615) 401-7879  
FAX (615) 741-1551

March 21, 2016

Mayor Michael Lovely  
City of Rocky Top  
P. O. Box 66  
Rocky Top, TN 37769

Dear Mayor Lovely:

Please see the attached Order related to the financially distressed status of the City of Rocky Top's water and sewer systems. If you have any questions, please contact me at (615) 401-7954 or [Betsy.Knotts@cot.tn.gov](mailto:Betsy.Knotts@cot.tn.gov). You may also contact John Greer at (615) 401-7879 or [John.Greer@cot.tn.gov](mailto:John.Greer@cot.tn.gov).

Very truly yours

Betsy Knotts  
Counsel to the Board



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**BEFORE THE TENNESSEE WATER AND WASTEWATER FINANCING BOARD**

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**IN THE MATTER OF:**

**T.C.A. § 68-221-1010—FINANCIAL DISTRESS  
CITY OF ROCKY TOP WATER AND SEWER**

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**ORDER**

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Pursuant to T.C.A. § 68-221-1010, the Tennessee Water and Wastewater Financing Board (the "WWFB") reviewed on March 10, 2016, the financially distressed status of the City of Rocky Top (the "City") water and sewer systems. In order to correct these financial deficiencies, the WWFB directs the City to comply with the following corrective action plan:

1. The City will increase its rates by 15% by July 1, 2016;
2. The City will increase its rates again by 15% by July 1, 2017;
3. The City will increase its rates again by 15% by July 1, 2018;
4. The City will increase its rates by at least 1% by July 1, 2019 and annually thereafter; and
5. The City shall update the WWFB's staff on its progress quarterly until formally released from WWFB oversight.

Entered this 21 day of March, 2016.

---

Ann V. Butterworth, Chair  
Water and Wastewater Financing Board



# CITY OF ROCKY TOP

*Proud Past • Bright Future*

July 29, 2016

Mr. John Greer  
Water & Wastewater Board  
James K. Polk State Office Building  
505 Deaderick Street, Suite 1600  
Nashville, TN 37243

Subject: City of Rocky Top Quarterly Report

Dear Mr. Greer:

The City of Rocky Top passed Ordinance 493 on June 23, 2015. This Ordinance increases Rocky Top Water and Sewer rates by a total of 15% for the Fiscal Year 2016-2017. It also has an automatic 15% increase July 1, 2017, July 1, 2018 and 1% increase July 1, 2019. There is an additional 1% increase every year unless the City Council votes to not have the increase. I have attached a copy of the Ordinance for your records. We are also continuing our discussion with Anderson County Water Authority about a possible merger. Please let me know if you need any additional information from the City.

Sincerely,

Michael Y. Foster  
City Recorder/Interim City Manager

ORDINANCE NO. 493

AN ORDINANCE TO AMEND THE ROCKY TOP MUNICIPAL CODE BY REVISING WATER AND SEWERS TITLE 18, CHAPTER 1, SECTION 18-101, AND SECTION 18-105 EFFECTIVE JULY 1, 2016.

BE IT ENACTED by the Board of Mayor and Council of the City of Rocky Top, Tennessee, that:

Section 1: Title 18, Chapter 1, Section 18-101 is revised in its entirety to read as follows:

**18-101. Water rates, sewer service charges, and water "turn on" charge.**

The rate for the use of the water and sewer service charges of the City of Rocky Top shall be and the same are hereby fixed as follows:

**Standard Monthly Rates for Single Residential Water Users**

First 1,500 Gallons (Minimum)	\$15.87 (Minimum Monthly Bill)
All Over 1,500 Gallons	\$ 8.93 Per Thousand Gallons proportionally for fractional parts thereof.

The term "single residential" shall apply to every use and purpose considered as, or being, a single private dwelling.

**Standard Monthly Rates For All Other Users**

First 1,500 Gallons (Minimum)	\$26.59 (Minimum Monthly Bill)
All Over 1,500 Gallons	\$ 9.89 Per Thousand Gallons proportionally for fractional parts thereof.

The term "all other" shall apply to every use and purpose not considered as, or being, a single private dwelling.

Where sanitary sewer services are available, each customer shall pay a sewer charge at a rate of one hundred percent (100%) of the net water bill regardless if connection is made to sewer or not.

Any customer within the corporate limits of the City of Rocky Top who cannot be connected to the water system due to prior contract shall be billed for sewer usage at the same rate as those customers currently billed at the "single residential" or "all other" rate, whichever applies, but in no event less than \$15.87 per month for "single residential" or \$26.59 per month for "all other" users.

Any residential customer within the corporate limits who is not a metered customer of any recognized water service utility shall be billed for sewer usage at a rate of \$26.59 per month for "single residential" or \$30.10 per month for "all other" users.

Title 18, Chapter 1, Section 18-105 of the Rocky Top Municipal Code is revised in its entirety to read as follows:

**18-105. Water and sewer services outside corporate limits.**

Any person, firm, corporation or institution, living outside the corporate limits requesting water and sewer services of the City of Rocky Top shall be required to pay a nonrefundable connection fee as follows:

Single Residential	\$100.00 (One Hundred Dollars)
All Other Users	\$150.00 (One Hundred Fifty Dollars)

Any person, firm, corporation, or institution, living outside the corporate limits, requesting water services of the city of Rocky Top that rents the property shall be required to pay a deposit fee as follows:

Residential	\$100.00 (One Hundred Dollars)
-------------	--------------------------------

Any person, firm, corporation, or institution, living outside the corporate limits, requesting reconnection of their City of Rocky Top water services shall be required to pay a nonrefundable reconnection fee as follows:

Single Residential	\$100.00 (One Hundred Dollars)
All Other Users	\$150.00 (One Hundred Fifty Dollars)

For every water tap made on a main water line to outside users, the customers having said tap made shall pay to the Rocky Top Water and Sewer Department the following:

Three-quarter (3/4") inch tap	Seven Hundred Fifty Dollars (\$750.00)
One (1") inch tap	Nine Hundred Fifty Dollars (\$950.00)
Two (2") inch tap	One Thousand Five Hundred Dollars (\$1500.00)
Taps over Two (2") inch	Cost of contractor plus 20%

For any water tap in excess of two inches (2") the person having tap made shall pay the two inch (2") tap fee of One Thousand Five Hundred Dollars (\$1500.00) and the cost of the installation. The superintendent of the department shall estimate the costs of the water tap installation, and said estimated amount shall be paid prior to installation of the water tap.

The rates of the usage of water and or sewer services by single residential users outside the corporate limits are as follows:

First 1,500 gallons (Minimum)	\$26.59 minimum monthly bill
All over 1,500 gallons	9.89 per thousand gallons and proportionally for fraction parts thereof.

The rates of the usage of water and sewer services by all other users (Non-Metered) outside the corporate limits are as follows:

First 1,500 gallons (Minimum)	\$26.59 minimum monthly bill
All over 1,500 gallons	\$10.75 per thousand gallons and proportionally for fraction parts thereof.

The rates of the usage of water and sewer services by all other users (Non-Metered) outside the corporate limits are as follows:

First 20,000 gallons (Minimum)	\$537.50 minimum monthly bill
All over 20,000 gallons	\$10.75 per thousand gallons and proportionally for fraction parts thereof.

Where sanitary sewer services are used by the outside water customers, they shall pay a sewer charge of the rate of 100% of the net water bill. All amounts are based on water consumption as read from water meters owned and maintained by the City of Rocky Top or various water owners.

Any single residential customer living outside the corporate limits requesting sewer services of the City of Rocky Top shall be required to pay the Water and Sewer Department the following sewer tap fee:

Four (4") inch tap	Nine Hundred Fifty Dollars (\$950.00)
Six (6") inch tap	One Thousand Eight Hundred Dollars (\$1800.00)
Eight (8") inch tap	Cost of Contractor plus 20%

No more than two (2) dwellings can be on a four (4") inch tap.

Tap on fees and sewer rates for **public institution, large commercial users, and industries** could be negotiated according to their type and amount of discharge but in no event can the rate be lower than what is set out above.

If for any reason a residential user is not being metered, then his sewer rate will be \$26.59 per month and all other users would be \$26.88 per month.

All other laws or ordinances set by the Board of Mayor and Council of the City of Rocky Top relative to the Rocky Top Water Department other than those above shall apply to these outside users.

Section 2: Rates shall increase 15% effective July 1, 2017.

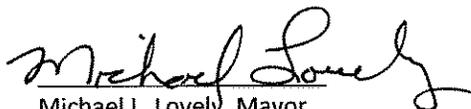
Section 3: Rates shall increase 15% effective July 1, 2018.

Section 4: Rates shall increase 1% effective July 1, 2019 and increase 1% every year effective July 1 unless approved by Resolution by the Board of Mayor and Council of the City of Rocky Top not to raise rates for that fiscal year.

This ordinance shall take effect July 1, 2016, the welfare of the City requiring it.

May 17, 2016  
Passed First Reading

June 16, 2016  
Passed Second Reading

  
Michael L. Lovely, Mayor

  
Michael Foster, City Recorder

# City of Luttrell



**Justin P. Wilson, Comptroller**

June 2, 2016

## **Former Luttrell City Recorder Charged with Theft**

*Investigation Reveals Misappropriation of \$120,506*

A special investigation by the Tennessee Comptroller's Office has found that former Luttrell city recorder Rebecca Ailor misappropriated at least \$120,506 in city money. Ms. Ailor issued more than 140 checks to herself or a family member from September 11, 2012, until February 22, 2016.

Ms. Ailor was able to conceal her theft by falsifying the vice mayor's or mayor's signature on city checks. She also recorded the checks as payments to legitimate city vendors, and prepared false documentation to support some of the unauthorized payments. After the Comptroller's investigation began, she deleted the city's computerized financial records; however, the city's financial software vendor was able to retrieve the data.

Ms. Ailor admitted to investigators that she wrote the unauthorized checks for her personal benefit, falsified signatures, and falsely recorded many of the payments in order to hide their true purpose. She told investigators that she needed the money and was trying to make ends meet.

On May 18, 2016, Rebecca Ailor was indicted by the Union County Grand Jury on one count of theft over \$60,000 and one count of tampering with evidence.



"It's important for city officials to provide oversight of the financial process," said Comptroller Justin P. Wilson. "Not only was one person responsible for issuing checks, recording disbursements and depositing collections, city officials did not review bank statements. This allowed this scheme to go undetected for more than three years."

To view the special investigation online, go to: <http://www.comptroller.tn.gov/ia/>.

If you suspect fraud, waste or abuse of public money in Tennessee, call the Comptroller's toll-free hotline at (800) 232-5454, or file a report online at: [www.comptroller.tn.gov/hotline](http://www.comptroller.tn.gov/hotline). Follow us on twitter: [@TNCOT](https://twitter.com/TNCOT)

Media contact: John Dunn, Public Information Officer, (615) 401-7755 or [john.dunn@cot.tn.gov](mailto:john.dunn@cot.tn.gov)

Tennessee Comptroller of the Treasury  
State Capitol Nashville, TN 37243  
Phone: (615) 741-2775  
Email: [comptroller.web@cot.tn.gov](mailto:comptroller.web@cot.tn.gov)

# Town of Vonore

**TOWN OF VONORE**

**HISTORY FILE**

	<b>Audited</b>									
<b>FYE June 30</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Sewer revenues	\$ 91,753	\$ 116,448	\$ 119,688	\$ 116,375	\$ 122,502	\$ 168,159	\$ 196,524	\$ 183,483	\$ 211,907	\$ 212,205
Other revenues	\$ 36,120	\$ 16,237	\$ 9,110	\$ 3,781	\$ 10,542	\$ 1,688	\$ 1,903	\$ 8,791	\$ 4,562	\$ 6,012
Gen Fund Transfer				\$ 41,414	\$ 48,700	\$ 70,000	\$ 34,093	\$ 30,000	\$ 46,946	\$ 50,000
<b>Total Revenues</b>	<b>\$ 127,873</b>	<b>\$ 132,685</b>	<b>\$ 128,798</b>	<b>\$ 161,570</b>	<b>\$ 181,744</b>	<b>\$ 239,847</b>	<b>\$ 232,520</b>	<b>\$ 222,274</b>	<b>\$ 263,415</b>	<b>\$ 268,217</b>
<b>Total Expenses</b>	<b>\$ 200,633</b>	<b>\$ 194,864</b>	<b>\$ 196,270</b>	<b>\$ 214,559</b>	<b>\$ 213,900</b>	<b>\$ 258,880</b>	<b>\$ 259,353</b>	<b>\$ 282,596</b>	<b>\$ 282,413</b>	<b>\$ 300,268</b>
Operating Income	\$ (72,760)	\$ (62,179)	\$ (67,472)	\$ (52,989)	\$ (32,156)	\$ (19,033)	\$ (26,833)	\$ (60,322)	\$ (18,998)	\$ (32,051)
Interest Expense	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Net position</b>	<b>\$ (72,760)</b>	<b>\$ (62,179)</b>	<b>\$ (67,472)</b>	<b>\$ (52,989)</b>	<b>\$ (32,156)</b>	<b>\$ (19,033)</b>	<b>\$ (26,833)</b>	<b>\$ (60,322)</b>	<b>\$ (18,998)</b>	<b>\$ (32,051)</b>
<u>Additional info</u>										
Depreciation	\$ 69,038	\$ 69,459	\$ 54,983	\$ 45,711	\$ 45,711	\$ 45,711	\$ 45,711	\$ 45,711	\$ 45,711	\$ 45,711
<u>Sewer rates</u>										
0 - 2,000 gallons	\$ 8.60	\$ 8.60	\$ 10.75	\$ 10.75	\$ 10.75	\$ 10.75	\$ 19.45	\$ 19.45	\$ 21.00	\$ 29.00
All over	\$ 4.30	\$ 4.30	\$ 5.40	\$ 4.30	\$ 4.30	\$ 4.30	\$ 6.50	\$ 6.50	\$ 7.80	\$ 10.80
Well water flat rate	\$ 8.50	\$ 8.50	\$ 10.60	\$ 10.60	\$ 10.60	\$ 10.60	\$ 19.45	\$ 19.45	\$ 21.00	\$ 29.00
customers	327	330	350	327	327	327	325	325	325	325

Town of Vonore  
 Sewer Rate Increase  
 Effective July 1, 2016

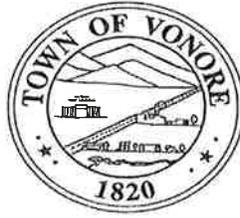
<b>Sewer Usage</b>	<b>Current Rate</b>	<b>2016 Increase 3%</b>
0-2,000 gallons	\$ 29.00	\$ 29.87
Per 1,000 gallons over 2,000	\$ 10.80	\$ 11.12
Well Water Customers	\$ 29.00	\$ 29.87

Per Resolution No. 15-04, Section 4: this rate increase will automatically take effect on July 1, 2016, due to the 3% increase that TASS is charging the Town of Vonore for wastewater treatment.

# TOWN OF VONORE

**Dr. Bob Lovingood**  
Mayor

**Courtney Dalton-Viar**  
City Recorder



**John Hammontree**  
Vice Mayor  
Police Commissioner

**James Brown**  
Alderman  
Fire Commissioner

**Mike Garren**  
Alderman  
Public Works Commissioner

**Betty Sparks**  
Alderman  
Parks & Recreation Commissioner

February 18, 2016

State of Tennessee  
Comptroller of the Treasury  
Water and Wastewater Financing Board  
James K. Polk Building, Suite 1700  
505 Deaderick Street  
Nashville, TN 37243-0273

**RECEIVED**

**FEB 23 2016**

**DEPT: COMPTROLLER  
OFFICE OF ADMINISTRATION**

RE: Town of Vonore Sewer System

Dear Water and Wastewater Financing Board,

The Town of Vonore would like to thank your office for the continued communication on the monitoring of our city sewer system. We realize that our most recent audit for the fiscal year ending June 30, 2015, resulted in another consecutive negative change in net position. However, since that audit, we have increased sewer rates by 33%. These rates were effective May 1, 2015, and due to our billing cycle, we began to see an increased revenue stream in July 2015. Since this increase, the town has experienced a substantial increase in cash flows each month.

We have also experienced success with our sewer refund / bill adjustment policy for customers that may experience leaks or excessive water usage. This policy went into effect on February 1, 2015, and has limited the amount of refunds given to customers, which has been a significant expense to the sewer fund in the past.

It is important to note that our most recent sewer rate resolution included a section on automatic rate increases for sewer customers. When the town's sewer treatment rates are increased annually by Tellico Area Services System (TASS), the increase is passed directly to the sewer customers in the form of an automatic rate increase. This will eliminate the previous issue of annual treatment rate increases being absorbed by the sewer fund.

I have enclosed the most recent sewer rate increase, sewer refund policy, a cash flow analysis, statement of revenue, expenses, and changes in net position, and a revenue versus expense report. The cash flow reports show our increased revenues. Additional reports from TASS documenting the last ten years of rainfall and Vonore sewer amounts are also included. For the first time in over ten years, in 2015 total rainfall increased while Vonore's sewer amounts decreased. This demonstrates the effectiveness of our recent sewer repairs and maintenance efforts.

We were recently awarded a SEARCH Grant from the USDA in the amount of \$30,000 to be used on I&I investigations within our sewer system. The board has approved an additional \$19,584 to be used on the project as well, resulting in a total budget of \$49,584. The project

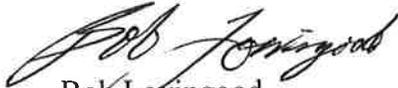
consists of system cleaning, CCTV investigation, and an engineering evaluation. We are currently awaiting approval of our contracts from USDA to begin the investigation activities. Grant documents are enclosed for your reference.

The engineering evaluation gained from this project will be used in our loan application to the State Revolving Loan Fund or the USDA to finance future phases of the sewer rehabilitation, as well as possible grant opportunities for funding as well.

We continue to update the Board of Mayor and Aldermen at each monthly meeting on our sewer fund including a monthly expense spreadsheet that includes depreciation. While a strong stream of revenue has continued since July 2015, should the revenue fail to meet expenses, we will consider an additional increase.

Should you have questions please do not hesitate to call me. Thank you for the guidance your office has provided to the Town of Vonore during our last meeting. We look forward to achieving significant financial and operational improvements with the town's sewer system.

Sincerely,

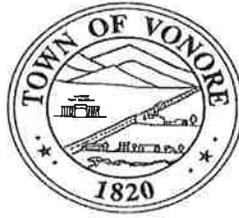


Bob Levingood  
Mayor

# TOWN OF VONORE

**Dr. Bob Lovingood**  
*Mayor*

**Courtney Dalton Viar**  
*City Recorder*



P.O. Box 218  
Vonore, TN 37885  
(423) 884-6211  
townofvonore@tds.net

May 1, 2015

**Re: Additional Sewer Rate Increase**

**COPY**

Dear Tellico Area Services System,

In our most recent Sewer Rate Resolution (No. 15-04), Section 4 states that: "These rates will automatically increase when/if the TASS board increases water treatment rates to the Town of Vonore." Therefore, since TASS is passing its annual rate increase, the Town of Vonore is adding that increase to our May 1, 2015, rate increase. Below are the new sewer rates for Vonore sewer customers:

**EFFECTIVE DATE: MAY 1, 2015**

- **0-2,000 gallons: \$29.00**
- **Per 1,000 gallons over 2,000: \$10.80**
- **Well Water Customers: \$29.00**

Please use this letter as authorization to change the billing rates for the Town of Vonore. A separate resolution will not be sent.

Please call me at 423-884-6211 if there are any questions.

Thank you,

Courtney Dalton Viar  
City Recorder

## Resolution No. 15-04

**WHEREAS**, Resolution No. 12-04, of the Town of Vonore, established the sewer rate structure, and

**WHEREAS**, it is in the best interest of the Town of Vonore, to revise the sewer rates set in that resolution;

**NOW THEREFORE**, be it resolved that Resolution No. 15-02 be amended to establish as follows:

*SECTION 1:* The following monthly sewer use charges are levied against sewer users:

*Effective May 1, 2015*

<u>Sewer Use</u>	<u>Charge Per Month</u>
0-2,000 gallons	\$ 28.00
Over 2,000 Gallons	\$ 10.50 per 1000 gallons*
Well Water Customers	\$ 28.00

The amount of sewer usage shall be determined from the metered water usage, except in the case of well water users.

\*Gallons over increments of 1000 gallons shall be counted as 1000 gallons

*SECTION 2:* The following sewer connection charges are levied for connections to the public sewer system:

<u>Connection Fee Classification</u>	<u>Connection Fee</u>
Existing Residential dwellings (no road cut)	\$375.00
Existing Residential dwellings (road cut)	\$625.00
Residential dwellings	\$1875.00
Residential dwellings (new development)*	\$1875.00
Existing Commercial Buildings	\$1875.00
Commercial Buildings	\$3750.00

\*New developments include those installed by the developers and transferred to the town. The connection fee will be paid by the developer for each new tap before the building permit is issued from the Town of Vonore.

*Section 3:* The following non-refundable charge is levied on all applications for sewer service where such service is to be provided to property not owned by the applicant: \$50.00

*Section 4:* These rates will automatically increase when/if the TASS board increases water treatment rates to the Town of Vonore.

**This Resolution adopted this 14<sup>th</sup> day of April, 2015.**

  
Mayor

  
City Recorder

RESOLUTION NO. 15-01

SEWER REFUND/BILL ADJUSTMENT POLICY

**WHEREAS**, the governing body of the Town of Vonore is adopting a sewer refund/bill adjustment policy for the Town's sewer customers,

NOW THEREFORE BE IT RESOLVED BY THE MAYOR AND BOARD OF ALDERMEN OF THE TOWN OF VONORE, TENNESSEE AS FOLLOWS:

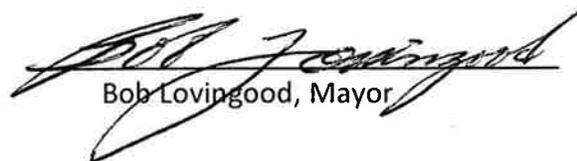
**SEWER REFUND POLICY**

**Effective: February 1, 2015**

- a. When a Vonore Sewer customer has knowledge of a possible leak on their side of the meter, the customer will notify TASS as soon as possible. The customer must provide information on approximately when the leak occurred and when the leak was fixed. Based on the customer's usage, Vonore may adjust the sewer bill based on the dates provided.
- b. The adjustment will be made by first calculating the customer's average usage for the past 6 months and subtracting that amount from the leak usage amount. Vonore may then take the highest month leak usage and refund 50%. (In some cases, depending on the bill cycle, a leak may cover two bill cycles. If this happens, Vonore will adjust the two consecutive months' bills.) This adjustment amount will be mailed to the sewer customer in the form of a refund check. Adjustments to a customer's bill will only be allowed one time in any twelve month period.
- c. Adjustments will be processed for the following reasons: leaks and excess water usage, including items such as filling swimming pools and operating irrigation systems.

Example: A customer had a leak and the sewer portion of the bill is \$250.00. The 6 month average sewer bill is \$100.00. Vonore will refund 50% of the amount above average. ( $250 - 100 = 150$ ). In this case, Vonore will refund \$75.00.

Duly passed and approved this 13<sup>th</sup> day of January, 2015.

  
Bob Lovingood, Mayor

ATTEST:

  
Courtney Dalton Viar, City Recorder

TOWN OF VONORE - SEWER FUND

STATEMENT OF CASH FLOW ANALYSIS

FY 2014-2015

Months in PINK are ACTUAL numbers

Sewer Fund	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
Cash Receipts	18,059.00	12,380.00	23,043.00	17,001.00	17,260.00	18,260.00	13,406.00	22,814.00	19,160.00	17,101.00	16,657.00	19,686.00	214,827.00
Loan Proceeds													
Transfers In										50,000.00			
Total Cash Inflows	18,059.00	12,380.00	23,043.00	17,001.00	17,260.00	18,260.00	13,406.00	22,814.00	19,160.00	67,101.00	16,657.00	19,686.00	264,827.00
Beg Cash Bal	11,495.00	11,058.00	8,378.00	16,138.00	14,868.00	6,965.00	3,799.00	663.00	3,672.00	1,722.00	49,028.00	41,517.00	11,495.00
Available Cash	29,554.00	23,438.00	31,421.00	33,139.00	32,128.00	25,225.00	17,205.00	23,477.00	22,832.00	68,823.00	65,685.00	61,203.00	276,322.00
Cash Payments	18,496.00	15,060.00	15,283.00	18,271.00	25,163.00	21,426.00	16,542.00	19,805.00	21,110.00	19,795.00	24,168.00	21,541.00	236,660.00
Transfers Out													0.00
Total Cash Outflows	18,496.00	15,060.00	15,283.00	18,271.00	25,163.00	21,426.00	16,542.00	19,805.00	21,110.00	19,795.00	24,168.00	21,541.00	236,660.00
End Bal	11,058.00	8,378.00	16,138.00	14,868.00	6,965.00	3,799.00	663.00	3,672.00	1,722.00	49,028.00	41,517.00	39,662.00	39,662.00

FY 2015-2016

Sewer Fund	JUL	AUG	SEP	OCT	NOV	DEC	JAN	Estimated FEB	Estimated MAR	Estimated APR	Estimated MAY	Estimated JUNE	TOTAL
Cash Receipts	28,063.00	24,381.00	26,486.00	24,982.00	23,886.00	29,606.00	24,828.00	24,250.00	23,950.00	21,376.25	20,821.25	24,607.50	297,237.00
Loan Proceeds													
Transfers In													
Total Cash Inflows	28,063.00	24,381.00	26,486.00	24,982.00	23,886.00	29,606.00	24,828.00	24,250.00	23,950.00	21,376.25	20,821.25	24,607.50	297,237.00
Beg Cash Bal	39,662.00	49,971.00	59,785.00	67,670.00	77,941.00	89,685.00	106,291.00	115,119.00	117,369.00	120,319.00	120,695.25	120,516.50	39,662.00
Available Cash	67,725.00	74,352.00	86,271.00	92,652.00	101,827.00	119,291.00	131,119.00	139,369.00	141,319.00	141,695.25	141,516.50	145,124.00	336,899.00
Cash Payments	17,754.00	14,567.00	18,601.00	14,711.00	12,142.00	13,000.00	16,000.00	22,000.00	21,000.00	21,000.00	21,000.00	21,000.00	212,775.00
Transfers Out													0.00
Total Cash Outflows	17,754.00	14,567.00	18,601.00	14,711.00	12,142.00	13,000.00	16,000.00	22,000.00	21,000.00	21,000.00	21,000.00	21,000.00	212,775.00
End Bal	49,971.00	59,785.00	67,670.00	77,941.00	89,685.00	106,291.00	115,119.00	117,369.00	120,319.00	120,695.25	120,516.50	124,124.00	124,124.00

\*Rate increase shown beginning in July 2015

Vonore - SEWER FUND FY 2015-2016

Statement of Revenues, Expenses and Changes in Net Position

	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16
<b>Operating Revenue</b>												
Service Charges	26,361	24,390	26,333	23,007	23,781	27,664	25,183					
New Customer Deposit	200	150	150	100	100	50	125					
Tap Fees	1,500	0	0	1,875	0	1,875	0					
<b>Total Operating Revenues</b>	<b>28,061</b>	<b>24,540</b>	<b>26,483</b>	<b>24,982</b>	<b>23,881</b>	<b>29,589</b>	<b>25,308</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Operating Expenses</b>												
Utilities (Electric)	580	595	536	496	492	502	737					
Other Professional Services	400	400	400	400	400	400	400					
Repair and Maint	0	1,081	1,222	1,000	0	225	0					
Waste Treatment Contract	16,775	13,608	16,443	12,815	11,250	11,106	15,047					
Depreciation	4,000	4,000	4,000	4,000	4,000	4,000	4,000					
<b>Total Operating Expenses</b>	<b>21,755</b>	<b>19,684</b>	<b>22,601</b>	<b>18,711</b>	<b>16,142</b>	<b>16,233</b>	<b>20,184</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>(Loss) Gain from Operations</b>	<b>6,306</b>	<b>4,856</b>	<b>3,882</b>	<b>6,271</b>	<b>7,739</b>	<b>13,356</b>	<b>5,124</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Change in Net Position</b>	<b>6,306</b>	<b>4,856</b>	<b>3,882</b>	<b>6,271</b>	<b>7,739</b>	<b>13,356</b>	<b>5,124</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Sewer Fund  
2015-2016

This chart shows what the Town of Vonore collects from Sewer customers versus what the Town pays TASS for sewer treatment

<u>Sewer Fund</u>	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	June	TOTAL
Customer A/R REVENUE from TASS	25,970.00	24,188.00	25,713.00	23,031.00	23,440.00	27,125.00	24,828.00						174,295.00
Sewer Treatment Bill	16,775.00	13,608.00	16,443.00	12,815.00	11,250.00	11,106.00	15,047.00						
Gain or (Loss)	9,195.00	10,580.00	9,270.00	10,216.00	12,190.00	16,019.00	9,781.00	0.00	0.00	0.00	0.00	0.00	77,251.00

# 2015 Vonore Wastewater Report

\*\*\*\*\*

	MONTHLY SEWER USEAGE	RAINFALL (INCHES)
January	4,341,907	4.00
February	4,021,337	3.03
March	5,009,006	5.15
April	4,223,580	4.67
May	3,615,220	2.30
June	2,932,620	3.76
July	3,440,004	10.70
August	2,680,906	3.63
September	2,353,640	2.47
October	2,323,467	4.05
November	3,148,023	7.21
December	4,700,390	9.14
<b>TOTAL</b>	<b>42,790,100</b>	<b>60.11</b>
<b>MONTHLY AVERAGE</b>	<b>3,565,842</b>	<b>5.01</b>
<b>DAILY AVERAGE</b>	<b>117,233</b>	

**COMMENTS:**

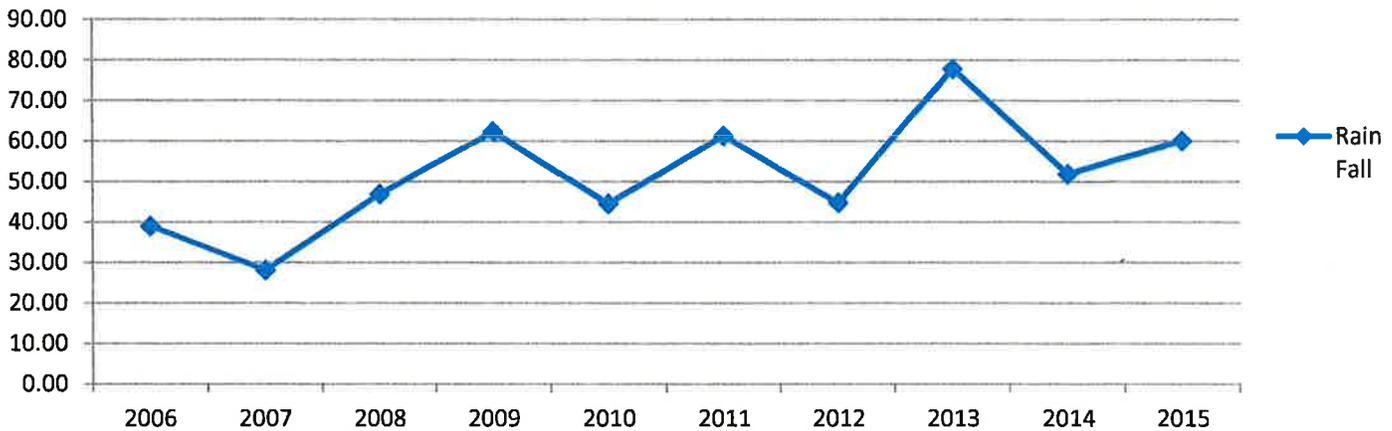
Here are the daily averages over the last 10 years:

		Total Rainfall for Year (Inches)
2015-	117,233	60.11
2014-	133,104	51.95
2013-	158,513	77.91
2012-	128,819	44.89
2011-	130,890	61.37
2010-	104,961	44.70
2009-	123,166	62.38
2008-	114,744	46.99
2007-	102,969	28.25
2006-	107,721	39.10

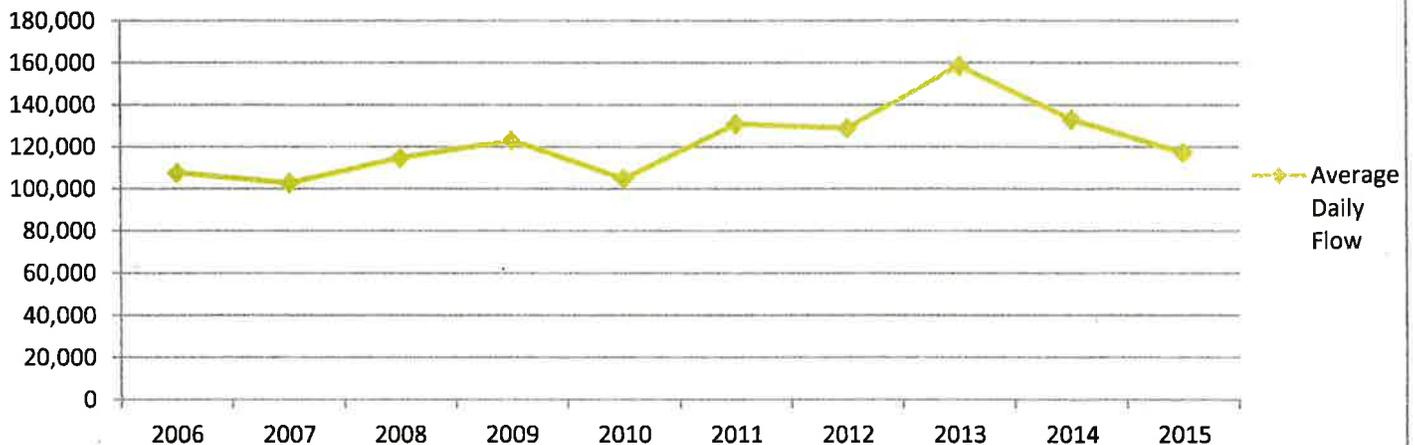
# Town of Vonore

Year	Rainfall	Average Daily Flow Gallons
2006	39.10	107,721
2007	28.25	102,969
2008	46.99	114,744
2009	62.38	123,166
2010	44.70	104,961
2011	61.37	130,890
2012	44.89	128,819
2013	77.91	158,513
2014	51.95	133,104
2015	60.11	117,233

## Rain Fall



## Average Daily Flow



The year 2015 was the first year in the last ten that the wastewater flow went down while the total rain-fall went up. This shows improvement in the collection system infrastructure. There seems to be a point in the ground-water table at which Vonore's wastewater totals are <sup>47</sup> *... ..* This when the



Rural Development

November 30, 2015

State Director

The Honorable Bob Lovingood  
Mayor of Vonore  
613 Church St.  
Vonore, TN 37885

3322 West End Ave  
Suite 300  
Nashville, TN  
37203

615-783-1300  
800-342-3149 x1300  
Fax 855-776-7057

Dear Mayor Lovingood:

We are pleased to inform you that a Rural Utilities Search Grant of \$30,000 has been approved and obligated to fund the CCTV Investigation for I & I Issues. Enclosed is a copy of Form USDA-RD 1940-1 for your records.

Our Area Office staff will work with you regularly to help expedite the grant processing and closing at the earliest possible date.

Congratulations to you on this project.

Sincerely,

BOBBY M. GOODE  
State Director

Enclosure

cc: Joe Woody, Area Director, Knoxville, TN

USDA is an equal opportunity provider and employer.

If you wish to file a Civil Rights program complaint of discrimination, complete the USDA Program Discrimination Complaint Form, found online at [http://www.ascr.usda.gov/complaint\\_filing\\_cust.html](http://www.ascr.usda.gov/complaint_filing_cust.html), or at any USDA office, or call (866) 632-9992 to request the form. You may also write a letter containing all of the information requested in the form. Send your completed complaint form or letter to us by mail at U.S. Department of Agriculture, Director, Office of Adjudication, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, by fax (202) 690-7442 or email at [program.intake@usda.gov](mailto:program.intake@usda.gov).

REQUEST FOR OBLIGATION OF FUNDS

<b>INSTRUCTIONS-TYPE IN CAPITALIZED ELITE TYPE IN SPACES MARKED ( )</b> Complete Items 1 through 29 and applicable Items 30 through 34. See FMI.			
<b>1. CASE NUMBER</b> ST CO BORROWER ID 48-062-*****2910		<b>LOAN NUMBER</b> 0	<b>FISCAL YEAR</b> 2016
<b>2. BORROWER NAME</b> Town of Vonore 613 Church St. Vonore, TN 37885		<b>3. NUMBER NAME FIELDS</b> (1, 2, or 3 from Item 2)	
		<b>4. STATE NAME</b> Tennessee	
		<b>5. COUNTY NAME</b> Monroe	
<b>GENERAL BORROWER/LOAN INFORMATION</b>			
<b>6. RACE/ETHNIC CLASSIFICATION</b> 1 - WHITE 2 - BLACK 3 - A/IAN 4 - HISPANIC 6 - A/P	<b>7. TYPE OF APPLICANT</b> 1 - INDIVIDUAL 2 - PARTNERSHIP 3 - CORPORATION 4 - PUBLIC BODY 5 - ASSOC. OF FARMERS 6 - ORG. OF FARMERS 7 - NONPROFIT-SECULAR 8 - NONPROFIT-FAITH BASED 9 - INDIAN TRIBE 10 - PUBLIC COLLEGE/UNIVERSITY 11 - OTHER		<b>8. COLLATERAL CODE</b> 1 - REAL ESTATE SECURED 2 - REAL ESTATE AND CHATTEL 3 - NOTE ONLY OR CHATTEL ONLY 4 - MACHINERY ONLY 5 - LIVESTOCK ONLY 6 - CROPS ONLY 7 - SECURED BY BONDS 8 - RLF ACCT
<b>10. SEX CODE</b> 6 1 - MALE 2 - FEMALE	<b>11. MARITAL STATUS</b> 1 - MARRIED 2 - SEPARATED 3 - UNMARRIED (INCLUDES WIDOWED/DIVORCED)	<b>12. VETERAN CODE</b> 2 1 - YES 2 - NO	<b>9. EMPLOYEE RELATIONSHIP CODE</b> 1 - EMPLOYEE 2 - MEMBER OF FAMILY 3 - CLOSE RELATIVE 4 - ASSOC.
<b>13. CREDIT REPORT</b> 2 1 - YES 2 - NO	<b>14. DIRECT PAYMENT</b> (See FMI)	<b>15. TYPE OF PAYMENT</b> 1 - MONTHLY 2 - ANNUALLY 3 - SEMI-ANNUALLY 4 - QUARTERLY	<b>16. FEE INSPECTION</b> 2 1 - YES 2 - NO
<b>17. COMMUNITY SIZE</b> 1 - 10 000 OR LESS (FOR SFH AND HPG ONLY) 2 - OVER 10,000		<b>18. USE OF FUNDS CODE</b> (See FMI)	
<b>COMPLETE FOR OBLIGATION OF FUNDS</b>			
<b>19. TYPE OF ASSISTANCE</b> 518 (See FMI)	<b>20. PURPOSE CODE</b> 1	<b>21. SOURCE OF FUNDS</b>	<b>22. TYPE OF ACTION</b> 1 1 - OBLIGATION ONLY 2 - OBLIGATION/CHECK REQUEST 3 - CORRECTION OF OBLIGATION
<b>23. TYPE OF SUBMISSION</b> 1 1 - INITIAL 2 - SUBSEQUENT	<b>24. AMOUNT OF LOAN</b>	<b>25. AMOUNT OF GRANT</b> \$30,000.00	
<b>26. AMOUNT OF IMMEDIATE ADVANCE</b>	<b>27. DATE OF APPROVAL</b> MO DAY YR 11-19-2015	<b>28. INTEREST RATE</b> 0 %	<b>29. REPAYMENT TERMS</b>
<b>COMPLETE FOR COMMUNITY PROGRAM AND CERTAIN MULTIPLE-FAMILY HOUSING LOANS</b>			
<b>30. PROFIT TYPE</b> 1 - FULL PROFIT 2 - LIMITED PROFIT 3 - NONPROFIT			
<b>COMPLETE FOR EM LOANS ONLY</b>		<b>COMPLETE FOR CREDIT SALE-ASSUMPTION</b>	
<b>31. DISASTER DESIGNATION NUMBER</b> (See FMI)	<b>32. TYPE OF SALE</b> 1 - CREDIT SALE ONLY 2 - ASSUMPTION ONLY 3 - CREDIT SALE WITH SUBSEQUENT LOAN 4 - ASSUMPTION WITH SUBSEQUENT LOAN		
<b>FINANCE OFFICE USE ONLY</b>		<b>COMPLETE FOR FP LOANS ONLY</b>	
<b>33. OBLIGATION DATE</b> MO DA YR	<b>34. BEGINNING FARMER/RANCHER</b> (See FMI)		

If the decision contained above in this form results in denial, reduction or cancellation of USDA assistance, you may appeal this decision and have a hearing or you may request a review in lieu of a hearing. Please use the form we have included for this purpose.

Position 2

ORIGINAL - Borrower's Case Folder    COPY 1 - Finance Office    COPY 2 - Applicant/Lender    COPY 3 - State Office

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0570-0062. The time required to complete this information collection is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

CERTIFICATION APPROVAL

For All Farmers Programs

EM, OL, FO, and SW Loans

This loan is approved subject to the availability of funds. If this loan does not close for any reason within 90 days from the date of approval on this document, the approval official will request updated eligibility information. The undersigned loan applicant agrees that the approval official will have 14 working days to review any updated information prior to submitting this document for obligation of funds. If there have been significant changes that may affect eligibility, a decision as to eligibility and feasibility will be made within 30 days from the time the applicant provides the necessary information.

If this is a loan approval for which a lien and/or title search is necessary, the undersigned applicant agrees that the 15-working-day loan closing requirement may be exceeded for the purposes of the applicant's legal representative completing title work and completing loan closing.

35. COMMENTS AND REQUIREMENTS OF CERTIFYING OFFICIAL

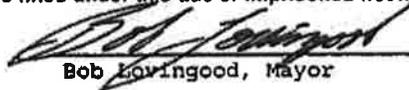
Approval of financial assistance is subject to the terms of the Letter of Conditions dated November 13, 2015.

36. I HEREBY CERTIFY that I am unable to obtain sufficient credit elsewhere to finance my actual needs at reasonable rates and terms, taking into consideration prevailing private and cooperative rates and terms in or near my community for loans for similar purposes and periods of time. I agree to use the sum specified herein, subject to and in accordance with regulations applicable to the type of assistance indicated above, and request payment of such sum. I agree to report to USDA any material adverse changes, financial or otherwise, that occur prior to loan closing. I certify that no part of the sum specified herein has been received. I have reviewed the loan approval requirements and comments associated with this loan request and agree to comply with these provisions.

(For FP loans at eligible terms only) If this loan is approved, I elect the interest rate to be charged on my loan to be the lower of the interest rate in effect at the time of loan approval or loan closing. If I check "NO", the interest rate charged on my loan will be the rate specified in Item 28 of this form.  YES  NO

WARNING: Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be fined under this title or imprisoned not more than five years, or both."

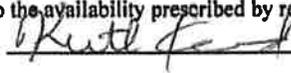
Date November 13, 20 15

  
Bob Lovingood, Mayor  
(Signature of Applicant)

Date \_\_\_\_\_, 20 \_\_\_\_\_

(Signature of Co-Applicant)

37. I HEREBY CERTIFY that all of the committee and administrative determinations and certifications required by regulations prerequisite to providing assistance of the type indicated above have been made and that evidence thereof is in the docket, and that all requirements of pertinent regulations have been complied with. I hereby approve the above-described assistance in the amount set forth above, and by this document, subject to the availability of funds, the Government agrees to advance such amount to the applicant for the purpose of and subject to the availability prescribed by regulations applicable to this type of assistance.

  
(Signature of Approving Official)

Typed or Printed Name: Keith Head

Date Approved: November 19, 2015

Title: Acting State Director

38. TO THE APPLICANT: As of this date Nov 30, 2015, this is notice that your application for financial assistance from the USDA has been approved, as indicated above, subject to the availability of funds and other conditions required by the USDA. If you have any questions contact the appropriate USDA Servicing Office.



Rural Development

November 13, 2015

Greeneville  
Area Office

214 N College Street  
Suite 300  
Greeneville, TN  
37745

423-638-4771 x4  
800-342-3149 x1490  
Fax 423-639-0956

Bob Lovingood, Mayor  
Town of Vonore  
613 Church St  
Vonore, TN 37885

RE: \$30,000 SEARCH Grant & \$19,584 Applicant Contribution  
CCTV Investigation to Collect Data for I&I Reduction

Dear Mayor Lovingood,

This letter establishes conditions which must be understood and agreed by you before further consideration may be given to your application. The grant will be administered by the State and Area Staff of USDA, Rural Development. The project scope will be to CCTV to investigate the sewer system and to create a plan to ultimately reduce infiltration and inflow. The project includes CCTV installation and engineering evaluation. If significant changes are made without obtaining approval, USDA, Rural Development may discontinue processing of the application.

This letter does not constitute grant approval, nor does it ensure that funds are or will be available for the project.

The grant will be considered approved on the date a signed copy of Form RD 1940-1 "Request for Obligation of Funds," is given to you.

Please complete and return the enclosed Form RD 1942-46, "Letter of Intent to Meet Conditions," and Form RD 1940-1, "Request for Obligation of Funds," within the next 10 days if you desire further consideration be given to your application. Within 180 days of this letter, you must meet all of the conditions set forth which can be met prior to calling for engineering services. If you have not done so, USDA, Rural Development reserves the right to discontinue the processing of your application.

**The docket may be completed on the basis of the following:**

1. Funding will solely be designated for the estimated expenditures to install CCTV and make plans for sewer system rehabilitation to reduce infiltration and inflow, and consists of a \$30,000 USDA, SEARCH grant and \$19,584 Applicant Contribution. Information to be supplied in an engineering evaluation.

Grant funds not expended for authorized purposes will be cancelled within 180 days of project completion. Prior to actual cancellation; you, your attorney and your engineer will be notified of USDA, Rural Development's intent to cancel the remaining funds and given appropriate appeal rights.

2. Project Budget:

USDA is an equal opportunity provider and employer.

If you wish to file a Civil Rights program complaint of discrimination, complete the USDA Program Discrimination Complaint Form, found online at [http://www.ascr.usda.gov/complaint\\_filing\\_cust.html](http://www.ascr.usda.gov/complaint_filing_cust.html), or at any USDA office, or call (866) 632-9992 to request the form. You may also write a letter containing all of the information requested in the form. Send your completed complaint form or letter to us by mail at U.S. Department of Agriculture, Director, Office of Adjudication, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, by fax (202) 690-7442 or email at [program.intake@usda.gov](mailto:program.intake@usda.gov).

• System Cleaning	\$19,008
• CCTV Investigation	22,176
• Engineering Evaluation	<u>8,400</u>
Total Project Cost	\$49,584

3. All funds from USDA, Rural Development shall be deposited in a special account and will be distributed electronically through use of Form SF 3881 "Electronic Funds Transfer Payment Enrollment Form." You must provide the necessary information for both your organization and your financial institute as required on the attached Form SF 3881. All invoices must be approved by USDA, Rural Development before payment is made from this account.

Disbursement of Grant Funds – The USDA, Rural Development grant funds will be advanced as they are needed. Interest earned on grant funds in excess of \$100 per year will be submitted to USDA, Rural Development at least quarterly as required in 7CFR3016.

4. All contracts for engineering must be submitted to the USDA, Rural Development State Director or representative for concurrence. Contracts must be executed or approved by Applicant officials prior to submission to Rural Development. The contracts are not official until concurred in by the State Director or his representative.
5. The Applicant will furnish audit reports annually. The audit should be conducted in accordance with Generally Accepted Government Auditing Standards GAGAS, by a Certified Public Accountant or Licensed Public Accountant. They must be certified or licensed in the State of Tennessee. The Applicant's accounting system shall be established and approved by USDA, Rural Development before the grant is closed.
6. USDA, Rural Development must approve any agreements or modifications to agreements for professional analysis services. The agreement for engineering services should consist of the EJCDC (2013 EJCDC Edition) documents as indicated in RUS Bulletin 1780-26 or other approved form of agreement. The engineer must be licensed in State of Tennessee and not be debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participating in this Government funded project.
7. Forms RD 400-1, "Equal Opportunity Agreement," and RD 400-4, "Assurance Agreement," must be executed.
8. Form AD 1047, "Certification Regarding Debarment, Suspension, and Other Responsibility Matters," must be executed by Applicant. Additionally, Form AD 1049, "Certification Regarding Drug Free Workplace," must be executed by Applicant.
9. Enclosed is a copy of RUS Bulletin 1780-12, "Water and Waste System Grant Agreement," for your review. You will be required to execute a completed form at the time of grant closing.
10. Applicant will certify compliance with other Federal statutes, including but not limited to Section 504 of the Rehabilitation Act of 1973, as amended, the Civil Rights Act of 1964, the Americans with Disabilities Act of 1990, and the Age Discrimination Act of

1975. You may wish to discuss this with your engineer and/or attorney before executing the certification.

11. The Applicant must be legally organized in accordance with state statutes and be enabled to perform all actions necessary in this obligation.
12. Assurance Regarding Felony Conviction or Tax Delinquent Status for Corporate Applicants

This award is subject to the provisions contained in the Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act, 2012, P.L. No. 112-55, Division A, Sections 738 and 739, regarding corporate felony convictions and corporate federal tax delinquencies.

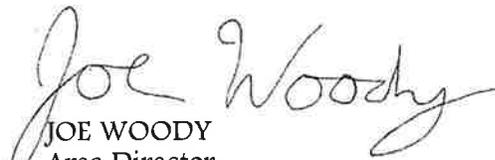
Accordingly, by accepting this award the recipient acknowledges that it: (1) does not have a tax delinquency, meaning that it is not subject to any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability, and (2) has not been convicted (or had an officer or agent acting on its behalf convicted) of a felony criminal violation under any Federal or State law within 24 months preceding the award, unless a suspending and debarment official of the United States Department of Agriculture has considered suspension or debarment of the recipient corporation, or such officer or agent, based on these convictions and/or tax delinquencies and determined that suspension or debarment is not necessary to protect the interests of the Government. If the recipient fails to comply with these provisions, the Rural Utilities Service will annul this agreement and may recover any funds the recipient has expended in violation of sections 738 and 739.

13. System for Award Management, SAM

You, as the recipient, must maintain the currency of your information in SAM until all grant funds under this award have been disbursed or de-obligated, whichever is later. This requires that you review and update the information annually after the initial registration, and more frequently if required by changes in your information or another award term. The SAM website is: <https://www.sam.gov>. There is no charge for this registration process or renewal.

We will work closely with you in developing the docket and will furnish you forms and guides to be used. Please contact our office with any questions you may have.

Sincerely,

  
JOE WOODY  
Area Director

CC: Local Attorney  
Consulting Engineer  
Bobby M. Goode, State Director, Rural Development

**LETTER OF INTENT TO MEET CONDITIONS**

Date 11-13-2015

TO: United States Department of Agriculture

Rural Development

\_\_\_\_\_  
(Name of USDA Agency)

4730 New Harvest Lane, Suite 300  
Knoxville, TN 37918

\_\_\_\_\_  
(USDA Agency Office Address)  
\_\_\_\_\_

We have reviewed and understand the conditions set forth in your letter dated 11-13-2015. It is our intent to meet all of them not later than 05-13-2016.

Town of Vonore

\_\_\_\_\_  
(Name of Association)

BY

Bob Lovingood  
Bob Lovingood, Mayor

\_\_\_\_\_  
(Title)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a persons is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0575-0015 and 0570-0062. The time required to complete this information collection is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data. needed, and completing and reviewing the collection of information.

REQUEST FOR OBLIGATION OF FUNDS

<b>INSTRUCTIONS-TYPE IN CAPITALIZED ELITE TYPE IN SPACES MARKED ( )</b> Complete Items 1 through 29 and applicable Items 30 through 34. See FMI.			
<b>1. CASE NUMBER</b> ST CO BORROWER ID 48-062-*****1403		<b>LOAN NUMBER</b>	<b>FISCAL YEAR</b>
<b>2. BORROWER NAME</b> Town of Vonore		<b>3. NUMBER NAME FIELDS</b> (1, 2, or 3 from Item 2)	
		<b>4. STATE NAME</b> Tennessee	
		<b>5. COUNTY NAME</b> Monroe	
<b>GENERAL BORROWER/LOAN INFORMATION</b>			
<b>6. RACE/ETHNIC CLASSIFICATION</b> 1 - WHITE 2 - BLACK 3 - AI/AN 4 - HISPANIC 5 - API	<b>7. TYPE OF APPLICANT</b> 1 - INDIVIDUAL 2 - PARTNERSHIP 3 - CORPORATION 4 - PUBLIC BODY 5 - ASSOC. OF FARMERS 6 - ORG. OF FARMERS 7 - NONPROFIT-SECULAR 8 - NONPROFIT-FAITH BASED 9 - INDIAN TRIBE 10 - PUBLIC COLLEGE/UNIVERSITY 11 - OTHER	<b>8. COLLATERAL CODE</b> 1 - REAL ESTATE SECURED 2 - REAL ESTATE AND CHATTEL 3 - NOTE ONLY OR CHATTEL ONLY 4 - MACHINERY ONLY 5 - LIVESTOCK ONLY 6 - CROPS ONLY 7 - SECURED BY BONDS 8 - RLF ACCT	<b>9. EMPLOYEE RELATIONSHIP CODE</b> 1 - EMPLOYEE 2 - MEMBER OF FAMILY 3 - CLOSE RELATIVE 4 - ASSOC.
<b>10. SEX CODE</b> 1 - MALE 2 - FEMALE 3 - FAMILY UNIT 4 - ORGAN MALE OWNED 5 - ORGAN FEMALE OWNED 6 - PUBLIC BODY	<b>11. MARITAL STATUS</b> 1 - MARRIED 2 - SEPARATED 3 - UNMARRIED (INCLUDES WIDOWED/DIVORCED)	<b>12. VETERAN CODE</b> 1 - YES 2 - NO	<b>13. CREDIT REPORT</b> 1 - YES 2 - NO
<b>14. DIRECT PAYMENT</b> (See FMI)	<b>15. TYPE OF PAYMENT</b> 1 - MONTHLY 2 - ANNUALLY 3 - SEMI-ANNUALLY 4 - QUARTERLY	<b>16. FEE INSPECTION</b> 1 - YES 2 - NO	
<b>17. COMMUNITY SIZE</b> 1 - 10 000 OR LESS (FOR SFH AND HPG ONLY) 2 - OVER 10,000		<b>18. USE OF FUNDS CODE</b> (See FMI)	
<b>COMPLETE FOR OBLIGATION OF FUNDS</b>			
<b>19. TYPE OF ASSISTANCE</b> 518 (See FMI)	<b>20. PURPOSE CODE</b> 1	<b>21. SOURCE OF FUNDS</b>	<b>22. TYPE OF ACTION</b> 1 - OBLIGATION ONLY 2 - OBLIGATION/CHECK REQUEST 3 - CORRECTION OF OBLIGATION
<b>23. TYPE OF SUBMISSION</b> 1 - INITIAL 2 - SUBSEQUENT	<b>24. AMOUNT OF LOAN</b>	<b>25. AMOUNT OF GRANT</b> \$30,000.00	
<b>26. AMOUNT OF IMMEDIATE ADVANCE</b>	<b>27. DATE OF APPROVAL</b> MO DAY YR	<b>28. INTEREST RATE</b> 0 %	<b>29. REPAYMENT TERMS</b>
<b>COMPLETE FOR COMMUNITY PROGRAM AND CERTAIN MULTIPLE-FAMILY HOUSING LOANS</b>			
<b>30. PROFIT TYPE</b> 1 - FULL PROFIT 2 - LIMITED PROFIT 3 - NONPROFIT			
<b>COMPLETE FOR EM LOANS ONLY</b>		<b>COMPLETE FOR CREDIT SALE-ASSUMPTION</b>	
<b>31. DISASTER DESIGNATION NUMBER</b> (See FMI)	<b>32. TYPE OF SALE</b> 1 - CREDIT SALE ONLY 2 - ASSUMPTION ONLY 3 - CREDIT SALE WITH SUBSEQUENT LOAN 4 - ASSUMPTION WITH SUBSEQUENT LOAN		
<b>FINANCE OFFICE USE ONLY</b>		<b>COMPLETE FOR FP LOANS ONLY</b>	
<b>33. OBLIGATION DATE</b> MO DA YR		<b>34. BEGINNING FARMER/RANCHER</b> (See FMI)	

If the decision contained above in this form results in denial, reduction or cancellation of USDA assistance, you may appeal this decision and have a hearing or you may request a review in lieu of a hearing. Please use the form we have included for this purpose.

Position 2

ORIGINAL - Borrower's Case Folder    COPY 1 - Finance Office    COPY 2 - Applicant/Lender    COPY 3 - State Office

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0570-0062. The time required to complete this information collection is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

CERTIFICATION APPROVAL

For All Farmers Programs

EM, OL, FO, and SW Loans

This loan is approved subject to the availability of funds. If this loan does not close for any reason within 90 days from the date of approval on this document, the approval official will request updated eligibility information. The undersigned loan applicant agrees that the approval official will have 14 working days to review any updated information prior to submitting this document for obligation of funds. If there have been significant changes that may affect eligibility, a decision as to eligibility and feasibility will be made within 30 days from the time the applicant provides the necessary information.

If this is a loan approval for which a lien and/or title search is necessary, the undersigned applicant agrees that the 15-working-day loan closing requirement may be exceeded for the purposes of the applicant's legal representative completing title work and completing loan closing.

35. COMMENTS AND REQUIREMENTS OF CERTIFYING OFFICIAL

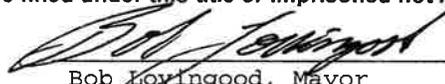
Approval of financial assistance is subject to the terms of the Letter of Conditions dated November 13, 2015.

36. I HEREBY CERTIFY that I am unable to obtain sufficient credit elsewhere to finance my actual needs at reasonable rates and terms, taking into consideration prevailing private and cooperative rates and terms in or near my community for loans for similar purposes and periods of time. I agree to use the sum specified herein, subject to and in accordance with regulations applicable to the type of assistance indicated above, and request payment of such sum. I agree to report to USDA any material adverse changes, financial or otherwise, that occur prior to loan closing. I certify that no part of the sum specified herein has been received. I have reviewed the loan approval requirements and comments associated with this loan request and agree to comply with these provisions.

(For FP loans at eligible terms only) If this loan is approved, I elect the interest rate to be charged on my loan to be the lower of the interest rate in effect at the time of loan approval or loan closing. If I check "NO", the interest rate charged on my loan will be the rate specified in Item 28 of this form.  YES  NO

**WARNING:** Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious or fraudulent statement or entry, shall be fined under this title or imprisoned not more than five years, or both."

Date November 13, 20 15

  
Bob Lovingood, Mayor

(Signature of Applicant)

Date \_\_\_\_\_, 20 \_\_\_\_\_

(Signature of Co-Applicant)

37. I HEREBY CERTIFY that all of the committee and administrative determinations and certifications required by regulations prerequisite to providing assistance of the type indicated above have been made and that evidence thereof is in the docket, and that all requirements of pertinent regulations have been complied with. I hereby approve the above-described assistance in the amount set forth above, and by this document, subject to the availability of funds, the Government agrees to advance such amount to the applicant for the purpose of and subject to the availability prescribed by regulations applicable to this type of assistance.

(Signature of Approving Official)

Typed or Printed Name: \_\_\_\_\_

Date Approved: \_\_\_\_\_

Title: \_\_\_\_\_

38. TO THE APPLICANT: As of this date \_\_\_\_\_, this is notice that your application for financial assistance from the USDA has been approved, as indicated above, subject to the availability of funds and other conditions required by the USDA. If you have any questions contact the appropriate USDA Servicing Office.

# City of Niota

Please see the  
supplemental  
packet

# City of Middleton



STATE OF TENNESSEE  
**Water and Wastewater Financing Board**

James K. Polk State Office Building  
505 Deaderick Street, Suite 1700  
Nashville, Tennessee 37243-1402  
Phone (615) 401-7879 Fax (615) 741-1551

May 3, 2016

Ms. Linda Earnest  
City of Middleton  
P.O. Box 40  
Middleton, TN 38052

Dear Ms. Earnest:

The City of Middleton has been referred to the Water and Wastewater Financing Board for having a minimum of six years with a negative net change in net position.

Please send a formal update to the Board that includes the latest financial statements and year to date totals. This should include a schedule of current water and sewer rates and any proposed increases for the upcoming fiscal year.

**This information should be in our office no later than June 17, 2016.**

The update will be presented to the Board at the September 8, 2016 meeting. The meeting will begin at 10:00am, in room 31 of Legislative Plaza, Nashville.

If you need further assistance, or have any questions, feel free to contact me at (615) 401-7879, or [john.greer@cot.tn.gov](mailto:john.greer@cot.tn.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "John Greer", written over a large, stylized blue scribble.

John Greer  
Utilities Specialist

City of Middleton  
PO Box 40  
Middleton, TN 38052  
Phone: (731) 376-8409  
Fax: (731) 376-1396  
Email: [cityofmidd@comcast.net](mailto:cityofmidd@comcast.net)

May 18, 2016

State of Tennessee  
Water and Wastewater Financing Board  
James K. Polk State Office Building  
505 Deaderick Street, Suite 1700  
Nashville, TN 37243-1402

Dear Mr. Greer,

I enjoyed our recent telephone conversation and would like to share with you the action items the City of Middleton has accomplished toward improving our financial situation regarding our Water and Wastewater Systems.

The current statement of Revenue and Expenditures through the month of April, 2016 is attached for your review. As you can see, the results are favorable and we expect the year end to remain favorable.

There are several contributing factors toward this improvement. The first improvement was the completion of the radio read water meter installation. Two years ago, we completed separated the expenses of the water and wastewater systems. Although no action was taken in fiscal year 2016; the Board of Mayor and Alderman have decided to increase the rates of the wastewater system by 103 percent of the water charges for fiscal year 2017. I have attached a copy of the ordinance which passed its first reading on May 16, 2016. The rate changes since fiscal year 2015 are outlined below for your review.

**Fiscal Year 2015**

*Inside City Limits*

Minimum charge (includes first 1,000 gallons)	\$13.16
Each additional 1,000 gallons	\$ 2.79 (per thousand)

*Outside City Limits*

Minimum charge (includes first 1,000 gallons)	\$16.20
Each additional 1,000 gallons	\$ 5.06 (per thousand)

**Fiscal Year 2016**

*Inside City Limits*

Minimum charge (includes first 1,000 gallons)	\$14.48
Each additional 1,000 gallons	\$ 2.79 (per thousand)

*Outside City Limits*

Minimum charge (includes first 1,000 gallons)	\$17.82
Each additional 1,000 gallons	\$ 5.06 (per thousand)

**Proposed Fiscal Year 2017**

Minimum charge (includes first 1,000 gallons)	\$14.48
Each additional 1,000 gallons	\$ 2.92 (per thousand)

*Outside City Limits*

Minimum charge (includes first 1,000 gallons)	\$17.82
Each additional 1,000 gallons	\$ 5.31 (per thousand)

We also completed the calibration of all equipment and have scheduled annual calibration. These changes are reflected in our 2015 water audit (which is included for your review). As our team gains knowledge; we will continually monitor to improve our water and wastewater systems.

If there are additional concerns after the Board meeting on July 14, 2016, please contact myself or the City Administrator, Tony Davis. Our contact information is listed above.

Regards,



Linda Earnest  
City Recorder

**City of Middleton**  
**Statement of Revenue and Expenditures**

*Revised Budget*  
**For WATER & SEWER FUND (413)**  
**For the Fiscal Period 2016-10 Ending April 30, 2016**

Account Number	Current Budget	Current Actual	Annual Budget	YTD Actual	Remaining Budget %
<b>Revenues</b>					
413-00000-33110 CDBG federal grant	\$ 0.00	\$ 0.00	\$ 250,000.00	5,155.00	97.94%
413-00000-37110 Metered Water	14,695.00	15,035.68	176,350.00	141,690.50	19.65%
413-00000-37112 Unmetered Water Revenue	100.00	65.18	1,200.00	65.18	94.57%
413-00000-37191 Forfeitures, Discounts, Penalties	0.00	972.43	0.00	2,947.91	0.00%
413-00000-37193 Connection Fees	200.00	150.00	2,400.00	1,994.20	16.91%
413-00000-37199 Miscellaneous	100.00	199.00	1,200.00	1,225.00	(2.08)%
413-00000-37210 Sewer Service Charges	14,625.00	14,975.55	175,500.00	149,262.12	14.95%
413-00000-37910 Interest earnings	6.00	20.36	72.00	127.33	(76.85)%
<b>Total WATER &amp; SEWER FUND Revenues</b>	<b>\$ 29,726.00</b>	<b>\$ 31,418.20</b>	<b>\$ 606,722.00</b>	<b>\$ 302,467.24</b>	<b>50.15%</b>
<b>Expenditures</b>					
413-52300-00111 Salaries	\$ 1,950.00	\$ 2,702.62	\$ 18,400.00	12,637.14	31.32%
413-52300-00141 FICA/Medicare - Employer	175.00	192.38	1,717.00	952.39	44.53%
413-52300-00142 Hospital & Health Insurance	1,012.00	332.69	6,348.00	4,190.46	33.99%
413-52300-00143 Retirement	239.00	366.42	2,274.00	1,438.73	36.73%
413-52300-00148 Employee Education & Training	10.00	0.00	1,000.00	105.22	89.48%
413-52300-00211 Postage	42.00	105.00	504.00	426.80	15.32%
413-52300-00236 Permits	0.00	0.00	1,200.00	507.00	57.75%
413-52300-00240 Utility Services	1,000.00	935.28	12,000.00	7,952.02	33.73%
413-52300-00250 Professional Services	200.00	0.00	2,400.00	336.00	86.00%
413-52300-00253 Audit	0.00	0.00	3,000.00	2,917.00	2.77%
413-52300-00254 Architectural & Engineering	333.33	0.00	4,000.00	3,000.00	25.00%
413-52300-00255 Data Processing Service	200.00	80.00	2,400.00	2,124.94	11.46%
413-52300-00260 Repair & Maintenance - Service	975.00	0.00	10,900.00	6,242.86	42.73%
413-52300-00299 BOD Testing	230.00	36.00	2,985.00	1,186.40	60.25%
413-52300-00320 Operating Supplies	62.50	0.00	850.00	695.49	18.18%
413-52300-00322 Chemicals	916.67	1,573.40	11,000.00	6,742.76	38.70%
413-52300-00331 Gas & Oil	104.17	126.78	1,400.00	1,119.09	20.07%
413-52300-00510 Insurance	0.00	0.00	7,500.00	4,634.68	38.20%
413-52300-00540 Depreciation	3,520.00	3,520.00	42,240.00	35,200.00	16.67%
413-52300-00564 Maintenance Contract	0.00	838.08	17,500.00	15,401.88	11.99%
413-52300-00799 Miscellaneous	166.67	0.00	2,000.00	519.50	74.03%
413-52300-00900 Capital Outlay	5,000.00	2,100.00	30,000.00	2,100.00	93.00%
413-62300-00111 Salaries	1,458.33	1,400.74	12,500.00	11,829.41	5.36%
413-62300-00141 FICA/Medicare - Employer	111.58	121.91	956.00	919.59	3.81%
413-62300-00142 Hospital & Health Insurance	1,012.00	332.69	6,348.00	3,516.14	44.61%
413-62300-00143 Retirement	150.00	138.19	1,305.00	1,262.08	3.29%
413-62300-00145 Health Insurance Withholding	1,458.33	0.00	17,500.00	0.00	100.00%
413-62300-00148 Employee Education & Training	111.67	442.45	1,340.00	902.45	32.65%
413-62300-00211 Postage	33.33	0.00	400.00	102.03	74.49%
413-62300-00235 Membership & Dues	0.00	0.00	2,200.00	1,580.00	28.18%
413-62300-00236 Permits	0.00	0.00	3,500.00	3,110.00	11.14%
413-62300-00237 Advertising	0.00	0.00	250.00	232.60	6.96%
413-62300-00241 Electric	3,958.33	3,957.94	47,500.00	40,114.60	15.55%
413-62300-00250 Professional Services	1,458.33	500.00	17,500.00	4,801.68	72.56%
413-62300-00253 Audit	0.00	0.00	3,000.00	2,916.00	2.80%
413-62300-00254 Architectural & Engineering	0.00	0.00	14,000.00	11,360.00	18.86%

**City of Middleton**  
**Statement of Revenue and Expenditures**

*Revised Budget*  
**For WATER & SEWER FUND (413)**  
**For the Fiscal Period 2016-10 Ending April 30, 2016**

Account Number	Current Budget	Current Actual	Annual Budget	YTD Actual	Remaining Budget %
413-62300-00260 Repair & Maintenance - Service	400.00	0.00	6,800.00	4,449.30	34.57%
413-62300-00299 BOD Testing	1,833.33	2,316.00	22,000.00	16,832.55	23.49%
413-62300-00300 Supplies	83.33	0.00	1,000.00	45.25	95.48%
413-62300-00322 Chemicals	300.00	596.10	3,600.00	3,572.45	0.77%
413-62300-00331 Gas & Oil	200.00	10.68	2,400.00	709.63	70.43%
413-62300-00510 Insurance	0.00	0.00	5,000.00	915.25	81.70%
413-62300-00540 Depreciation	3,541.67	3,520.00	42,500.00	35,200.00	17.18%
413-62300-00799 Miscellaneous	100.00	0.00	1,200.00	3.49	99.71%
413-62300-00900 Capital Outlay	0.00	0.00	150,000.00	12,664.59	91.56%
<b>Total WATER &amp; SEWER FUND Expenditures</b>	<b>\$ 32,346.57</b>	<b>\$ 26,245.35</b>	<b>\$ 544,417.00</b>	<b>\$ 267,469.45</b>	<b>50.87%</b>
<b>WATER &amp; SEWER FUND Excess of Revenues Over Expendi</b>	<b>\$ (2,620.57)</b>	<b>\$ 5,172.85</b>	<b>\$ 62,305.00</b>	<b>\$ 34,997.79</b>	<b>43.83%</b>

**City of Middleton**  
**Statement of Revenue and Expenditures**  
 Revised Budget

*For the Fiscal Period 2016-10 Ending April 30, 2016*

Account Number	Current Budget	Current Actual	Annual Budget	YTD Actual	Remaining Budget %
<b>Total Revenues</b>	\$ 29,726.00	\$ 31,418.20	\$ 606,722.00	\$ 302,467.24	50.15%
<b>Total Expenditures</b>	\$ 32,346.57	\$ 26,245.35	\$ 544,417.00	\$ 267,469.45	50.87%
<b>Total Excess of Revenues Over Expenditures</b>	\$ (2,620.57)	\$ 5,172.85	\$ 62,305.00	\$ 34,997.79	43.83%

**AWWA Free Water Audit Software:  
Reporting Worksheet**

WAS v5.0  
American Water Works Association  
Copyright © 2014. All Rights Reserved.

Water Audit Report for: **City of Middleton (0000455)**  
Reporting Year: **2015** **7/2014 - 6/2015**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

**WATER SUPPLIED**

		← Enter grading in column 'E' and 'J' →			
Volume from own sources:	<input type="button" value="+"/> <input type="button" value="9"/>	<input type="text" value="53.200"/>	MG/Yr	<input type="button" value="+"/> <input type="button" value="5"/>	-1.00%
Water imported:	<input type="button" value="+"/> <input type="button" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr	<input type="button" value="+"/> <input type="button" value="5"/>	
Water exported:	<input type="button" value="+"/> <input type="button" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr	<input type="button" value="+"/> <input type="button" value="5"/>	

**Master Meter and Supply Error Adjustments**

Pcnt:	Value:	
<input type="text" value="5"/>	<input type="text" value="-1.00%"/>	<input type="text" value=""/>
<input type="button" value="+"/> <input type="button" value="5"/>	<input type="button" value="0"/> <input type="button" value="0"/>	<input type="text" value=""/>
<input type="button" value="+"/> <input type="button" value="5"/>	<input type="button" value="0"/> <input type="button" value="0"/>	<input type="text" value=""/>
<input type="button" value="+"/> <input type="button" value="5"/>	<input type="button" value="0"/> <input type="button" value="0"/>	<input type="text" value=""/>

Enter negative % or value for under-registration  
Enter positive % or value for over-registration

**WATER SUPPLIED:**  MG/Yr

**AUTHORIZED CONSUMPTION**

Billed metered:	<input type="button" value="+"/> <input type="button" value="9"/>	<input type="text" value="37.600"/>	MG/Yr
Billed unmetered:	<input type="button" value="+"/> <input type="button" value="6"/>	<input type="text" value="0.400"/>	MG/Yr
Unbilled metered:	<input type="button" value="+"/> <input type="button" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Unbilled unmetered:	<input type="button" value="+"/> <input type="button" value="5"/>	<input type="text" value="0.672"/>	MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

**AUTHORIZED CONSUMPTION:**  MG/Yr

Click here:  for help using option buttons below

Pcnt:	Value:	
<input type="text" value="1.25%"/>	<input type="text" value=""/>	<input type="text" value=""/>
<input type="button" value="0"/> <input type="button" value="0"/>	<input type="button" value="0"/> <input type="button" value="0"/>	<input type="text" value=""/>

Use buttons to select percentage of water supplied OR value

Pcnt:	Value:	
<input type="text" value="0.25%"/>	<input type="text" value=""/>	<input type="text" value=""/>
<input type="button" value="0"/> <input type="button" value="0"/>	<input type="button" value="0"/> <input type="button" value="0"/>	<input type="text" value=""/>

<input type="text" value="5.00%"/>	<input type="button" value="0"/> <input type="button" value="0"/>	<input type="text" value=""/>
<input type="text" value="0.25%"/>	<input type="button" value="0"/> <input type="button" value="0"/>	<input type="text" value=""/>

**WATER LOSSES (Water Supplied - Authorized Consumption)**

**Apparent Losses**

Unauthorized consumption:    MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:    MG/Yr  
Systematic data handling errors:    MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:**  MG/Yr

**Real Losses (Current Annual Real Losses or CARL)**

Real Losses = Water Losses - Apparent Losses:  MG/Yr

**WATER LOSSES:**  MG/Yr

**NON-REVENUE WATER**

**NON-REVENUE WATER:**  MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

**SYSTEM DATA**

Length of mains:    miles  
Number of active AND inactive service connections:     
Service connection density:   conn./mile main

Are customer meters typically located at the curbside or property line?  (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line:

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:    psi

**COST DATA**

Total annual cost of operating water system:    \$/Year  
Customer retail unit cost (applied to Apparent Losses):    \$/1000 gallons (US)  
Variable production cost (applied to Real Losses):    \$/Million gallons  Use Customer Retail Unit Cost to value real losses

**WATER AUDIT DATA VALIDITY SCORE:**

\*\*\* YOUR SCORE IS: 83 out of 100 \*\*\*

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

**PRIORITY AREAS FOR ATTENTION:**

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Billed unmetered
- 3: Unauthorized consumption

## ORDINANCE NO: 2016-06

AN ORDINANCE OF THE CITY OF MIDDLETON, TENNESSEE, ESTABLISHING THE WATER AND SEWER FUND RATE EFFECTIVE JULY 1, 2016.

**Whereas**, the City of Middleton Water and Sewer system must comply with rules and regulations of both the state and federal governments;

**Whereas**, additional funds are necessary to meet compliance with these regulations;

NOW, THEREFORE BE IT ORDAINED BY THE BOARD OF MAYOR AND ALDERMEN OF THE CITY OF MIDDLETON, TENNESSEE, THAT;

**Section 1.** Ordinance number 2014-09 passed on final reading on May 19, 2014, setting the water and sewer rates for the City of Middleton is hereby amended to read as follows:

Customers inside the corporate limits:

Minimum charge (includes first 1,000 gallons)	\$14.48
Each additional 1,000 gallons	\$ 2.92 (per thousand)

Customers outside the corporate limits:

Minimum charge (includes first 1,000 gallons)	\$17.82
Each additional 1,000 gallons	\$ 5.31 (per thousand)

**Section 2.** With the exception of Industrial Customers, the sewer rates for the City of Middleton customers shall be 103% of the water charge. Industrial Customers will pay \$6.50 plus \$4.70 per 1,000 gallons discharged to the City of Middleton Sanitary Sewer Collection System

**Section 2.** This ordinance shall take effect upon its final reading, the public health, safety, and welfare requiring it.

Passed 1<sup>st</sup> reading: \_\_\_\_\_

\_\_\_\_\_  
Jackie Cox, Mayor

Passed 2<sup>nd</sup> reading: \_\_\_\_\_

\_\_\_\_\_  
City Recorder

# City of Westmoreland

**WATER AND WASTEWATER FINANCING BOARD  
Status Update**

**Case:** City of Westmoreland  
**Mayor:** Jerry Kirkman  
**Customers:** 1305 water, 855 Sewer  
**Validity Score:** 82  
**Non-revenue water:** 21.50%

The City of Westmoreland was not referred for a second consecutive year due to a large capital contribution. A sheet reflecting the financial and rate history is attached.

The attached rate ordinance (#062016-1) reflects an 11% rate increase for 2016/2017 and 2017/2018. Staff projects that the City would need 22% in additional revenue to be in a stable financial position if the capital contribution was not present.

**Staff recommends the Board endorse, by formal order, the following correct action plan (CAP)**

- 1. An 11% rate increase, in water and sewer, effective July 1, 2016**
- 2. An 11% rate increase, in water and sewer, effective July 1, 2017**
- 3. Starting July 1, 2018, an automatic rate increase annually based on the CPI (but no less than 2%)**
- 4. Update staff to the Water and Wastewater Financing Board every 6 months of the Town's progress, and immediately if any changes to the CAP are proposed**

CITY OF WESTMORELAND						
HISTORY FILE						
	Audited	Audited	Audited	Audited	Audited	Audited
FYE 6/30	2010	2011	2012	2013	2014	2015
W/S Revenues	\$ 1,086,367	\$ 1,138,046	\$ 1,160,707	\$ 1,223,422	\$ 1,312,559	\$ 1,336,587
Other revenues	\$ 100,757	\$ 54,181	\$ 36,039	\$ 99,940	\$ 30,835	\$ 55,244
Capital Contribution	\$ 234,597		\$ 781,172	\$ 155,784	\$ 91,400	\$ 370,300
<b>Total Revenues</b>	<b>\$ 1,421,721</b>	<b>\$ 1,192,227</b>	<b>\$ 1,977,918</b>	<b>\$ 1,479,146</b>	<b>\$ 1,434,794</b>	<b>\$ 1,762,131</b>
<b>Total Expenses</b>	<b>\$ 1,234,579</b>	<b>\$ 1,337,679</b>	<b>\$ 1,405,072</b>	<b>\$ 1,477,965</b>	<b>\$ 1,478,018</b>	<b>\$ 1,476,854</b>
Revenue vs. Expenses	\$ 187,142	\$ (145,452)	\$ 572,846	\$ 1,181	\$ (43,224)	\$ 285,277
Interest Expense	\$ 49,480	\$ 46,099	\$ 54,191	\$ 48,356	\$ 48,504	\$ 46,614
<b>Change in Net Position</b>	<b>\$ 137,662</b>	<b>\$ (191,551)</b>	<b>\$ 518,655</b>	<b>\$ (47,175)</b>	<b>\$ (91,728)</b>	<b>\$ 238,663</b>
<u>Supplemental Information</u>						
Principal payment	\$ 31,859	\$ 34,077	\$ 263,081	\$ 23,129	\$ 28,989	\$ 33,841
Depreciation	\$ 210,951	\$ 203,906	\$ 217,984	\$ 247,864	\$ 260,691	\$ 271,109
<b><u>Water and Sewer Rates</u></b>						
<b><u>Residential Inside</u></b>						
2,000 gallon minimum	\$ 20.61	\$ 21.43	\$ 21.43	\$ 21.43	\$ 21.43	\$ 27.40
2,001-5,000 gallons	\$ 5.25	\$ 5.39	\$ 5.39	\$ 5.39	\$ 5.39	\$ 6.94
5,001-10,000 gallons	\$ 4.44	\$ 4.54	\$ 4.54	\$ 4.54	\$ 4.54	\$ 6.78
10,000+ gallons	\$ 3.84	\$ 3.92	\$ 3.92	\$ 3.92	\$ 3.92	\$ 6.61
<b><u>Commercial Inside -30% higher than residential inside</u></b>						
<b><u>Residential Outside Town - 50% higher than residential inside</u></b>						
<b><u>Commercial Outside Town - 80% higher than residential inside</u></b>						
<b>Unaccounted for Water</b>	<b>42.00%</b>	<b>46.00%</b>	<b>40.00%</b>			
<b>Validity score</b>				<b>61</b>	<b>71</b>	<b>82</b>
<b>Non-revenue Water</b>				<b>30.7%</b>	<b>26.8%</b>	<b>21.5%</b>
Water Customers	1289	1290		1295	1305	1305
Sewer Customers	835	840		845	855	855

**ORDINANCE  
#062016-1**

**AN ORDINANCE ADJUSTING WATER AND SEWER RATES FOR 2016-2017 AND 2017-2018 FOR THE CITY OF WESTMORELAND, TENNESSEE**

**NOW, THEREFORE BE IT ORDAINED**, By the City Council, City of Westmoreland, Tennessee, that the following rate schedule be adopted, raising the rates by 11% in 2016 and another 11% in 2017:

**2016-2017  
WATER**

<u>INSIDE RESIDENTIAL</u>			<u>OUTSIDE RESIDENTIAL</u>		
0	2000	\$30.41		0	\$45.62
2001	5000	7.70		2001	11.57
5001	OVER	7.53		5001	11.39
<u>INSIDE COMMERCIAL &amp; INDUSTRIAL</u>			<u>OUTSIDE COMMERCIAL &amp; INDUSTRIAL</u>		
0	2000	\$39.54		0	\$54.75
2001	5000	12.80		2001	16.13
5001	OVER	11.50		5001	14.23

**2016-2017  
SEWER**

<u>INSIDE RESIDENTIAL</u>			<u>INSIDE COMMERCIAL &amp; INDUSTRIAL</u>		
0	2000	\$36.50		0	\$47.44
2001	5000	9.25		2001	19.36
5001	OVER	9.04		5001	17.08

**OUTSIDE CITY SEWER (NO WATER)**

\$45.17

**OUTSIDE CITY SEWER (WELL WATER)**

\$45.17

**2017-2018**  
**WATER**

**INSIDE RESIDENTIAL**

0	2000	\$33.76
2001	5000	8.55
5001	OVER	8.36

**OUTSIDE RESIDENTIAL**

0	2000	\$50.64
2001	5000	12.84
5001	OVER	12.64

**INSIDE COMMERCIAL & INDUSTRIAL**

0	2000	\$43.89
2001	5000	14.21
5001	OVER	12.77

**OUTSIDE COMMERCIAL & INDUSTRIAL**

0	2000	\$60.77
2001	5000	17.90
5001	OVER	15.80

**2017-2018**  
**SEWER**

**INSIDE RESIDENTIAL**

0	2000	\$40.52
2001	5000	10.27
5001	OVER	10.03

**INSIDE COMMERCIAL & INDUSTRIAL**

0	2000	\$52.66
2001	5000	21.49
5001	OVER	18.96

**OUTSIDE CITY SEWER (NO WATER)**

\$50.14

**OUTSIDE CITY SEWER (WELL WATER)**

\$50.14

**WATER TAP FEES**

	<u>Inside</u>	<u>Outside</u>
Residential	\$1500	\$3000
Commercial	\$2000	\$3500
Industrial	\$3000	\$4000

**SEWER TAP FEES**

	<u>Inside</u>	<u>Outside</u>
Residential	\$1200	N/A
Commercial	\$1500	N/A
Industrial	\$2000	N/A

All water and sewer taps must comply with planning and zoning regulations and site map. Any additional equipment or boring is the responsibility of the customer. Sewer tap fee is for fee only. All parts-tanks, pumps, etc. are paid for by the customer.

This Ordinance shall take effect upon its passage, the public welfare requiring it.

1<sup>st</sup> Reading June 9, 2016

2<sup>nd</sup> Reading June 16, 2016

Jerry D. Kirkman  
JERRY KIRKMAN, MAYOR

6/16/16  
DATE

ATTEST:

Kelly Moran  
KELLY MORAN, CITY RECORDER

# Watauga River Regional Water Authority

**WATER AND WASTEWATER FINANCING BOARD  
Status**

**Case:** Watauga River Regional Water Authority  
**Executive:** Bryon Trantham  
**Customers:** 701  
**Water loss:** .80%  
**Validity Score:** 82

The Watauga River Regional Water Authority (Authority) has been experiencing a negative change in net position for two consecutive fiscal years as of June 30, 2015. The financial and rate history is attached.

At a previous Board meeting, members asked for the following:

- A financial and rate history
- An explanation of rates
- Projections for the future

The Authority implemented a series of three 6% rate increases that take effect on July 1, of 2015/2016, 2016/2017, and 2017/2018. .

**Staff recommends the board endorse, by formal order, the following correcting action plan (CAP):**

- 1. The 6% rate increase effective July 1, 2015**
- 2. The 6% rate increase effective July 1, 2016**
- 3. The Authority shall raise rates 6% on July 1, 2017**
- 4. The Authority shall provide staff to the WWFB a status update every 6 months, and immediately if any changes to the CAP are proposed**



# Watauga River Water Authority

P.O. Box 908, Elizabethton, TN 37644

(423) 543-2700 (423) 543-2400 Fax (423) 543-8600

email: [newcwater@embarqmail.com](mailto:newcwater@embarqmail.com)

December 18, 2015

John Greer, Utilities Board Analyst  
James K. Polk State Office Building  
505 Deadrick Street, Suite 1500  
Nashville, TN 37243-1402

Re: **Watauga River Regional Water Authority  
2014 & 2015 Change in Net Position**

Dear Mr. Greer:

As you may or may not know, we have completed a regional water treatment plant in Carter County. The water plant and intake, located at Wilbur Lake, will be a tremendous asset for Elizabethton and Carter County for many years to come. It has taken tremendous effort to accomplish this goal. We have been providing water to Siam Utility, South Elizabethton Utility, North Elizabethton Water Co-Op and the City of Elizabethton since December 2013. As a start up utility we face many challenges, the biggest being fully funding depreciation and operating expenses while trying to maintain affordable rates for our customers.

Mr. Greer, our 2013/2014 fiscal year audit reflected a negative change in net position. As expected, it appears our 2014/2015 will also show a negative change in net position. The purpose of this letter is to be proactive and provide you with our plan of action to resolve the deficit.

The Board of Directors of the Watauga River Regional Water Authority are appointed to their post and not elected, giving them freedom from political ties to adjust rates according to the financial needs of the system. In June of 2015 our Board of Directors voted to approve a six percent rate increase every year until the 2017/2018 fiscal year. Also, we have been awarded a \$525,000.00 CDBG grant that is being expensed in the current fiscal year. This capital contribution will offset any shortages not covered by the increased rate structure. I have enclosed the award letter from the First Tennessee Development District as well as a copy of the minutes from the June 2015 Board of Directors meeting.

Mr. Greer we feel confident that the CDBG grant and raised rates will keep us in compliance with the Comptroller of the Treasury. I look forward to your response and input. Please contact me at your convenience, [btrantham@wataugariver.org](mailto:btrantham@wataugariver.org).

Sincerely,

Bryon Trantham  
Executive Director  
WRRWA

Cc: Frank McDaniel, Independent Auditor  
Jack Buckles, Chairman of the Board, WRRWA



**STATE OF TENNESSEE**  
**Water and Wastewater Financing Board**

James K Polk State Office Building, Suite 1700  
505 Deaderick Street  
Nashville, Tennessee 37243-1402  
Phone (615) 401-7879 Fax (615) 741-1551

Mr. Bryon Trantham  
Executive Director  
Watauga River Regional Water Authority  
P.O. Box 908  
Elizabethton, TN 37644

Dear Mr. Trantham:

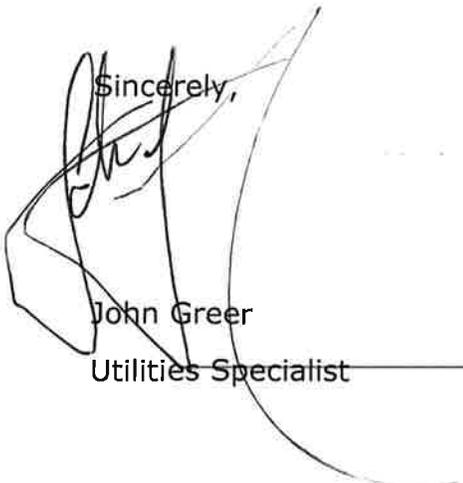
On March 10, 2016, the Water and Wastewater Financing Board met, in part, to discuss the financially distressed condition of the Authority. The Board voted to defer action on the case of the Authority and requested the following information:

- A detailed rate history, including per gallon units and the minimum bill
- A detailed rate history and explanation of Fish Spring/Little Milligan
  - Please include the per gallon units and the minimum bill
- The analysis that determined three 6% rate increases are sufficient
  - Please include any projections

The next Board meeting will take place on May 12, 2016, at 10:00 am, in room 31 of Legislative Plaza. Please have the requested information in our office no later than April 29, 2016.

Feel free to contact me with any questions at (615) 401-7879, or [john.greer@cot.tn.gov](mailto:john.greer@cot.tn.gov).

Sincerely,

  
John Greer  
Utilities Specialist

**WATAUGA RIVER REGIONAL WATER AUTHORITY  
DISTRIBUTION HISTORY FILE**

	Audited	Audited	Audited	Audited	Audited	Audited
Fiscal Year 6/30	2010	2011	2012	2013	2014	2015
<b>Water Revenue</b>	<b>\$372,509</b>	<b>\$383,512</b>	<b>\$368,106</b>	<b>\$ 429,334</b>	<b>\$396,280</b>	<b>\$382,049</b>
Other revenues	\$ 37,116	\$ 48,818	\$ 57,759	\$ 63,060	\$ 71,041	\$ 67,028
<b>Total Operating Revenues</b>	<b>\$409,625</b>	<b>\$432,330</b>	<b>\$425,865</b>	<b>\$ 492,394</b>	<b>\$467,321</b>	<b>\$449,077</b>
<b>Operating Expenses</b>	<b>\$421,944</b>	<b>\$460,632</b>	<b>\$480,337</b>	<b>\$ 472,743</b>	<b>\$461,656</b>	<b>\$415,153</b>
<b>Operating Income</b>	<b>\$ (12,319)</b>	<b>\$ (28,302)</b>	<b>\$ (54,472)</b>	<b>\$ 19,651</b>	<b>\$ 5,665</b>	<b>\$ 33,924</b>
Capital Contributions	\$ 418,934	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Expense	\$ (10,976)	\$ (10,988)	\$ (10,387)	\$ (53,699)	\$ (54,539)	\$ (54,506)
Other Expense	\$ -	\$ (17,501)	\$ (10,271)	\$ (31,368)	\$ -	\$ -
Grant Income	\$ -	\$ -	\$ -	\$ 490,168	\$ -	\$ -
Transfers in (out)				\$ 2,657,086	\$ -	\$ -
<b>Change in Net Position</b>	<b>\$395,639</b>	<b>\$ (56,791)</b>	<b>\$ (75,130)</b>	<b>\$ 3,081,838</b>	<b>\$ (48,874)</b>	<b>\$ (20,582)</b>
<u>Supplemental Information</u>						
Principal payment	\$ 2,513	\$ 2,620	\$ 2,728	\$ 24,347	\$ 29,076	\$ 23,996
Depreciation	\$ 29,084	\$ 31,303	\$ 31,244	\$ 106,444	\$ 123,087	\$ 122,647
<b><u>Water Rates</u></b>						
<b><u>Distribution</u></b>						
2,000 Gallon Minimum	\$ 46.17	\$ 46.17	\$ 46.17			
All over, per thousand	\$ 7.00	\$ 7.00	\$ 7.00			
<b>North Elizabethton</b>						
2,000 Gallon Minimum				\$ 39.17	\$ 39.17	\$ 39.17
All over, per thousand				\$ 7.00	\$ 7.00	\$ 7.00
<b>Fish Springs/Milligan</b>						
5,000 Gallon Minimum				\$ 40.00	\$ 40.00	\$ 40.00
All over, per thousand				\$ 7.00	\$ 7.00	\$ 7.00
<b>Wholesale Rate</b>				\$ 2.10	\$ 2.10	\$ 2.10
Water Customers	559	556	560	714	705	701
Water Loss	59.47%	58.43%				
Non-Revenue Water			3.70%	5.90%	0.20%	0.80%
Validity Score			83	86	86	82

**WATAUGA RIVER REGIONAL WATER AUTHORITY  
PRODUCTION HISTORY FILE**

	Audited	Audited	Audited	Audited	Audited	Audited
Fiscal Year 6/30	2010	2011	2012	2013	2014	2015
<b>Water Revenue</b>	\$ 316,914	\$ 314,397	\$ 314,282	\$ 937,405	\$ 1,459,961	\$ 1,482,250
Other revenues		\$ 1,965	\$ 4,649	\$ 10,148	\$ 17,891	\$ 20,341
<b>Total Operating Revenues</b>	\$ 316,914	\$ 316,362	\$ 318,931	\$ 947,553	\$ 1,477,852	\$ 1,502,591
<b>Operating Expenses</b>	\$ 242,252	\$ 261,283	\$ 297,157	\$ 821,967	\$ 1,144,509	\$ 1,098,153
<b>Operating Income</b>	\$ 74,662	\$ 55,079	\$ 21,774	\$ 125,586	\$ 333,343	\$ 404,438
Capital Contributions	\$ 1,247,733	\$ 3,333,333	\$ -		\$ -	\$ -
Interest Expense			\$ -	\$ (186,205)	\$ (394,036)	\$ (389,379)
Other Expenses		\$ (5,132)	\$ (10,629)	\$ -	\$ (81,775)	\$ (140,186)
Grant Income	\$ 956,829	\$ 1,263,726	\$ 3,250,824	\$ 12,212	\$ -	\$ -
Transfers in (out)				\$ (2,657,086)	\$ -	\$ -
<b>Change in Net Position</b>	\$ 2,279,224	\$ 4,647,006	\$ 3,261,969	\$ (2,705,493)	\$ (142,468)	\$ (125,127)
<u>Supplemental Information</u>						
Principal payment	\$ 54,010	\$ 58,637	\$ 81,007	\$ 60,852	\$ 181,888	\$ 191,840
Depreciation	\$ 10,473	\$ 7,820	\$ 8,075	\$ 246,492	\$ 551,711	\$ 548,092
<u>Water Rates</u>						
<u>Production</u>						
Customer Surcharge	\$ 7.00	\$ 7.00	\$ 7.00	\$ 14.00	\$ 14.00	\$ 14.00
Surcharge per connection						
Fish Springs/Little Milligan				\$ 7.00	\$ 7.00	\$ 7.00
Wholesale Rate- Per 1,000				\$ 2.10	\$ 2.10	\$ 2.10

Mr. Greer,

Below is the information that you requested, I hope this answers all of your questions. Please be advised that North Elizabethton Water Co-Op and Fish Springs/Little Milligan are combined and classified as "Distribution" in the audit, while Watauga River Regional Water Authority will be classified as "Production". Please let me know if you need any further information.

Sincerely,



Bryon Trantham  
Executive Director-WRRWA

### North Elizabethton Water Co-Op

North Elizabethton Water Co-Op (NEWC) Rates were established before my tenure. The rates changed in March of 2013 due to the fact that NEWC began purchasing water from the Watauga River Regional Water Authority at a rate of \$2.10 per 1,000 gallons with a \$14.00 debt service collected per active customer. The \$14.00 is tax exempt and therefore resulted in a lower minimum bill. The 2014 audit stated "The Distribution System was very close to a breakeven performance had the Distribution System not experienced an increase in bad debts due to a poor economy." NEWC was awarded a \$500,000.00 CDBG grant to replace water lines and help with water loss. Management felt like the replacing of those lines could potentially help water loss enough for the system to break-even without a rate increase.

06/30/2009 - 02/28/2013

First 2,000 gallons or less per month	\$ 46.17
All over 2,000 gallons per month (per thousand gallons)	\$ 7.00
Service Fee (non-taxed)	\$ 7.00
Minimum bill	\$ 57.67

03/01/2013-Current

First 2,000 gallons or less per month	\$ 39.17
All over 2,000 gallons per month (per thousand gallons)	\$ 7.00
Debt Service (non-taxed)	\$ 14.00
Minimum bill	\$ 56.99

### Fish Springs/Little Milligan Water System

Fish Springs/Little Milligan was a project that was started in 2005 in an effort to get potable water to the members of that community. Due to the remote location and the cost of the project, the USDA required the WRRWA to acquire at least 170 contracts committing to the purchase of water for a minimum of three years. Those contracts were effective from August of 2012 until August of 2015. Due to the amount of time the project took from inception to completion, almost 7 years, the number of valid contracts dropped from almost 180 to 153. After completion of the contract many customers who only took the water to help the community or only paid because they were contractually obligated, discontinued service. There are currently only 128 active customers.

We raised the minimum bill and lowered the overall water gallons included in the base rate as soon as the contract ended, however we were hesitant to impose a large rate increase as most of these customers are on fixed incomes and have existing wells. Our fear is that if the bill becomes unaffordable the customers will go back to their wells and the customers of NEWC would end up carrying the burden of the debt service requirement. We adjusted rates to mirror those of NEWC, bringing the minimum bill from \$50.90 to \$56.99.

#### 08/01/2012 - 08/31/2015

First 5,000 gallons or less per month	\$ 40.00
All over 5,000 gallons per month (per thousand gallons)	\$ 13.00
Service Fee (non-taxed)	\$ 7.00
Minimum bill	\$ 50.90

#### 09/01/2015-Current

First 2,000 gallons or less per month	\$ 45.55
All over 2,000 gallons per month (per thousand gallons)	\$ 7.00
Service Fee (non-taxed)	\$ 7.00
Minimum bill	\$ 56.99

## WRRWA Depreciation and Rates

### A. Depreciation Calculations

The following is the project budget.

<u>PRESENT PROJECT BUDGET</u>	<u>COSTS (\$)</u>
Admin/Legal	\$ 60,000
Land Cost, etc	\$ 264,013
Preliminary Phase ( <i>Planning Fees</i> )	\$ 474,397
Other Engineering Fees ( <i>Planning, Program Mgmt/Permitting/Survey</i> )	\$ 715,660
Design Phase ( <i>Design Fees</i> )	\$ 1,096,688
Engineering Basic Fees ( <i>C/A</i> )	\$ 386,967
Resident Inspection	\$ 374,622
Construction Cost	\$ 14,816,713
Misc	<u>\$ 184,759</u>
<b>Project Total Cost</b>	<b>\$ 18,373,819</b>

If you look at the total capital assets to be depreciated you have:

Total Project Costs – Land Cost = Total Capital Assets

or,

**\$18,373,819 - \$264,013 = \$18,109,806**

Applying this to the agreed depreciation schedule you have:

System Component		Useful Life	Asset Value	Annual Depreciation
1	Roads and Paving	35 yrs	392,565.19	11,216.15
2	Pipelines	50 yrs	6,479,426.55	129,588.53
3	Membranes and system components	15 yrs	1,217,677.99	81,178.53
4a	Plant Building	40 yrs	1,296,172.20	32,404.31
4b	<i>Process components (pumps/motors)</i>	25 yrs	1,726,924.56	69,076.98
5a	Raw Water Intake	40 yrs	1,350,254.08	33,756.98
5b	<i>Raw Water Intake process components</i>	25 yrs	998,294.16	39,931.77
6	Storage tanks	40 yrs	1,696,224.29	42,405.61
7	Site Electrical, lagoons, etc. / <i>Sitework</i>	50 yrs	2,378,732.22	47,574.64
9	Booster Pumps Stations	25 yrs	488,902.13	19,556.09
10	<i>Misc. (Forklift, Office Furniture)</i>	10 yrs	84,632.63	8,463.26
<b>Totals</b>			<b>\$ 18,109,806.00</b>	<b>\$ 515,152.22</b>

Therefore the Annual Depreciation Expense is **\$515,152**.

The original depreciation calculation provided in earlier documents only included the construction costs not total the project cost. It produced an annual depreciation expense of \$421,477. This was in error. In checking with our accountant, auditor, and the state, both

## WRRWA Depreciation and Rates

tangible assets and ancillary cost (except land cost), must be included in calculating capital assets. So the ancillary cost (non- construction project costs) were prorated and applied to each component cost of the construction, thus producing the new annual depreciation expense value of \$515,152.

Unfortunately this higher value of annual depreciation increases the Bulk Rate paid by everyone and increases the annual depreciation credit owed to Elizabethton. The City annual depreciation credit for their \$5,000,000 contribution, as justified in the original Agreement, is now:

$$\text{Annual Depreciation Credit} = \text{Total Annual Depreciation Expense} \times \frac{\text{City's Contribution}}{\text{Total Project Costs}}$$

Or,

$$\$ 140,186 = \$ 515,152 \times \frac{\$ 5,000,000}{\$ 18,373,819}$$

This would be the "annual depreciation credit" paid back annually to the City, with the covenants placed on the payments by the Amendment. The previous value was \$114,695. This an annual increase of \$25,491 more than the previous calculated value.

This annual amount would decrease over time as the project depreciates to zero.

	<u>Annual Depreciation Expense</u>	<u>City's Credit</u>
Year 0 to Year 10	\$ 515,152	\$ 140,186
Year 10 to Year 15	\$ 506,689	\$ 137,883
Year 15 to Year 25	\$ 425,510	\$ 115,792
Year 25 to Year 30	\$ 296,946	\$ 80,806

At the end of a 30 year period (term of the contract) the total annual depreciation expense will be \$13,424,802, and the annual credit paid to the City will be \$3,653,242.

### **B. Bulk Rate / Commodity Rate Structure**

The following formula is used in calculating the "Bulk User/Commodity" rate, it follows the calculation method outlined in each existing agreement. It utilizes projected annualized values based on past audits, proposed O&M budgets, and Generally Accepted Accounting Principle (GAAP) budget items to serve the Authority's customer base.

The first year's Bulk Rate remains at **\$2.10/1,000 gal** for all users per existing contract.

$$\text{Rate/1,000 gal} = \frac{\text{Annual projected O\&M Expenses (incl. Depreciation)}}{\text{Annual projected Water Sales}}$$

As an example:

1) Annual projected O&M Expenses:

2 <sup>nd</sup> YR	3 <sup>rd</sup> YR	4 <sup>th</sup> YR	5 <sup>th</sup> YR	6 <sup>th</sup> YR	7 <sup>th</sup> YR
\$ 535,068	\$ 667,978	\$ 688,018	\$ 708,598	\$ 729,795	\$ 751,628

## WRRWA Depreciation and Rates

2) Annual Depreciation Expense:

As shown above = **\$ 515,152.**

3) Annual Projected Water Sales (from Audits)

Member/Entity	Projected Water Sales (gal)
1) North Eliz System	61,404,438
2) Siam U.D.	86,873,000
3) South Elizabethton U.D.	169,963,700
4) City of Elizabethton	108,000,000
<b>TOTAL</b>	<b>426,241,138</b>

4) Calculation for FY 2013

$$\begin{aligned}
 & \$ 535,068 + \$ 515,152 \\
 \text{\$ 2.46/1,000 gal} = & \frac{\hspace{10em}}{426,241,138 \text{ gallons}}
 \end{aligned}$$

Projecting the Bulk Rate calculation for the next several years, assuming a 3% growth in expenses and no growth in water sales to be conservative generates the following rates/1,000 gals:

2 <sup>nd</sup> YR	3 <sup>rd</sup> YR	4 <sup>th</sup> YR	5 <sup>th</sup> YR	6 <sup>th</sup> YR	7 <sup>th</sup> YR
\$ 2.46	\$ 2.78	\$ 2.82	\$ 2.87	\$ 2.92	\$ 2.97

This also assumes the City purchases no more than their 300,000 per day. Obviously the more water purchased drives the rate down.

**This is a \$0.22/1,000 gal higher rate than previously calculated.**

**C. Debt Service:**

The debt service fee is determined by dividing the average annual debt service by total number of all members' customers divided by 12. This formula produces a **\$14 per month per customer debt service charge.**

$$\text{Monthly Debt Service Fee/Customer} = \frac{\text{Average Annual Debt Service}}{\text{Annual Number of Customers} \times 12}$$

Or,

$$\text{\$ 14} = \frac{\text{\$ 640,000 (average of annual P\&I payments)}}{3,811 \text{ customers} \times 12 \text{ months}}$$

As shown previously, if you compare the Debt Service Fee proposed to a user rate in an exercise just to determine the "money out of pocket" to Member customers, the \$14 translates to a \$2.00/1,000 gal user rate.

### WRRWA Depreciation and Rates

Dropping the surcharge rate of \$7 per month nets a per customer increase of **\$1.00/1,000 gal** at the present number of member customers and their present use rate. This would make each member's effective rate of water purchased from WRRWA through the each Member's master meter:

1 <sup>st</sup> YR	2 <sup>nd</sup> YR	3 <sup>rd</sup> YR	4 <sup>th</sup> YR	5 <sup>th</sup> YR	6 <sup>th</sup> YR	7 <sup>th</sup> YR
\$ 3.10	\$ 3.46	\$ 3.78	\$ 3.82	\$ 3.87	\$ 3.92	\$ 3.97

And again, the above exercise is only shown for additional understanding of the fee. The Debt Service fee should be kept separate from the Bulk Rate to comply with the Private Act.



The key in lowering the bulk rate is more water being purchased, and the key to lowering the debt service charge is increasing the number of customers.

<b>WRRWA Financial Statement Budget Summary</b>	<b>Jul-14</b>	<b>Aug-14</b>	<b>Sep-14</b>	<b>Oct-14</b>	<b>Nov-14</b>	<b>Dec-14</b>	<b>Jan-15</b>	<b>Feb-15</b>	<b>Mar-15</b>	<b>Apr-15</b>	<b>May-15</b>	<b>Jun-15</b>	<b>Total</b>
<b>Revenues:</b>													
Bulk Water Sales	\$ 77,205.71	\$ 77,205.71	\$ 77,205.71	\$ 77,205.71	\$ 77,205.71	\$ 77,205.71	\$ 77,205.71	\$ 77,205.71	\$ 77,205.71	\$ 77,205.71	\$ 77,205.71	\$ 77,205.71	\$ 926,468.52
Revenue from surcharges	\$ 52,175.00	\$ 52,175.00	\$ 52,175.00	\$ 52,175.00	\$ 52,175.00	\$ 52,175.00	\$ 52,175.00	\$ 52,175.00	\$ 52,175.00	\$ 52,175.00	\$ 52,175.00	\$ 52,175.00	\$ 626,100.00
Water Sample Revenue	\$ 165.00	\$ 165.00	\$ 165.00	\$ 165.00	\$ 165.00	\$ 165.00	\$ 165.00	\$ 165.00	\$ 165.00	\$ 165.00	\$ 165.00	\$ 165.00	\$ 1,980.00
NE Co-op admin charges/ Health Reimbursement	\$ 2,120.12	\$ 2,120.12	\$ 2,120.12	\$ 2,120.12	\$ 2,120.12	\$ 2,120.12	\$ 2,120.12	\$ 2,120.12	\$ 2,120.12	\$ 2,120.12	\$ 2,120.12	\$ 2,120.12	\$ 25,441.44
Less - City of Elizabethton Depreciation Credit	\$ (11,683.00)	\$ (11,683.00)	\$ (11,683.00)	\$ (11,683.00)	\$ (11,683.00)	\$ (11,683.00)	\$ (11,683.00)	\$ (11,683.00)	\$ (11,683.00)	\$ (11,683.00)	\$ (11,683.00)	\$ (11,683.00)	\$ (140,196.00)
<b>Total Net Revenue</b>	<b>\$ 119,982.83</b>	<b>\$ 1,439,793.96</b>											
<b>Expenses:</b>													
Telephones	\$ 827.00	\$ 827.00	\$ 827.00	\$ 827.00	\$ 827.00	\$ 827.00	\$ 827.00	\$ 827.00	\$ 827.00	\$ 827.00	\$ 827.00	\$ 827.00	\$ 9,924.00
Fuelman/Volunteer Oil	\$ 410.00	\$ 410.00	\$ 410.00	\$ 410.00	\$ 410.00	\$ 410.00	\$ 410.00	\$ 410.00	\$ 410.00	\$ 410.00	\$ 410.00	\$ 410.00	\$ 4,920.00
All insurance	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 8,000.00	\$ 96,000.00
Payroll taxes	\$ 4,300.00	\$ 4,300.00	\$ 4,300.00	\$ 4,300.00	\$ 4,300.00	\$ 4,300.00	\$ 4,300.00	\$ 4,300.00	\$ 4,300.00	\$ 4,300.00	\$ 4,300.00	\$ 4,300.00	\$ 51,600.00
Payroll Including Board	\$ 13,700.00	\$ 13,700.00	\$ 13,700.00	\$ 13,700.00	\$ 13,700.00	\$ 13,700.00	\$ 13,700.00	\$ 13,700.00	\$ 13,700.00	\$ 13,700.00	\$ 13,700.00	\$ 13,700.00	\$ 164,400.00
Accounting & Auditing	\$ 1,760.00	\$ 1,760.00	\$ 1,760.00	\$ 1,760.00	\$ 1,760.00	\$ 1,760.00	\$ 1,760.00	\$ 1,760.00	\$ 1,760.00	\$ 1,760.00	\$ 1,760.00	\$ 1,760.00	\$ 21,120.00
Edward Jones	\$ 542.00	\$ 542.00	\$ 542.00	\$ 542.00	\$ 542.00	\$ 542.00	\$ 542.00	\$ 542.00	\$ 542.00	\$ 542.00	\$ 542.00	\$ 542.00	\$ 6,504.00
Utilities	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 10,000.00	\$ 120,000.00
Water Plant Chemicals	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 21,600.00
License, Renewals & Membership Fees	\$ 450.00	\$ 450.00	\$ 450.00	\$ 450.00	\$ 450.00	\$ 450.00	\$ 450.00	\$ 450.00	\$ 450.00	\$ 450.00	\$ 450.00	\$ 450.00	\$ 5,400.00
Lab Supplies	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 500.00	\$ 6,000.00
Supplies	\$ 300.00	\$ 300.00	\$ 300.00	\$ 300.00	\$ 300.00	\$ 300.00	\$ 300.00	\$ 300.00	\$ 300.00	\$ 300.00	\$ 300.00	\$ 300.00	\$ 3,600.00
Milage Reimbursement	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 50.00	\$ 600.00
LabtronX, Inc	\$ 700.00	\$ 700.00	\$ 700.00	\$ 700.00	\$ 700.00	\$ 700.00	\$ 700.00	\$ 700.00	\$ 700.00	\$ 700.00	\$ 700.00	\$ 700.00	\$ 8,400.00
Advertising	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 15.00	\$ 180.00
Carter Co Chamber	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 60.00	\$ 720.00
Repair & Maintance	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 1,200.00	\$ 14,400.00
Auto Repairs	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 40.00	\$ 480.00
Blue Ridge Trash	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 20.00	\$ 240.00
ESC Lab Sciences	\$ 440.00	\$ 440.00	\$ 440.00	\$ 440.00	\$ 440.00	\$ 440.00	\$ 440.00	\$ 440.00	\$ 440.00	\$ 440.00	\$ 440.00	\$ 440.00	\$ 5,280.00
Legal	\$ 250.00	\$ 250.00	\$ 250.00	\$ 250.00	\$ 250.00	\$ 250.00	\$ 250.00	\$ 250.00	\$ 250.00	\$ 250.00	\$ 250.00	\$ 250.00	\$ 3,000.00
Miscellaneous Expenses	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 1,800.00	\$ 21,600.00
<b>Total Expenses</b>	<b>\$ 47,164.00</b>	<b>\$ 565,968.00</b>											
<b>Debt Service Requirements</b>													
SRF DWF 09-092	\$ 13,333.00	\$ 13,333.00	\$ 13,333.00	\$ 13,333.00	\$ 13,333.00	\$ 13,333.00	\$ 13,333.00	\$ 13,333.00	\$ 13,333.00	\$ 13,333.00	\$ 13,333.00	\$ 13,333.00	\$ 159,996.00
Private Bond Pymts (\$8 mill)	\$ 42,693.75	\$ 42,693.75	\$ 42,693.75	\$ 42,693.75	\$ 42,693.75	\$ 42,693.75	\$ 42,693.75	\$ 42,693.75	\$ 42,693.75	\$ 42,693.75	\$ 42,693.75	\$ 42,693.75	\$ 512,325.00
<b>Total Debt Service Requirements</b>	<b>\$ 56,026.75</b>	<b>\$ 50,276.75</b>	<b>\$ 609,071.00</b>										
<b>Expense and Revenue Summary</b>													
<b>Total Revenue</b>	<b>\$ 119,982.83</b>	<b>\$ 1,439,793.96</b>											
<b>Total Expenses Including Debt Service Requiremnet</b>	<b>\$ 103,190.75</b>	<b>\$ 1,238,289.00</b>											
<b>Net Revenues</b>	<b>\$ 16,792.08</b>	<b>\$ 201,504.96</b>											

# SPECIAL INVESTIGATION

## Watauga River Regional Water Authority/North Elizabethton Water Cooperative

The Office of the Comptroller of the Treasury investigated allegations of malfeasance related to the Watauga River Regional Water Authority/North Elizabethton Water Cooperative.

### INVESTIGATIVE RESULTS

- **Former clerk misappropriated utility cash collections totaling at least \$11,325**

During the period March 2014 through September 2014, former clerk Lisa Cipy misappropriated at least \$11,325 in utility cash collections. She falsely voided some cash payments in the collection records and never recorded some collections in the district's accounting records in order to conceal her misappropriation. For many of these manipulated payments transactions, Comptroller investigators obtained copies of customer payment receipts indicating the customer had paid the bill with cash. For instances in which the payment receipt was unavailable, Comptroller investigators, with the assistance of district staff, determined that there was no legitimate reason for the questioned voided transactions made by Ms. Cipy.

Investigators determined that the customer accounts Ms. Cipy had manipulated appeared delinquent on the district's records. She was solely responsible for printing, preparing, and mailing customer bills, as well as preparing the monthly delinquent or cutoff list. To avoid detection from customers, she apparently removed the bills of customers whose accounts had been manipulated before they were mailed so that the customer could not see that their current bill was incorrect. In addition, Ms. Cipy removed the related customer names from the monthly cutoff list of delinquent customers slated to have their service discontinued.

Ms. Cipy resigned from the district immediately after Comptroller investigators performed a surprise count of her cash drawer and found it to be \$100 short. Ms. Cipy had no explanation for that shortage.

These matters were referred to the local district attorney general. On March 2, 2015, the Carter County Grand Jury indicted Lisa Cipy on one count of Theft over \$10,000.

# Status Investigation

# Coffee County

## WWTA

Please see the  
supplemental  
packet

# Water Loss

# City of Brentwood



**STATE OF TENNESSEE  
COMPTROLLER OF THE TREASURY  
DEPARTMENT OF AUDIT  
DIVISION OF LOCAL GOVERNMENT AUDIT**

Justin P. Wilson  
Comptroller of the Treasury

**MEMORANDUM**

**TO:** Water and Wastewater Financing Board  
**FROM:** Division of Local Government Audit - Municipalities and Utility Districts  
**SUBJECT:** Division of Local Government Audit Referral Pursuant to TCA 68-221-1010(d)

In accordance with the requirements of Tennessee Code Annotated, we are hereby filing the following vendor with the board(s) noted above.

Record Number	Vendor Name			<input type="checkbox"/> Component Unit	
1137	Brentwood				
Report Year	Utility Type	Date Received	Date Referred	Reviewer	Report Status
6/30/2015	Water and Sewer	12/31/2015	1/8/2016	TMH	Not Yet Reviewed

**FINANCIAL DISTRESS**

**A** Has deficit net position for the fiscal year ended.

**B** Decrease in net position for two consecutive years.

Fiscal Year End	Decrease in NP
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

**C** Is in default on certain outstanding debt.

Holders of the Bonds, etc.	Principal	Interest
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

**WATER LOSS**

**D** Water Loss Referral

**AWWA water audit info**

Water Loss Schedule - Status   AWWA Excel File

Validity score below the amount established by the board Validity Score

Excessive non-revenue water % as established by the board Non-Rev Water %   
(Non-Revenue Water as Percent by Cost of Operating System)

Comments:

CITY OF BRENTWOOD, TENNESSEE  
AWWA WATER SCHEDULE - UNAUDITED  
JUNE 30, 2015

AWWA Free Water Audit Software: Reporting Worksheet		WAS v5.0 <small>American Water Works Association Copyright © 2014, All Rights Reserved</small>																																					
<div style="display: flex; justify-content: space-between;"> <span>Water Audit Report for: <b>City of Brentwood Water Services Department</b></span> </div> <div style="display: flex; justify-content: space-between;"> <span>Reporting Year: <b>2015</b></span> <span>6/2014 - 7/2015</span> </div>																																							
<p style="font-size: small;">Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades</p> <p style="text-align: center; color: red; font-weight: bold;">All volumes to be entered as: MILLION GALLONS (US) PER YEAR</p>																																							
<p style="text-align: center; font-weight: bold;">To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below</p>																																							
<p><b>WATER SUPPLIED</b></p> <p style="text-align: center; font-size: small;">&lt;----- Enter grading in column 'E' and 'J' -----&gt;</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Volume from own sources:</td> <td style="width: 10%; text-align: center;">+</td> <td style="width: 10%; text-align: center;">?</td> <td style="width: 10%; text-align: center;">n/a</td> <td style="width: 10%; text-align: right;">0.000</td> <td style="width: 10%; text-align: right;">MG/Yr</td> </tr> <tr> <td>Water imported:</td> <td style="text-align: center;">+</td> <td style="text-align: center;">?</td> <td style="text-align: center;">9</td> <td style="text-align: right;">2,051.972</td> <td style="text-align: right;">MG/Yr</td> </tr> <tr> <td>Water exported:</td> <td style="text-align: center;">+</td> <td style="text-align: center;">?</td> <td style="text-align: center;">n/a</td> <td style="text-align: right;">0.000</td> <td style="text-align: right;">MG/Yr</td> </tr> </table>		Volume from own sources:	+	?	n/a	0.000	MG/Yr	Water imported:	+	?	9	2,051.972	MG/Yr	Water exported:	+	?	n/a	0.000	MG/Yr	<p style="text-align: center;">Master Meter and Supply Error Adjustments</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Pcnt:</td> <td style="width: 10%; text-align: center;">+</td> <td style="width: 10%; text-align: center;">?</td> <td style="width: 10%; text-align: center;">8</td> <td style="width: 10%; text-align: right;">0.00%</td> <td style="width: 10%; text-align: right;">MG/Yr</td> </tr> <tr> <td>Value:</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table> <p style="font-size: x-small;">Enter negative % or value for under-registration Enter positive % or value for over-registration</p>	Pcnt:	+	?	8	0.00%	MG/Yr	Value:												
Volume from own sources:	+	?	n/a	0.000	MG/Yr																																		
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<p style="text-align: right; font-weight: bold;">AUTHORIZED CONSUMPTION:</p>		1,398.391 MG/Yr																																					
<p><b>WATER LOSSES (Water Supplied - Authorized Consumption)</b></p> <p style="text-align: right; font-weight: bold;">653.581 MG/Yr</p>																																							
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<p><b>Real Losses (Current Annual Real Losses or CARL)</b></p> <p style="text-align: right; font-weight: bold;">Real Losses = Water Losses - Apparent Losses: 609.539 MG/Yr</p> <p style="text-align: right; font-weight: bold;">WATER LOSSES: 653.581 MG/Yr</p>																																							
<p><b>NON-REVENUE WATER</b></p> <p style="text-align: right; font-weight: bold;">NON-REVENUE WATER: 668.337 MG/Yr</p> <p style="font-size: x-small;">= Water Losses + Unbilled Metered + Unbilled Unmetered</p>																																							
<p><b>SYSTEM DATA</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Length of mains:</td> <td style="width: 10%; text-align: center;">+</td> <td style="width: 10%; text-align: center;">?</td> <td style="width: 10%; text-align: center;">9</td> <td style="width: 10%; text-align: right;">217.7</td> <td style="width: 10%; text-align: right;">miles</td> </tr> <tr> <td>Number of active AND inactive service connections:</td> <td style="text-align: center;">+</td> <td style="text-align: center;">?</td> <td style="text-align: center;">10</td> <td style="text-align: right;">9,418</td> <td></td> </tr> <tr> <td>Service connection density:</td> <td style="text-align: center;">+</td> <td style="text-align: center;">?</td> <td style="text-align: center;">43</td> <td style="text-align: right;">43</td> <td style="text-align: right;">conn./mile main</td> </tr> </table> <p>Are customer meters typically located at the curbside or property line? <span style="float: right;">Yes</span></p> <p style="font-size: x-small;">Average length of customer service line: (length of service line, beyond the property boundary, that is the responsibility of the utility)</p> <p style="text-align: center; font-weight: bold; font-size: small;">Average length of customer service line has been set to zero and a data grading score of 10 has been applied</p> <p>Average operating pressure: <span style="float: right;">82.3 psi</span></p>			Length of mains:	+	?	9	217.7	miles	Number of active AND inactive service connections:	+	?	10	9,418		Service connection density:	+	?	43	43	conn./mile main																			
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<p><b>COST DATA</b></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Total annual cost of operating water system:</td> <td style="width: 10%; text-align: center;">+</td> <td style="width: 10%; text-align: center;">?</td> <td style="width: 10%; text-align: center;">8</td> <td style="width: 10%; text-align: right;">\$7,415,079</td> <td style="width: 10%; text-align: right;">\$/Year</td> </tr> <tr> <td>Customer retail unit cost (applied to Apparent Losses):</td> <td style="text-align: center;">+</td> <td style="text-align: center;">?</td> <td style="text-align: center;">8</td> <td style="text-align: right;">\$5.67</td> <td style="text-align: right;">\$/1000 gallons (US)</td> </tr> <tr> <td>Variable production cost (applied to Real Losses):</td> <td style="text-align: center;">+</td> <td style="text-align: center;">?</td> <td style="text-align: center;">10</td> <td style="text-align: right;">\$2,648.82</td> <td style="text-align: right;">\$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses</td> </tr> </table>			Total annual cost of operating water system:	+	?	8	\$7,415,079	\$/Year	Customer retail unit cost (applied to Apparent Losses):	+	?	8	\$5.67	\$/1000 gallons (US)	Variable production cost (applied to Real Losses):	+	?	10	\$2,648.82	\$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses																			
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<p><b>WATER AUDIT DATA VALIDITY SCORE:</b></p> <div style="border: 2px solid red; padding: 5px; text-align: center; color: red; font-weight: bold; font-size: small;">             *** YOUR SCORE IS: 83 out of 100 ***         </div> <p style="font-size: x-small;">A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score</p>																																							
<p><b>PRIORITY AREAS FOR ATTENTION:</b></p> <p style="font-size: x-small;">Based on the information provided, audit accuracy can be improved by addressing the following components:</p> <div style="border: 1px solid red; padding: 2px; margin-bottom: 2px;">1: Water imported</div> <div style="border: 1px solid red; padding: 2px; margin-bottom: 2px;">2: Customer metering inaccuracies</div> <div style="border: 1px solid red; padding: 2px;">3: Unauthorized consumption</div>																																							

CITY OF BRENTWOOD, TENNESSEE  
 AWWA WATER SCHEDULE - CONTINUED - UNAUDITED  
 JUNE 30, 2015

AWWA Free Water Audit Software: System Attributes and Performance Indicators		WAS v5.0 American Water Works Association. Copyright © 2014, All Rights Reserved.
Water Audit Report for: <span style="border: 1px solid black; padding: 2px;">City of Brentwood Water Services Department</span>		
Reporting Year: <span style="border: 1px solid black; padding: 2px;">2015</span> <span style="border: 1px solid black; padding: 2px;">6/2014 - 7/2015</span>		
*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 83 out of 100 ***		
<b>System Attributes:</b>		
	Apparent Losses:	<span style="border: 1px solid black; padding: 2px;">44.042</span> MG/Yr
	+ Real Losses:	<span style="border: 1px solid black; padding: 2px;">609.539</span> MG/Yr
	= <b>Water Losses:</b>	<span style="border: 1px solid black; padding: 2px;">653.581</span> MG/Yr
	? Inevitable Annual Real Losses (UARL):	<span style="border: 1px solid black; padding: 2px;">77.82</span> MG/Yr
	Annual cost of Apparent Losses:	<span style="border: 1px solid black; padding: 2px;">\$249,627</span>
	Annual cost of Real Losses:	<span style="border: 1px solid black; padding: 2px;">\$1,614,560</span> Valued at <b>Variable Production Cost</b>
		Return to Reporting Worksheet to change this assumption
<b>Performance Indicators:</b>		
Financial:	Non-revenue water as percent by volume of Water Supplied:	<span style="border: 1px solid black; padding: 2px;">32.6%</span>
	Non-revenue water as percent by cost of operating system:	<span style="border: 1px solid black; padding: 2px;">25.7%</span> Real Losses valued at Variable Production Cost
Operational Efficiency:	Apparent Losses per service connection per day:	<span style="border: 1px solid black; padding: 2px;">12.81</span> gallons/connection/day
	Real Losses per service connection per day:	<span style="border: 1px solid black; padding: 2px;">177.32</span> gallons/connection/day
	Real Losses per length of main per day*:	<span style="border: 1px solid black; padding: 2px;">N/A</span>
	Real Losses per service connection per day per psi pressure:	<span style="border: 1px solid black; padding: 2px;">2.15</span> gallons/connection/day/psi
	From Above, Real Losses = Current Annual Real Losses (CARL):	<span style="border: 1px solid black; padding: 2px;">609.54</span> million gallons/year
	? Infrastructure Leakage Index (ILI) [CARL/UARL]:	<span style="border: 1px solid black; padding: 2px;">7.83</span>
* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline		



*City of Brentwood*  
*Water Services Dept.*

**RECEIVED**

**JUN 20 2016**

**DEPT: COMPTROLLER  
OFFICE OF ADMINISTRATION**

June 16, 2016

Mr. John Greer  
Utilities Board Specialist  
State of Tennessee  
Water and Wastewater Financing Board  
James K. Polk State Office Building  
505 Deaderick Street, Suite 1700  
Nashville, TN 37243-1402

RE: Non-revenue Water Loss Control Plan

Dear Mr. Greer:

On behalf of the City of Brentwood, Water Services Department, enclosed is the response to the Water and Wastewater Financing Board's April 28, 2016 inquiry for information related to the Department's non-revenue water loss. The Department acknowledges its ongoing challenges with regard to water loss. The prepared response summarizes the completed, as well as proposed activities to reduce water loss.

In June 2015, as a result of the growing concern for increased water loss, the City of Brentwood contracted with Water System Optimization, Inc. (WSO) to provide services associated with a water loss audit and preparation of a long-range water loss reduction strategy. Since awarding the contract with WSO last June, work completed includes district monitoring, supply meter volume validation, billing data review and validation, and system wide leak detection. WSO is preparing a report detailing the findings and included the design of a water loss strategy and implementation plan. Once the report is finalized, a copy will be provided to the Board on or before July 1<sup>st</sup>.

Additionally, as part of the annual budget preparation, the department included a request for funding in the upcoming fiscal year (July 1, 2016 – June 30, 2017) intended for construction to expand the Department's meter shop. The expansion will include installation of new small meter testing equipment and allow for the repair and calibration of meters less than 2 inches. The upcoming budget also includes funds for additional leak detection services, large meter testing services, and preparation of a formalized meter repair, calibration, and replacement plan. These improvements are planned to be implemented as soon as the Brentwood City Commission formally approves the Department's budget in June 2016.

Responses to the specific questions are numerated below:

1. **Are you billing for all general government water use?** (Examples: City Hall, Parks, Community Centers, etc.). Yes. All government facilities including all buildings and park operations (domestic, fire, and irrigation) are equipped with meters and are billed for water usage.
2. **Are you accounting for the water used by the water and/or sewer department?** Yes. The Department accounts for the following operations:
  - Service Center Operations (offices and operation facilities) – domestic, irrigation and water used for operations is supplied by neighboring water district and is metered;
  - Flushing operations – water used for flushing operations, both by department staff and the fire department, are estimated based on periodic field flow measurements. Generally, flushing volumes are calculation of the number of minutes per hydrant flow, multiplied by an average flow rate for the activity (flushing activity is 750 gpm, hydrant flow/test is 1,500 gpm).
  - Contractor flushing activities associated with new construction are either metered or estimated.
3. **Do you periodically check or inspect all 2 inch and larger meters?** The department periodically tests all large meters in the system, 2 inches and larger. However, as part of our investigation of sources of water loss this past year, we have identified a segment of meters sized 2 inches and greater, but less than 4 inches that historically have not been included on the test list due to lack of test ports. Testing and/or replacing these meters, along with all system meters, will be included in the department's development of a formalized meter testing and replacement plan, the development of which was presented to our Commission in May, 2016 and will be finalized in the upcoming fiscal year. In addition, as older meters without test ports are replaced with newer meters having test ports, those meters with ports will be added to the large meter testing program.
4. **Do you have a recalibration policy and procedure in place?** The department receives all water supply via wholesale purchase contracts. Meters which supply water to our system are tested and calibrated at least annually (it's common that they are tested and calibrated more frequently) by the suppliers. The department's large meter testing program does include periodic testing and calibration of meters 2 inches and larger which contain testing ports. Development of a meter calibration policy will occur in the upcoming fiscal year as part of the previously referenced meter testing and replacement plan.
5. **Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or gallons?** Historically, small meters are replaced when billing reports consumption as decreasing for a particular meter or a service request for an inspection of a meter is issued, at which time the meter is typically replaced. Large meters that are part of the testing program, are tested, repaired or replaced as needed based on the test results.

Currently the Department is in the process of converting the existing meter reading system from a "touch read" technology to an advanced metering infrastructure or AMI technology. This is a multi-year process and includes the replacement of existing meters with new meters.

In the upcoming fiscal year, the department will develop a formal plan for testing, calibration and replacement of all size meters. The criteria anticipated to determine the best course of action for each meter will originate from AWWA material (M6 Manual) as well as meter manufacturer published literature and consultant input. Testing and/or replacing these meters, along with all system meters, will be included in the department's development of a formalized meter testing and replacement plan. The development of which was presented to our Commission in May, 2016 and will be finalized and implemented in the upcoming fiscal year. In addition, as older meters without test ports are replaced with newer meters having test ports, those meters with the ports will be added to the large meter testing program.

6. **Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered?** Detection of unauthorized consumption typically relies on staff (Water Department, Codes, Police, etc.) to be knowledgeable and aware of possible unauthorized consumption contributors during day-to-day operations. If detected, the information is forwarded to the police department for further investigation and prosecution as allowed by City Code.
7. **Do you have a leak detection program currently in place?** The department periodically contracts with outside contractors specializing in leak detection to perform these services. In 2015, a leak detection contractor was hired to complete a system wide detection survey. The department has prepared work orders associated with repairing leaks identified during the survey with approximately 75% of the leaks repaired to date. The department has also funded leak surveys for the upcoming fiscal year. And, per recommendations of WSO, the department plans to develop a formal plan for leak detection to be implemented in future years.
8. **Do you have written policies, including a policy for billing adjustments? Are the written policies followed correctly by all levels of staff?** The department does have billing adjustment policies, established by ordinance. Those policies are followed with rare exceptions typically resulting from customer hardships. Those instances must be approved by either the City Manager or the Director.
9. **Do you have authorized non-customer users (volunteer fire departments, etc.)? Do you account for the use? Do you have a method for the user to report water usage?** Yes. Authorized, non-customer users include the City Fire Department and contractors working on behalf of the City. The fire department records monthly activities with regard to water use and that information is reported to the Water Department each month to be recorded in the department's monthly water loss statement. Contractor's usage is witnessed and recorded by a department inspector and the volume documented and reported in the monthly statement as well.
10. **Is your system "zoned" to isolate water loss?** The system is divided into two large pressure zones with multiple, smaller pressure zones typically serving a small number of customers at higher elevation. As part of this past year's WSO investigation, the department established four District Monitoring Zones (DMZ). Department staff isolated the four zones and installed temporary metering devices. The results were useful, however, the system's largest pressure zone is very interconnected and staff could not completely isolate the zones to gather conclusive data. Work to further isolate the larger zones is anticipated in the coming years.
11. **Do you search for leaks at night when there is little traffic or small household usage?** The department typically contracts with leak detection contractors and relies on their expertise when considering night time work. The most recent leak detection survey completed by WSO included leak detection at night. Department staff performs limited leak detection and that work is typically performed during the daytime.
12. **Do you or can you control pressure surges?** All but two of the system's 13 water pumping stations have been equipped with variable frequency drives which include all large (supply) stations. The two small stations not equipped with VFD's serve relatively small pressure zones. The pump station setpoints are modified seasonally to help address transient surging. There are no other system devices installed for pressure surge control.
13. **Do you have or have access to leak detection equipment?** The department owns two leak detection devices. The most recent device was purchased in 2015 with anticipation of increased use by staff in the coming years. Historically leak detection performed by staff has only been performed on an as needed and time permitting basis.

14. **What is your policy for notifying customers they have a leak?** The department collects meter reads in two ways, first by “touch read” meter reading technology where the meter reader visits each meter and uploads the meter reading digitally through a hand held device. This technology is current on approximately 85% of customers. The second meter reading system includes automated meter reading via Sensus AMI technology. The AMI system currently reads meters for the remaining 15% of the system. The department is phasing in AMI technology system wide over the next several years as budgeted and based on a project success rate.

Customer leaks are detected in two ways, by the meter reader visiting the site each month and visually finds a leak, or detected by the meter read collected for the month, when compared to the previous month’s read. If detected by the meter reader during the course of collecting the reading, the customer is notified by staff once the leak is discovered. If detected by the billing system, the billing system generates a report of high reads. The criteria for flagging high reads is a percent increase over the previous read. If flagged, a customer representative contacts the customer directly by phone or email. The billing system also places notification on the customer’s bill for the next billing cycle. With AMI, the department notification in the near term will rely on the meter read comparison method. Once the majority of customer sites are being read by the AMI system, software will be purchased that reports potential leaks directly to department operations staff for issuing work orders to investigate and resolve. Additionally, acoustic sensors which work with the AMI infrastructure are planned which will aid in increased leak detection and reporting.

15. **Do you have a public relations program to encourage citizens to report leaks?** We do not have a formal public relations program to encourage citizens to report leaks. The department does have a webpage with a “Report a Problem” page where citizens can call or email the Department with information regarding leaks or other issues.
16. **Do you have a policy to prosecute water theft or meter tampering/damage?** Yes. The City does have an ordinance in place to prosecute meter theft, tampering and damage. Such actions are reported to the police department for investigation and prosecution.
17. **What is the monetary value of the lost water?** Referring to our most recent water audit completed by WSO, the annual monetary value of real water losses equates to \$1,551,928.
18. **Is the cost to repair the leak justified based on the amount of water being lost?** As a rule, all leaks found by the department are repaired in a timely manner, typically less than a week from first learning of the leak. Leaks are generally prioritized based on anticipated consequences resulting from a failure which may include factors such as system impact, including the operational impact, potential for private property damage and even public perception. As a matter of current practice, leak repairs are not a matter of economics but certainly will be in the future as the system continues to grow and greater attention is given to a proactive leak detection program.

As referenced above, a report prepared by our consultant, WSO, will be provided to the Board by July 1<sup>st</sup>. The report will provide detailed information that corresponds with responses given to many of the questions posed above by the Board. I trust our response coupled with the detailed information contained within the WSO report which will be the basis for future action by the department, conveys to the Water & Wastewater Board Brentwood's commitment to reducing water loss.

Sincerely,



Chris Milton  
Director, Water Services

cc: Regina Smithson, Mayor  
Kirk Bednar, City Manager  
Department Staff

# Lauderdale County Water System



**STATE OF TENNESSEE  
COMPTROLLER OF THE TREASURY  
DEPARTMENT OF AUDIT  
DIVISION OF LOCAL GOVERNMENT AUDIT**

Justin P. Wilson  
Comptroller of the Treasury

**MEMORANDUM**

**TO:** Water and Wastewater Financing Board  
**FROM:** Division of Local Government Audit - County Entities  
**SUBJECT:** Division of Local Government Audit Referral Pursuant to TCA 68-221-1010(d)

In accordance with the requirements of Tennessee Code Annotated, we are hereby filing the following vendor with the board(s) noted above.

Record Number	Vendor Name			<input type="checkbox"/> Component Unit	
9098	Lauderdale County Water System				
Report Year	Utility Type	Date Received	Date Referred	Reviewer	Report Status
6/30/2015	Water	1/20/2016	1/21/2016	LWB	Not Yet Reviewed

**FINANCIAL DISTRESS**

**A** Has deficit net position for the fiscal year ended. \_\_\_\_\_

**B** Decrease in net position for two consecutive years.

Fiscal Year End	Decrease in NP
_____	_____
_____	_____

**C** Is in default on certain outstanding debt.

Holders of the Bonds, etc.	Principal	Interest
_____	_____	_____
_____	_____	_____
_____	_____	_____

**WATER LOSS**

**D** Water Loss Referral

**AWWA water audit info**

Water Loss Schedule - Status  \_\_\_\_\_ AWWA Excel File  \_\_\_\_\_

**Validity score below the amount established by the board** Validity Score

**Excessive non-revenue water % as established by the board** Non-Rev Water %   
(Non-Revenue Water as Percent by Cost of Operating System)

Comments: \_\_\_\_\_

**AWWA Free Water Audit Software  
Reporting Worksheet Unaudited**

WAS v5.0  
American Water Works Association  
Copyright © 2014 AWWA Water Audit

Water Audit Report for: **Lauderdale County Water System (0000581)**  
Reporting Year: **2015** | **7/2014 - 6/2015**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: **MILLION GALLONS (US) PER YEAR**

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

**WATER SUPPLIED**

Volume from own sources:            7 239.107 MG/Yr  
Water imported:            7 43.692 MG/Yr  
Water exported:            n/a 0.000 MG/Yr

**Master Meter and Supply Error Adjustments**

Enter grading in column 'E' and 'J' -----> Pcnt:            3 Value:  MG/Yr  
           3 -3.00%     MG/Yr  
           n/a     MG/Yr

Enter negative % or value for under-registration  
Enter positive % or value for over-registration

**WATER SUPPLIED:**            7 **284.150** MG/Yr

**AUTHORIZED CONSUMPTION**

Billed metered:            7 185.480 MG/Yr  
Billed unmetered:            n/a 0.000 MG/Yr  
Unbilled metered:            5 0.094 MG/Yr  
Unbilled unmetered:            5 3.552 MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

**AUTHORIZED CONSUMPTION:**            7 **189.126** MG/Yr

Click here:            for help using option buttons below

Pcnt:            1.25%     Value:  MG/Yr

Use buttons to select percentage of water supplied OR value

Pcnt:            0.25%     Value:  MG/Yr

9.00%     MG/Yr  
           0.25%     MG/Yr

**WATER LOSSES (Water Supplied - Authorized Consumption)**

**95.024** MG/Yr

**Apparent Losses**

Unauthorized consumption:            5 **0.710** MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:            6 18.353 MG/Yr  
Systematic data handling errors:            7 0.464 MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:**            5 **19.528** MG/Yr

**Real Losses (Current Annual Real Losses or CARL)**

Real Losses = Water Losses - Apparent Losses:            7 **75.497** MG/Yr

**WATER LOSSES:**            7 **95.024** MG/Yr

**NON-REVENUE WATER**

**NON-REVENUE WATER:**            7 **98.670** MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

**SYSTEM DATA**

Length of mains:            5 650.0 miles  
Number of active AND inactive service connections:            7 4,802  
Service connection density:            7 7 conn./mile main

Are customer meters typically located at the curbside or property line?  (length of service line, beyond the property boundary, that is the responsibility of the utility)  
Average length of customer service line:            7  
Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:            3 55.0 psi

**COST DATA**

Total annual cost of operating water system:            10 \$1,235,268 \$/Year  
Customer retail unit cost (applied to Apparent Losses):            8 \$6.00 \$/1000 gallons (US)  
Variable production cost (applied to Real Losses):            3 \$578.34 \$/Million gallons  Use Customer Retail Unit Cost to value real losses

**WATER AUDIT DATA VALIDITY SCORE:**

\*\*\* YOUR SCORE IS: 65 out of 100 \*\*\*

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

**PRIORITY AREAS FOR ATTENTION:**

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Variable production cost (applied to Real Losses)
- 3: Unbilled metered



**AWWA Free Water Audit Software:  
System Attributes and Performance Indicators** Unaudited

AWAS v5.0  
American Water Works Association  
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Water Audit Report for: **Lauderdale County Water System (0000581)**  
Reporting Year: **2015** **7/2014 - 6/2015**

\*\*\* YOUR WATER AUDIT DATA VALIDITY SCORE IS: 65 out of 100 \*\*\*

**System Attributes:**

Apparent Losses:	<input type="text" value="19.528"/>	MGYr
+ Real Losses:	<input type="text" value="75.497"/>	MGYr
= <b>Water Losses:</b>	<input type="text" value="95.024"/>	MGYr

Unavoidable Annual Real Losses (UARL):  MGYr

Annual cost of Apparent Losses:

Annual cost of Real Losses:  Valued at **Variable Production Cost**  
Return to Reporting Worksheet to change this assumption

**Performance Indicators:**

Financial

[	Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="34.7%"/>	
	Non-revenue water as percent by cost of operating system:	<input type="text" value="13.2%"/>	Real Losses valued at Variable Production Cost

Operational Efficiency

[	Apparent Losses per service connection per day:	<input type="text" value="11.14"/>	gallons/connection/day
	Real Losses per service connection per day:	<input type="text" value="N/A"/>	gallons/connection/day
	Real Losses per length of main per day*:	<input type="text" value="318.22"/>	gallons/mile/day
	Real Losses per service connection per day per psi pressure:	<input type="text" value="N/A"/>	gallons/connection/day/psi

From Above, Real Losses = Current Annual Real Losses (CARL):  million gallons/year

Infrastructure Leakage Index (ILI) [CARL/UARL]:

\* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

**LAUDERDALE COUNTY WATER SYSTEM**

**550 CENTRAL CURVE ROAD**

**RIPLEY, TN. 38063**

**PHONE (731) 635-2711 FAX (731) 635-0027**

**RECEIVED**

**JUN 7 0 2016**

**DEPT: COMPTROLLER  
OFFICE OF ADMINISTRATION**

May 17, 2016

Mr. John Greer

State Of Tennessee

Water and Wastewater Financing Board

Dear Mr. Greer:

I am sending this letter along with the answered questionnaire to let you and the Board know that Lauderdale County Water System is taking the low validity score of 65 very serious. I believe that the main reason for this low score is inaccurate customer water meters. Some of them are 30 years old or older. As you know the older the meter the less accurate they become. We have approximately 4000 customer meters. We have changed out 1600 of them with the Master Meter AMR System. I believe this will increase the validity score. We are in the process now of getting ready to change out 2400 more with the Master Meter AMR System. Once this is done Lauderdale County Water System will have all new customer meters, which will increase the validity score even more. We are and will continue to look at any other ways possible to reduce our water loss and increase the validity score. Please see the enclosed questionnaire with answers. Please feel free to contact me with any other information or questions.

Sincerely



Randy Newman

Superintendent

## Response to Questions Addressing Water Loss

1. Are you billing for all general government water use?

Yes. We have several governmental customers that are billed at the same rates as our regular residential customers. These include both county government institutions, the city of Ripley sewer department, and the State of Tennessee Highway Department and State Park.

2. Are you accounting for water used by the water and/or sewer department?

Yes. The water used at the utility office is metered. There is no county sewer system, but the city sewer treatment center is a metered customer. Any other water used in the plants treatment process (Cl<sub>2</sub> feed, Lime slurry, ect.) is not taken into account because it is drawn from the system before passing through our finished meters.

3. Do you periodically inspect all 2" and larger meters?

Yes. We do inspect all of these meters when readings are taken to see that they are functioning properly. With our system currently in a transition from manual read to radio read meters, we have recently purchased radio read replacement meters for all 2" meters on our system. We hope to have them installed soon with the completion of our system change out.

4. Do you have a recalibration policy and procedure in place?

Not at this time. Our plant's finished meters are only about three years old. Please see the attached letter from our meter manufacturer concerning their calibration. All other large meters on our system are slated to be changed out for new auto/radio read meters in the coming months.

5. Do you have a meter replacement policy? Is the trigger based on age of the meter or on gallons?

As of April of last year, we have changed out 1600 of our approximately 4000 meters. These meters are being changed from aged manual read meters to new radio read meters. The remaining 2400 meters are set to be changed out within the next few months. Please see attached letter for further explanation.

6. Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered?

Yes. When customers are taken out of service due to nonpayment, these meters are not only locked but we check the meter again with the next regular reading cycle to see if there has been any further usage. If theft is discovered, the meter is either relocked or pulled depending on the circumstances and the resident is required to pay for any damages made and any water consumption before service is restored. In some extreme cases the local sheriff's is called to file a report.

7. Do you have a leak detection program currently in place?

While we do not have what would be considered a leak detection program, we do have all of our service men look for problems during their daily travels. In the process of running locate tickets, reading meters, and making reconnects and disconnections they cover many miles of line daily. We also have employees at the plant 24 hours a day that handle any calls from customers concerning low water pressure or water outages that may indicate water leaks. The county highway department stays in contact with our office to notify us of any problems they may see out on our system. We also inspect sections of our system that may be vulnerable after periods of flooding or particularly heavy rains that could cause washouts or a break in water mains.

8. Do you have written policies, including a policy for billing adjustments? Are written policies followed correctly by all levels of staff?

We do have written policies that are followed by all levels of staff. We are including a copy of our billing adjustment policy with this response. Billing adjustments are accounted for when calculating our water loss when applicable. Meter reading error adjustments are deducted from our water losses where leak adjustments are not. The reason for this is that the actual losses of leak adjustments are real losses, where meter reading adjustments are not actual losses and as such should be deducted from billed gallons.

9. Do you have authorized non-customer users (volunteer fire depts., ect)? Do you account for the use? Do you have a method for the user to report water usage?

The only authorized non-customers we have are four volunteer fire departments. Each fire station has its own water meter that we use to keep track of regular usage. Any usages that they make from fire hydrants is tracked by the individual fire departments and reported to us by the fire chief.

10. Is your system "zoned" to isolate water loss?

Our system is not zoned as far as we know. There is no way for us to isolate sections of our system due to the mileage of our system and the way that it is gravity fed. In order to insure that we maintain optimal output and pressure throughout our system there are numerous redundancies in water feed lines. While this makes for more efficient output to areas that are geographically remote from our plant, it makes it difficult to isolate areas for zoning.

11. Do you search for leaks at night when there is little traffic or small household usage?

We do not at this time. We are staffed 24 hours a day so that any phone calls from customers concerning loss of pressure or water outages can be addressed as soon as possible. There are service men on call to respond to these problems if they cannot be solved through trouble shooting over the phone.

12. Do you or can you control pressure surges?

We can only control pressure surges in a few areas of our distribution system. In two areas of traditionally low pressure we have in line booster pumps. Also, in two areas of extremely high pressure (located below high bluff areas) we have pressure regulators installed on our main lines.

13. Do you have access to leak detection equipment?

No. Not at this time. We are looking into pricing on leak detection equipment that will work for our system.

14. What is your policy for notifying customers they have a leak?

When the meters are read and show that a customer's usage has more than doubled their previous month's usage our office staff try to contact the customer by phone to inform them of the increased usage. In cases of extremely high usage where someone cannot be contacted by phone we will send a service man to the site to try to contact the customer in person or leave a door hanger at the residence if no one is home.

15. Do you have a public relations program to encourage citizens to report leaks?

We do not have one at this time, although we do often receive calls from citizens reporting possible leaks.

16. Do you have a policy to prosecute water theft or meter tampering/damage?

Yes. We have prosecuted residents for water theft in the past. This is usually done after other avenues have been exhausted. We charge for the value of the stolen water plus any damages to equipment such as meters, curb stops, ect. Our policy is that all trip charges, damages, and stolen water charges must be paid before any services are restored.

17. What is the monetary value of the lost water?

We assume that the monetary value of the lost water would be calculated by applying our current water rates to the calculated water loss. Our current rates is \$6.00 per 1,000 gallons plus sales tax. Our rates are universal and do not vary between residential and business customers.

18. Is the cost to repair the leak justified based on the amount of water being lost?

We do not feel that the cost to repair a leak should justify whether our system is properly maintained. We try to make all repairs within a reasonable time frame that is limited by when locate start times allow and weather conditions allow. While cost is rarely a factor in when a leak is fixed, leaks are often prioritized for repair. If our staff has several repairs to make the more severe leaks are generally repaired before smaller leaks are dealt with.

# 4



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May 19, 2016

To Whom it May Concern

Thank you for your interest in Master Meter and the Octave Ultrasonic water meter. We at Master Meter are very excited with the capabilities of this meter and the potential it has to help our customers better manage their water systems and increase their revenues.

One of the many features of the Octave is sustained accuracy. Traditional mechanical meters are subject to wear and deterioration over time, which leads to loss of accuracy. To offset this loss, it is required to perform routine maintenance and occasional calibration.

Because the Octave utilizes solid-state ultrasonic measurement, the Octave is not subject to the same wear and deterioration as is the case in other meters. Additionally, to ensure longevity of accuracy, the Octave utilizes a self-diagnostic that continually analyzes the sound waves measured to ensure they maintain the exact amplitude and wavelength required for accurate measurement. If at any time the Octave determines sound waves have been dampened, for example from build-up in the pipe or over the transducers, the Auto Gain Control (AGC) is able to adjust the sound wave so that it maintains the required amplitude and length.

For these reasons, the Octave does not require field calibration. If I can be of any further assistance, please feel free to contact me at any time.

Sincerely,

A handwritten signature in cursive script that reads 'Greg Land'.

Greg Land  
Product Manager – Solid State Measurement  
Master Meter, Inc.  
101 Regency Parkway  
Mansfield, TX. 76063  
Direct Line: 817-842-8143  
Email: [gland@mastermeter.com](mailto:gland@mastermeter.com)

## Lauderdale County Water System Adjustment Policy

Each customer account can qualify for a once a calendar year adjustment to their water bill if all of the following criteria are met:

There has to have been a line break. We do not make adjustments for toilet leaks, hoses being left on overnight, leaky faucets, or similar problems. The adjustment policy is only for a broken line.

The broken line has to have been repaired before an adjustment is given. This ensures that there would be no further excessive bills at that particular account.

There has not been another adjustment given during the last calendar year.

The account in question is an occupied residence. Vacation homes, unoccupied rentals, or vacant homes do not qualify.

The adjustment amount is determined as follows: The customer will pay for half of the usage on the excessive bill plus the average usage of the last twelve months.

Example: If the customer meets the requirements of the adjustment policy for a bill for 20,000 gallons and their calculated average usage of the last twelve months is 7,000 gallons per month, then the adjusted amount would be figured for 17,000 gallons plus tax.

# City of Friendship



**STATE OF TENNESSEE  
COMPTROLLER OF THE TREASURY  
DEPARTMENT OF AUDIT  
DIVISION OF LOCAL GOVERNMENT AUDIT**

Justin P. Wilson  
Comptroller of the Treasury

**MEMORANDUM**

**TO:** Water and Wastewater Financing Board  
**FROM:** Division of Local Government Audit - Municipalities and Utility Districts  
**SUBJECT:** Division of Local Government Audit Referral Pursuant to TCA 68-221-1010(d)

In accordance with the requirements of Tennessee Code Annotated, we are hereby filing the following vendor with the board(s) noted above.

Record Number	Vendor Name	<input type="checkbox"/> Component Unit			
1684	Friendship				
Report Year	Utility Type	Date Received	Date Referred	Reviewer	Report Status
6/30/2015	Water	2/1/2016	2/8/2016	SRW	Not Yet Reviewed

**FINANCIAL DISTRESS**

**A** Has deficit net position for the fiscal year ended. \_\_\_\_\_

**B** Decrease in net position for two consecutive years.

Fiscal Year End	Decrease in NP
_____	_____
_____	_____

**C** Is in default on certain outstanding debt.

Holders of the Bonds, etc.	Principal	Interest
_____	_____	_____
_____	_____	_____
_____	_____	_____

**WATER LOSS**

**D** Water Loss Referral

**AWWA water audit info**

Water Loss Schedule - Status AWWA Excel File

\_\_\_\_\_  \_\_\_\_\_

**Validity score below the amount established by the board** Validity Score

82

**Excessive non-revenue water % as established by the board** Non-Rev Water %

(Non-Revenue Water as Percent by Cost of Operating System) 28.8

Comments: \_\_\_\_\_



## AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0  
American Water Works Association  
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?	Click to access definition
+	Click to add a comment

Water Audit Report for: **Friendship Water System (0000928)**  
 Reporting Year: **2015**      **7/2014 - 6/2015**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

**All volumes to be entered as: MILLION GALLONS (US) PER YEAR**

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

### WATER SUPPLIED

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	+ ?	n/a	0.000	MG/Yr
Water imported:	+ ?	9	40.510	MG/Yr
Water exported:	+ ?	n/a	0.000	MG/Yr

### Master Meter and Supply Error Adjustments

Pcnt:	Value:	MG/Yr
+ ?	1.00%	0.000
+ ?	7	0.000
+ ?		0.000

Enter negative % or value for under-registration  
 Enter positive % or value for over-registration

**WATER SUPPLIED:** **40.109** MG/Yr

### AUTHORIZED CONSUMPTION

Billed metered:	+ ?	9	19.303	MG/Yr
Billed unmetered:	+ ?	7	1.841	MG/Yr
Unbilled metered:	+ ?	n/a	0.000	MG/Yr
Unbilled unmetered:	+ ?	5	0.501	MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

**AUTHORIZED CONSUMPTION:** **21.645** MG/Yr

Click here: ?  
for help using option buttons below

Pcnt:	Value:	MG/Yr
1.25%		0.000

Use buttons to select percentage of water supplied  
OR value

### WATER LOSSES (Water Supplied - Authorized Consumption)

**18.464** MG/Yr

#### Apparent Losses

Unauthorized consumption: + ? **0.100** MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+ ?	7	0.294	MG/Yr
Systematic data handling errors:	+ ?	5	0.048	MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:** **0.442** MG/Yr

Pcnt:	Value:	MG/Yr
0.25%		0.000
1.50%		0.000
0.25%		0.000

### Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses: ? **18.021** MG/Yr

**WATER LOSSES:** **18.464** MG/Yr

### NON-REVENUE WATER

**NON-REVENUE WATER:** ? **18.965** MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

### SYSTEM DATA

Length of mains:	+ ?	9	12.0	miles
Number of <u>active</u> AND <u>inactive</u> service connections:	+ ?	9	430	
Service connection density:	?		36	conn./mile main

Are customer meters typically located at the curbstop or property line?  (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: + ? 7 **42.0** psi

### COST DATA

Total annual cost of operating water system:	+ ?	9	\$130,697	\$/Year
Customer retail unit cost (applied to Apparent Losses):	+ ?	9	\$14.00	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	+ ?	9	\$1,699.77	\$/Million gallons

Use Customer Retail Unit Cost to value real losses

### WATER AUDIT DATA VALIDITY SCORE:

\*\*\* YOUR SCORE IS: 82 out of 100 \*\*\*

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

### PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

1: Water imported

2: Unauthorized consumption

3: Systematic data handling errors



## AWWA Free Water Audit Software: System Attributes and Performance Indicators

WAS v5.0  
American Water Works Association.  
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Water Audit Report for:   
Reporting Year:

\*\*\* YOUR WATER AUDIT DATA VALIDITY SCORE IS: 82 out of 100 \*\*\*

System Attributes:

	Apparent Losses:	<input type="text" value="0.442"/>	MG/Yr
	+ Real Losses:	<input type="text" value="18.021"/>	MG/Yr
	= <u>Water Losses:</u>	<input type="text" value="18.464"/>	MG/Yr

Unavoidable Annual Real Losses (UARL):  MG/Yr

Annual cost of Apparent Losses:

Annual cost of Real Losses:  Valued at **Variable Production Cost**  
Return to Reporting Worksheet to change this assumption

Performance Indicators:

Financial:	{	Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="47.3%"/>	
		Non-revenue water as percent by cost of operating system:	<input type="text" value="28.8%"/>	Real Losses valued at Variable Production Cost

Operational Efficiency:	{	Apparent Losses per service connection per day:	<input type="text" value="2.82"/>	gallons/connection/day
		Real Losses per service connection per day:	<input type="text" value="114.82"/>	gallons/connection/day
		Real Losses per length of main per day*:	<input type="text" value="N/A"/>	
		Real Losses per service connection per day per psi pressure:	<input type="text" value="2.73"/>	gallons/connection/day/psi

From Above, Real Losses = Current Annual Real Losses (CARL):  million gallons/year

Infrastructure Leakage Index (ILI) [CARL/UARL]:

\* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

**RECEIVED**

**JUN 10 2016**

**DEPT: COMPTROLLER  
OFFICE OF ADMINISTRATION**

## **Initial Check list for Addressing Water Loss**

### **City of Friendship**

1. Are you billing for all general government water use? Examples: City Hall, Parks, Community Centers, etc.
  - A. All city facilities except the wastewater plant are metered and billed. We are looking at metering the wastewater plant in the future. The plant should be shut down by year's end and the building will only be used for office space.
2. Are you accounting for the water used by the water and/or sewer department?
  - A. With the exception of the wastewater plant, all water is metered. The plant should be shut down by the end of the year.
3. Do you periodically check or inspect all 2" and larger meters?
  - A. There are only two 2" meters in the system. Both are low usage but haven't been calibrated recently.
4. Do you have a recalibration policy and procedure in place?
  - A. The master meter was replaced in February 2016 and we plan to have it checked for accuracy annually.
5. Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons?
  - A. There is no written policy. However we have been replacing all meters with over 1,000,000 gallons usage as well as well as older meters. We have replaced over 10% of the meters in the past year and continue to replace meters as time allows.
6. Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered?
  - A. All inactive meters are checked monthly during meter reading. Personnel also watch for theft while out in the system.
7. Do you have a leak detection program currently in place?
  - A. Currently we look for leaks when usage is up. We also keep an eye out for leaks while we are out in the system. We do not have any electronic leak detection equipment.
8. Do you have written policies, including a policy for billing adjustments? Are the written policies followed correctly by all levels of staff?
  - A. We have a bill adjustment policy that is followed by all staff.
9. Do you have authorized non-customer users (volunteer fire departments, etc)? Do you account for the use? Do you have a method for the user to report water usage?
  - A. We have a volunteer fire department that is metered. City personnel as well as the mayor are firemen and will begin keeping up with water used from hydrants.
10. Is your system "zoned" to isolate water loss?
  - A. Our system is all in one pressure zone but we do have isolation valves that can be used to isolate individual areas.
11. Do you search for leaks at night when there is little traffic or small household usage?

A. We do not own sonic leak detection equipment.

12. Do you or can you control pressure surges?

A. Surges have not been an issue in our system.

13. Do you have or have access to leak detection equipment?

A. We have access to the equipment by borrowing from a neighboring system or hiring a leak detection company.

14. What is your policy for notifying customers they have a leak?

A. Customers with excessive usage are notified when the meters are read.

15. Do you have a public relations program to encourage citizens to report leaks?

A. Our Consumer Confidence Report asks customers to report suspicious activities. In this small town, most customers will report any leak they see.

16. Do you have a policy to prosecute water theft or meter tampering/damage?

A. Yes our municipal ordinances provide for prosecution for theft or tampering.

17. What is the monetary value of the lost water?

A. According to our 2015 water audit the annual cost of apparent losses is \$6,195 and the cost of real losses is \$30,632.

18. Is the cost to repair the leak justified based on the amount of water being lost?

A. No, all leaks are repaired as soon as possible after being discovered.

#### **Plans to decrease the excessive non-revenue water:**

We have new staff members who are actively pursuing water leaks as they are discovered. We are steadily replacing all high usage and older customer meters in the system as well as any meters that quit working. We are also looking into metering the wastewater treatment plant. We will begin accounting for all fire department usage. These steps should help the non-revenue water situation. One of the factors that affect the non-revenue water cost as a percentage of our total cost is the source of our water. We are different from most systems in that we purchase chlorinated raw water from an individual and then we have to treat the water with filtration. This causes the cost of our treated water to be unusually high for this area. Hopefully the leaks repaired and the meters replaced will help to keep this cost down and it will continue to decrease.

Sincerely,



Rob Lipker  
Public Works Director  
City of Friendsip

# City of Smithville



**STATE OF TENNESSEE  
COMPTROLLER OF THE TREASURY  
DEPARTMENT OF AUDIT  
DIVISION OF LOCAL GOVERNMENT AUDIT**

Justin P. Wilson  
Comptroller of the Treasury

**MEMORANDUM**

**TO:** Water and Wastewater Financing Board  
**FROM:** Division of Local Government Audit - Municipalities and Utility Districts  
**SUBJECT:** Division of Local Government Audit Referral Pursuant to TCA 68-221-1010(d)

In accordance with the requirements of Tennessee Code Annotated, we are hereby filing the following vendor with the board(s) noted above.

Record Number	Vendor Name	<input type="checkbox"/> Component Unit				
1859	Smithville					
Report Year	Utility Type	Date Received	Date Referred	Reviewer	Report Status	
6/30/2015	Water and Sewer	4/7/2016	4/8/2016	mlb	Not Yet Reviewed	

**FINANCIAL DISTRESS**

**A** Has deficit net position for the fiscal year ended.

**B** Decrease in net position for two consecutive years.

Fiscal Year End	Decrease in NP
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

**C** Is in default on certain outstanding debt.

Holder of the Bonds, etc.	Principal	Interest
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

**WATER LOSS**

**D** Water Loss Referral

**AWWA water audit info**

Water Loss Schedule - Status   AWWA Excel File

**Validity score below the amount established by the board** Validity Score

**Excessive non-revenue water % as established by the board** Non-Rev Water %   
(Non-Revenue Water as Percent by Cost of Operating System)

Comments:



# AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0

American Water Works Association

Water Audit Report for: **City of Smithville, Tennessee**  
Reporting Year: **2015** / 7/2014 - 6/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

**WATER SUPPLIED**

<----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	<input type="button" value="9"/>	<input type="button" value="728.080"/>	MG/Yr	<input type="button" value="1"/>	<input type="button" value="0"/>	<input type="button" value="0"/>	MG/Yr
Water imported:	<input type="button" value="n/a"/>	<input type="button" value="0.000"/>	MG/Yr	<input type="button" value="1"/>	<input type="button" value="0"/>	<input type="button" value="0"/>	MG/Yr
Water exported:	<input type="button" value="n/a"/>	<input type="button" value=""/>	MG/Yr	<input type="button" value="1"/>	<input type="button" value="0"/>	<input type="button" value="0"/>	MG/Yr

Master Meter and Supply Error Adjustments  
Pcnt:  Value:

Enter negative % or value for under-registration  
Enter positive % or value for over-registration

**WATER SUPPLIED:**  MG/Yr

**AUTHORIZED CONSUMPTION**

Billed metered:	<input type="button" value="9"/>	<input type="button" value="474.101"/>	MG/Yr	<input type="button" value="1"/>	<input type="button" value="0"/>	<input type="button" value="0"/>	MG/Yr
Billed unmetered:	<input type="button" value="n/a"/>	<input type="button" value="0.000"/>	MG/Yr	<input type="button" value="1"/>	<input type="button" value="0"/>	<input type="button" value="0"/>	MG/Yr
Unbilled metered:	<input type="button" value="9"/>	<input type="button" value="26.904"/>	MG/Yr	<input type="button" value="1"/>	<input type="button" value="0"/>	<input type="button" value="0"/>	MG/Yr
Unbilled unmetered:	<input type="button" value=""/>	<input type="button" value="9.101"/>	MG/Yr	<input type="button" value="1"/>	<input type="button" value="0"/>	<input type="button" value="0"/>	MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

**AUTHORIZED CONSUMPTION:**  MG/Yr

Click here:  for help using option buttons below

Pcnt:  Value:

Use buttons to select percentage of water supplied OR value

Pcnt:  Value:

**WATER LOSSES (Water Supplied - Authorized Consumption)**

**Apparent Losses**

Unauthorized consumption:  MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:   MG/Yr

Systematic data handling errors:   MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:**  MG/Yr

**Real Losses (Current Annual Real Losses or CARL)**

Real Losses = Water Losses - Apparent Losses:  MG/Yr

**WATER LOSSES:**  MG/Yr

**NON-REVENUE WATER**

**NON-REVENUE WATER:**  MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

**SYSTEM DATA**

Length of mains:   miles

Number of active AND inactive service connections:

Service connection density:  conn./mile main

Are customer meters typically located at the curbstop or property line?  (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:   psi

**COST DATA**

Total annual cost of operating water system:   \$/Year

Customer retail unit cost (applied to Apparent Losses):   \$/1000 gallons (US)

Variable production cost (applied to Real Losses):   \$/Million gallons  Use Customer Retail Unit Cost to value real losses

**WATER AUDIT DATA VALIDITY SCORE:**

\*\*\* YOUR SCORE IS: 85 out of 100 \*\*\*

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

**PRIORITY AREAS FOR ATTENTION:**

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Unauthorized consumption
- 3: Systematic data handling errors



# AWWA Free Water Audit Software: System Attributes and Performance Indicators

WAS v5.0

American Water Works Association

Water Audit Report for: City of Smithville, Tennessee  
 Reporting Year: 2015 7/2014 - 6/2015

\*\*\* YOUR WATER AUDIT DATA VALIDITY SCORE IS: 85 out of 100 \*\*\*

**System Attributes:**

	Apparent Losses:	8.066	MG/Yr
+	Real Losses:	209.908	MG/Yr
=	<b>Water Losses:</b>	<b>217.974</b>	MG/Yr

? Unavoidable Annual Real Losses (UARL): 11.84 MG/Yr

Annual cost of Apparent Losses: \$28,231

Annual cost of Real Losses: \$270,781 Valued at **Variable Production Cost**

Return to Reporting Worksheet to change this assumption

**Performance Indicators:**

Financial: { Non-revenue water as percent by volume of Water Supplied: 34.9%  
 Non-revenue water as percent by cost of operating system: 30.1% Real Losses valued at Variable Production Cost

Operational Efficiency: { Apparent Losses per service connection per day: 9.02 gallons/connection/day  
 Real Losses per service connection per day: 234.73 gallons/connection/day  
 Real Losses per length of main per day\*: N/A  
 Real Losses per service connection per day per psi pressure: 4.69 gallons/connection/day/psi

From Above, Real Losses = Current Annual Real Losses (CARL): 209.91 million gallons/year

? Infrastructure Leakage Index (ILI) [CARL/UARL]: 17.73

\* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

# Water & Wastewater Financing Board

## Completed Questionnaire

DEPT. COMPTROLLER  
OFFICE OF ADMINISTRATION

JUN 14 2016

RECEIVED

1. Yes, except in 1 of our Parks.
2. Yes
3. Yes
4. Not on Paper, but we have it done every April.
5. No policy on paper, but we change out when Meter amount reaches 1 million gallons. Replaced all Meter's in 2015.
6. No
7. No, but we had a leak detection survey done over complete system in 2/21/2014.
8. No
9. County volunteer fire dept. mails in monthly usage.
10. No
11. No
12. No
13. Yes
14. After we read meters the water clerk goes through meter readings & check for high usage, then meter reader goes & rechecks meter reading. If there's a leak on the customer's side we notify them.
15. No
16. Yes
17. ????
18. Any leak is justified to repair, if you can find it.

Kevin Robinson Publics Works Director

# City of Smithville Water System's Plan

1. Start looking for leaks at night time.
2. Start a leak detection program.

Kevin Robinson Publics Works Director

# Town of Englewood



**STATE OF TENNESSEE  
COMPTROLLER OF THE TREASURY  
DEPARTMENT OF AUDIT  
DIVISION OF LOCAL GOVERNMENT AUDIT**

Justin P. Wilson  
Comptroller of the Treasury

**MEMORANDUM**

**TO:** Water and Wastewater Financing Board  
**FROM:** Division of Local Government Audit - Municipalities and Utility Districts  
**SUBJECT:** Division of Local Government Audit Referral Pursuant to TCA 68-221-1010(a) & (d)

In accordance with the requirements of Tennessee Code Annotated, we are hereby filing the following vendor with the board(s) noted above.

Record Number	Vendor Name			<input type="checkbox"/> Component Unit	
1671	Englewood				
Report Year	Utility Type	Date Received	Date Referred	Reviewer	Report Status
6/30/2015	Water and Sewer	4/11/2016	5/3/2016	MEF	Not Yet Reviewed

**FINANCIAL DISTRESS**

**A** Has deficit net position for the fiscal year ended. [ ]

**B** Decrease in net position for two consecutive years.

Fiscal Year End	Decrease in NP
6/30/2015	(\$1,874.00)
6/30/2014	(\$82,688.00)

**C** Is in default on certain outstanding debt.

Holders of the Bonds, etc.	Principal	Interest
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]
[ ]	[ ]	[ ]

**WATER LOSS**

**D** Water Loss Referral

**AWWA water audit info**

Water Loss Schedule - Status  [ ]      AWWA Excel File  [ ]

**Validity score below the amount established by the board** Validity Score: 82

**Excessive non-revenue water % as established by the board** Non-Rev Water %: 26.5  
(Non-Revenue Water as Percent by Cost of Operating System)

Comments: [ ]

**AWWA Free Water Audit Software: Reporting Worksheet**

W AS v5.0  
American Water Works Association  
Copyright © 2014. All Rights Reserved

Water Audit Report for: **Englewood Water & Gas (0000224)**  
Reporting Year: **2015** 7/2014 - 6/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

**All volumes to be entered as: MILLION GALLONS (US) PER YEAR**

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

<----- Enter grading in column 'E' and 'J' ----->

---

**WATER SUPPLIED**

Volume from own sources:	+	?	9	75.478	MG/Yr	+	?	5	1.00%	<input checked="" type="radio"/>	<input type="radio"/>		MG/Yr
Water imported:	+	?	9	39.613	MG/Yr	+	?	2	1.00%	<input checked="" type="radio"/>	<input type="radio"/>		MG/Yr
Water exported:	+	?	n/a	0.000	MG/Yr	+	?			<input checked="" type="radio"/>	<input type="radio"/>		MG/Yr

**Master Meter and Supply Error Adjustments**  
Pcnt: Value:  
Enter negative % or value for under-registration  
Enter positive % or value for over-registration

**WATER SUPPLIED:** **113.951** MG/Yr

---

**AUTHORIZED CONSUMPTION**

Billed metered:	+	?	6	58.256	MG/Yr								
Billed unmetered:	+	?	n/a	0.000	MG/Yr								
Unbilled metered:	+	?	10	25.948	MG/Yr								
Unbilled unmetered:	+	?		1.424	MG/Yr								

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

**AUTHORIZED CONSUMPTION:** **85.628** MG/Yr

Click here: ?  
for help using option buttons below

Pcnt: Value: 1.25%   MG/Yr  
Use buttons to select percentage of water supplied OR value

Pcnt: Value: 0.25%   MG/Yr  
5.25%   MG/Yr  
0.25%   MG/Yr

---

**WATER LOSSES (Water Supplied - Authorized Consumption)** **28.323** MG/Yr

**Apparent Losses**

Unauthorized consumption:	+	?		0.285	MG/Yr								
---------------------------	---	---	--	-------	-------	--	--	--	--	--	--	--	--

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:	+	?	5	4.666	MG/Yr								
Systematic data handling errors:	+	?		0.146	MG/Yr								

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:** **5.096** MG/Yr

**Real Losses (Current Annual Real Losses or CARL)**

Real Losses = Water Losses - Apparent Losses: **23.227** MG/Yr

**WATER LOSSES:** **28.323** MG/Yr

---

**NON-REVENUE WATER**

**NON-REVENUE WATER:** **55.695** MG/Yr  
= Water Losses + Unbilled Metered + Unbilled Unmetered

---

**SYSTEM DATA**

Length of mains:	+	?	6	70.0	miles								
Number of active AND inactive service connections:	+	?	8	1,479									
Service connection density:	?			21	conn./mile main								

Are customer meters typically located at the curbside or property line?  (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line:  (Average length of customer service line has been set to zero and a data grading score of 10 has been applied)

Average operating pressure:  psi

---

**COST DATA**

Total annual cost of operating water system:	+	?	10	\$577.010	\$/Year								
Customer retail unit cost (applied to Apparent Losses):	+	?	10	\$14.28	\$/1000 gallons (US)								
Variable production cost (applied to Real Losses):	+	?	10	\$1,578.22	\$/Million gallons	<input type="checkbox"/>	Use Customer Retail Unit Cost to value real losses						

---

**WATER AUDIT DATA VALIDITY SCORE:**

**\*\*\* YOUR SCORE IS: 82 out of 100 \*\*\***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

**PRIORITY AREAS FOR ATTENTION:**

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Billed metered
- 2: Customer metering inaccuracies
- 3: Unauthorized consumption

See the accompanying independent accountants' audit report.



Water Audit Report for:   
Reporting Year:

\*\*\* YOUR WATER AUDIT DATA VALIDITY SCORE IS: 82 out of 100 \*\*\*

**System Attributes:**

Apparent Losses:	<input type="text" value="5.096"/>	MG/Yr
+ Real Losses:	<input type="text" value="23.227"/>	MG/Yr
= <b>Water Losses:</b>	<input type="text" value="28.323"/>	MG/Yr

Unavoidable Annual Real Losses (UARL):  MG/Yr

Annual cost of Apparent Losses:

Annual cost of Real Losses:  Valued at **Variable Production Cost**  
Return to Reporting Worksheet to change this assumption

**Performance Indicators:**

Financial: { Non-revenue water as percent by volume of Water Supplied:   
 Non-revenue water as percent by cost of operating system:  Real Losses valued at Variable Production Cost

Operational Efficiency: { Apparent Losses per service connection per day:  gallons/connection/day  
 Real Losses per service connection per day:  gallons/connection/day  
 Real Losses per length of main per day\*:  gallons/mile/day  
 Real Losses per service connection per day per psi pressure:  gallons/connection/day/psi

From Above, Real Losses = Current Annual Real Losses (CARL):  million gallons/year

Infrastructure Leakage Index (ILI) [CARL/UARL]:

\* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

See the accompanying independent accountants' audit report.

## Water Loss Questions

- 1 Yes, all government water use is billed and paid to the water & sewer fund
- 2 Yes, all water at both water and sewer plants is metered and accounted for each month.
- 3 Yes, each large meter is checked and calibrated yearly.
- 4 No, we do not at this time but we will implement a policy this year.
- 5 Yes, we change meters if they are 10 years old or have one million gallons usage whichever comes first.
- 6 Yes, our meter reader checks each month as he is reading meters. If unauthorized consumption is found the person is prosecuted for theft of services.
- 7 No, we do not at this time.
- 8 Yes, we do have a billing adjustment policy and it is followed by all staff.
- 9 Yes, we account for all non - customer use.
- 10 Yes, we are on different pressure zone so we can isolate water loss.
- 11 No, with limited staff we are not able to do leak detection at night.
- 12 No we cannot control surges.
- 13 Yes, we can get leak detection from our equipment supplier.
- 14 We call the customer as soon as we receive the monthly readings and their usage is abnormally high and inform them that they may have a leak. Also we will go out and try to help the customer find their leak.
- 15 No we do not our customers have always been good about reporting leaks.
- 16 Yes, we prosecute all theft and tampering.
- 17 \$ 36,657
- 18 No, every leak is repaired as soon as possible no matter how small it is.

# Status

# Water Loss

# City of Copperhill



# AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0  
American Water Works Association  
Copyright © 2014. All Rights Reserved.

Click to access definition  
 Click to add a comment

Water Audit Report for: City of Copperhill (00136)  
Reporting Year: 2014 7/2013 - 6/2014

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

**All volumes to be entered as: MILLION GALLONS (US) PER YEAR**

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

### WATER SUPPLIED

Volume from own sources:   n/a  MG/Yr  
Water imported:   7  MG/Yr  
Water exported:   n/a  MG/Yr

### Master Meter and Supply Error Adjustments

Enter grading in column 'E' and 'J' -----> Pcnt:  Value:  MG/Yr  
      MG/Yr  
      MG/Yr

Enter negative % or value for under-registration  
Enter positive % or value for over-registration

**WATER SUPPLIED:**  MG/Yr

### AUTHORIZED CONSUMPTION

Billed metered:   6  MG/Yr  
Billed unmetered:   n/a  MG/Yr  
Unbilled metered:   6  MG/Yr  
Unbilled unmetered:   5  MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

**AUTHORIZED CONSUMPTION:**  MG/Yr

Click here:  for help using option buttons below

Pcnt:  Value:  MG/Yr

Use buttons to select percentage of water supplied OR value

Pcnt:  Value:  MG/Yr

### WATER LOSSES (Water Supplied - Authorized Consumption)

**18.753** MG/Yr

#### Apparent Losses

Unauthorized consumption:    MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:   7  MG/Yr  
Systematic data handling errors:   5  MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:**  MG/Yr

#### Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:  MG/Yr

**WATER LOSSES:**  MG/Yr

### NON-REVENUE WATER

**NON-REVENUE WATER:**  MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

### SYSTEM DATA

Length of mains:   5  miles  
Number of active AND inactive service connections:   6   
Service connection density:   conn./mile main

Are customer meters typically located at the curbstop or property line?  (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:   7  psi

### COST DATA

Total annual cost of operating water system:   10  \$/Year  
Customer retail unit cost (applied to Apparent Losses):   10  \$/1000 gallons (US)  
Variable production cost (applied to Real Losses):   10  \$/Million gallons  Use Customer Retail Unit Cost to value real losses

### WATER AUDIT DATA VALIDITY SCORE:

**\*\*\* YOUR SCORE IS: 73 out of 100 \*\*\***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

### PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Water imported
- 2: Billed metered
- 3: Unbilled metered

See the accompanying independent accountants' report.



## AWWA Free Water Audit Software: System Attributes and Performance Indicators

WAS v5.0  
American Water Works Association  
Copyright © 2014, All Rights Reserved.

Water Audit Report for:   
Reporting Year:

**\*\*\* YOUR WATER AUDIT DATA VALIDITY SCORE IS: 73 out of 100 \*\*\***

**System Attributes:**

Apparent Losses:	1.392	MG/Yr
+	Real Losses:	17.361
=	<b>Water Losses:</b>	<b>18.753</b>
		MG/Yr

Unavoidable Annual Real Losses (UARL):  MG/Yr

Annual cost of Apparent Losses:

Annual cost of Real Losses:

Valued at **Variable Production Cost**  
Return to Reporting Worksheet to change this assumption

**Performance Indicators:**

Financial: { Non-revenue water as percent by volume of Water Supplied:   
Non-revenue water as percent by cost of operating system:  Real Losses valued at Variable Production Cost

Operational Efficiency: { Apparent Losses per service connection per day:  gallons/connection/day  
Real Losses per service connection per day:  gallons/connection/day  
Real Losses per length of main per day\*:  gallons/mile/day  
Real Losses per service connection per day per psi pressure:  gallons/connection/day/psi

From Above, Real Losses = Current Annual Real Losses (CARL):  million gallons/year

Infrastructure Leakage Index (ILI) [CARL/UARL]:

\* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline

See the accompanying independent accountants' audit report.

Water and Wastewater Financing Board  
505 Deadrick Street, STE 1500  
Nashville, TN 37243-1402

**RECEIVED**

**FEB 17 2016**

**DEPT: COMPTROLLER  
OFFICE OF ADMINISTRATION**

Enclosed is the City of Copperhill Water Survey Questionnaire from:

Amber Bledsoe  
City Clerk

City of Copperhill, TN  
P.O. Box 640  
160 Main Street  
Copperhill, TN 37317

Phone: 423-496-5141  
Fax: 423-496-3617

## Initial Check list for Addressing Water Loss

1. Are you billing for all general government water use? Examples: City Hall, Parks, Community Centers, etc. - *NO*
2. Are you accounting for the water used by the water and/or sewer department? - *NO*
3. Do you periodically check or inspect all 2" and larger meters? - *YES*
4. Do you have a recalibration policy and procedure in place? - *NO*
5. Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons? - *Yes, when they no longer work*
6. Do you have a process to inspect for unauthorized consumption? What are the consequences if unauthorized consumption is discovered? - *Yes, send certified letter*
7. Do you have a leak detection program currently in place? - *NO*
8. Do you have written policies, including a policy for billing adjustments? Are the written policies followed correctly by all levels of staff? - *Yes*
9. Do you have authorized non-customer users (volunteer fire departments, etc)? Do you account for the use? Do you have a method for the user to report water usage? - *Yes*
10. Is your system "zoned" to isolate water loss? - *Yes*
11. Do you search for leaks at night when there is little traffic or small household usage? - *NO*
12. Do you or can you control pressure surges? - *Yes*
13. Do you have or have access to leak detection equipment? - *NO*
14. What is your policy for notifying customers they have a leak? - *Phone call or in person*
15. Do you have a public relations program to encourage citizens to report leaks? - *Yes*
16. Do you have a policy to prosecute water theft or meter tampering/damage? - *Yes*
17. What is the monetary value of the lost water?
18. Is the cost to repair the leak justified based on the amount of water being lost? - *Yes*



STATE OF TENNESSEE  
**Water and Wastewater Financing Board**

James K. Polk State Office Building  
505 Deaderick Street, Suite 1700  
Nashville, Tennessee 37243-1402  
Phone (615) 401-7879 Fax (615) 741-1551

March 23, 2016

Ms. Amber Bledsoe  
City Clerk  
City of Copperhill  
P. O. Box 640  
160 Main Street  
Copperhill, TN 37317-0640

Dear Ms. Bledsoe:

On March 10, 2016, the Water and Wastewater Financing Board met, in part, to discuss the excessive non-revenue water of the City of Copperhill. At this meeting the Board voted to:

- **Require the City to fill out a second questionnaire**

Please fill out the enclosed questionnaire with more detailed answers than you provided for the previous meeting. No answer should just be a simple yes or no.

Also, please provide documentation of all non-revenue water policies, such as a meter replacement policy. The Board would also like to have a written plan from the City that has been approved by the Board of Alderman to address non-revenue water.

**This required information should be in our office no later than April 29, 2016, for presentation at the May 12, 2016, meeting.**

If you need further assistance, or have any questions, please feel free to contact me at (615) 401-7879 or [John.Greer@cot.tn.gov](mailto:John.Greer@cot.tn.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "John Greer", written over a light blue horizontal line.

John Greer  
Utilities Specialist

## Initial Check list for Addressing Water Loss

1. Are you billing for all general government water use? Examples: City Hall, Parks, Community Centers, etc.

ANSWER: No, we do not have any parks, or community centers in the City and the City Hall is not a separate establishment.

2. Are you accounting for the water used by the Water and/or Sewer Department?

ANSWER: McCaysville bills us for the water used at the Sewer plant.

3. Do you periodically check or inspect all 2" and larger meters?

ANSWER: The City is in the process of locating a proper company to comply.

4. Do you have a recalibration policy and procedure in place?

ANSWER: City is the process of locating a proper company to comply.

5. Do you have a meter replacement policy? Is the trigger based on age (length of time in service) or on gallons?

ANSWER: Meters are replaced on a as needed basis unless an emergency arises.

6. Do you have a process to inspect for unauthorized consumption? What are the consequences is unauthorized consumption is discovered?

ANSWER: If it is discovered that someone is using water without an active account, the meter is locked out and they are informed to come in to establish an account. If trouble arises, we will involve Law Enforcement.

7. Do you have a leak detection program currently in place?

ANSWER: City Water employees are continuously looking for leaks and all customers are are aware of high usage that is billed to them.

8. Do you have written policies, including a policy for billing adjustments? Are the written policies followed correctly by all levels of staff?

ANSWER: Yes, we have a Resolution stating the City Clerk can make adjustments to water/ sewer bills. (Resolution attached)

9. Do you have authorized non-customer users (volunteer fire departments, etc)? Do you account for the use? Do you have a method for the user to report water usage?

ANSWER: The Fire Dept. is in the process of buying a meter for the hydrants.

10. Is your system "zoned" to isolate water loss?

ANSWER: Shut off valves are in place for isolating parts of the system.

11. Do you search for leaks at night where there is little traffic or small household usage?

ANSWER: Only as warrant.

12. Do you or can you control pressure surges?

ANSWER: Pressure reducing valves are in place to handle surges in the pressure.

13. Do you have or have access to leak detection equipment?

ANSWER: Our neighboring City- McCaysville has a small variety of equipment.

14. What is your policy for notifying customers they have a leak?

ANSWER: Phone calls, go to their home, shut off meter and leave a note to call City Hall if they aren't home.

15. Do you have a public relations program to encourage citizens to report leaks?

ANSWER to 15: The City is currently trying to establish a better method to encourage citizens to report leaks.

16. Do you have a policy to prosecute water theft or meter tampering/damage?

ANSWER: The City Council is in the process of trying to have a Resolution on this matter.

17. What is the monetary value of the lost water?

ANSWER: Around \$92,000

18. Is the cost to repair the leak justified based on the amount of water being lost?

ANSWER: The cost is balanced out with repair and balanced.

# City of Cowan

CITY OF COWAN  
OTHER SUPPLEMENTARY INFORMATION  
June 30, 2015

REPORTING WORKSHEET - UNAUDITED

AWWA Free Water Audit Software: WAS v5.0  
Reporting Worksheet American Water Works Association  
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Water Audit Report for: **Cowan Board of Public Utilities (0000146)**

Reporting Year: **2015** / 7/2014 - 6/2015

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades.

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

---

**WATER SUPPLIED**

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	7	101.620	MGYr
Water imported:	n/a	0.000	MGYr
Water exported:	n/a	0.000	MGYr

**WATER SUPPLIED:** 101.620 MGYr

**Master Meter and Supply Error Adjustments**

Pcnt: 5 Value: 0 MGYr

Enter negative % or value for under-registration  
Enter positive % or value for over-registration

---

**AUTHORIZED CONSUMPTION**

Billed metered:	7	40.947	MGYr
Billed unmetered:	n/a	0.000	MGYr
Unbilled metered:	n/a	0.000	MGYr
Unbilled unmetered:	7	6.200	MGYr

Unbilled Unmetered volume entered is greater than the recommended default value

**AUTHORIZED CONSUMPTION:** 47.147 MGYr

**Click here: [?] for help using option buttons below**

Pcnt: 0 Value: 6.200 MGYr

Use buttons to select percentage of water supplied OR value

Pcnt: 0.25% Value: 0 MGYr

8.00% 0.25% 0 MGYr

---

**WATER LOSSES (Water Supplied - Authorized Consumption)** 54.473 MGYr

**Apparent Losses**

Unauthorized consumption: 0.254 MGYr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies: 3.561 MGYr

Systematic data handling errors: 0.102 MGYr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:** 3.917 MGYr

**Real Losses (Current Annual Real Losses or CARL)**

Real Losses = Water Losses - Apparent Losses: 50.556 MGYr

**WATER LOSSES:** 54.473 MGYr

**Click here: [?] for help using option buttons below**

Pcnt: 0.25% Value: 0 MGYr

8.00% 0.25% 0 MGYr

---

**NON-REVENUE WATER**

NON-REVENUE WATER: 60.673 MGYr

= Water Losses + Unbilled Metered + Unbilled Unmetered

**SYSTEM DATA**

Length of mains: 35.0 miles

Number of active AND inactive service connections: 1,250

Service connection density: 36 conn./mile main

Are customer meters typically located at the curbstop or property line? Yes (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line: 0 ft

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure: 60.0 psi

---

**COST DATA**

Total annual cost of operating water system: \$373,986 \$/Year

Customer retail unit cost (applied to Apparent Losses): \$6.97 \$/1000 gallons (US)

Variable production cost (applied to Real Losses): \$1,775.12 \$/Million gallons  Use Customer Retail Unit Cost to value real losses

**WATER AUDIT DATA VALIDITY SCORE:**

**\*\*\* YOUR SCORE IS: 74 out of 100 \*\*\***

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

**PRIORITY AREAS FOR ATTENTION:**

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Billed metered
- 3: Customer metering inaccuracies

See Accompanying Independent Auditors' Report.

CITY OF COWAN  
 OTHER SUPPLEMENTARY INFORMATION  
 June 30, 2015

PERFORMANCE INDICATORS - UNAUDITED

AWWA Free Water Audit Software		System Attributes and Performance Indicators		WAS v6.0 American Water Works Association Copyright © 2014. All Rights Reserved
Water Audit Report for:		Cowan Board of Public Utilities (0000146)		
Reporting Year:		2015	7/2014 - 6/2015	
*** YOUR WATER AUDIT DATA VALIDITY SCORE IS: 74 out of 100 ***				
<b>System Attributes:</b>				
	Apparent Losses:	3.917	MGYr	
	+ Real Losses:	50.556	MGYr	
	= Water Losses:	54.473	MGYr	
	Unavoidable Annual Real Losses (UARL):	See limits in definition	MGYr	
	Annual cost of Apparent Losses:	\$27,302		
	Annual cost of Real Losses:	\$89,743	Valued at Variable Production Cost	
			Return to Reporting Worksheet to change this assumption	
<b>Performance Indicators:</b>				
Financial:	Non-revenue water as percent by volume of Water Supplied:	59.7%		
	Non-revenue water as percent by cost of operating system:	34.2%	Real Losses valued at Variable Production Cost	
Operational Efficiency:	Apparent Losses per service connection per day:	8.59	gallons/connection/day	
	Real Losses per service connection per day:	110.81	gallons/connection/day	
	Real Losses per length of main per day*:	N/A		
	Real Losses per service connection per day per psi pressure:	1.85	gallons/connection/day/psi	
	From Above, Real Losses = Current Annual Real Losses (CARL):	50.56	million gallons/year	
	Infrastructure Leakage Index (ILI) [CARL/UARL]:			
* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline				

See Accompanying Independent Auditors' Report.

**MAYOR**  
Joyce Brown

**COUNCIL**  
Steven Clark  
Ransom Green  
Tom McGee  
Adam Nelson  
Price Tucker

**WATER/WASTEWATER  
SUPERINTENDENT**  
Matt Farris

# City of Cowan

P.O. BOX 338  
COWAN, TENNESSEE 37318  
Office: (931) 967-7318  
Fax: (931) 967-7990  
recordersherman@comcast.net

**CITY RECORDER**  
Becky Sherman, CMFO, CMC

**CHIEF OF POLICE**  
Allen Edwards

**STREET/SANITATION  
SUPERINTENDENT**  
Steve Wilkinson

**FIRE CHIEF**  
Tommy Myers

**BUILDING INSPECTOR**  
Tommy Cohenour

February 8, 2016

Mr. John Greer  
Utilities Board Specialist  
State of Tennessee  
Water and Wastewater Financing Board  
James K. Polk State Office Building  
505 Deaderick Street, Suite 1700  
Nashville, TN 37243-1402

Dear Mr. Greer:

In response to your letter to Mayor Joyce Brown dated January 12, 2016, regarding the Cowan Board of Public Utilities' excessive non-revenue water, I respectfully submit the following:

1. Response to the "Initial Checklist for Addressing Water Loss".
2. Summary of efforts being made to bring the Cowan Board of Public Utilities into compliance with water loss and finance regulations.
3. Financial statements for the Cowan Board of Public Utilities as of January 31, 2016.
4. Water loss for FY 2016 calculated for 7/1/15-1/31/16 using AWWA water audit software.

I have attempted to address the issues which contributed to the excessive non-revenue water noted in your letter. Please know that we are constantly making diligent efforts to bring out utility system into compliance with state regulations. Should you need anything else before your meeting with the Board, please do not hesitate to contact me.

Sincerely,



Joyce Brown  
Mayor, City of Cowan, Tennessee

## **CITY OF COWAN RESPONSE TO “INITIAL CHECK LIST FOR ADDRESSING WATER LOSS”**

1. Yes, we are billing for all general government water use—city hall, parks, community center, maintenance shop and garage, police department, and all other city use.
2. Yes, we are accounting for water used by the water and wastewater departments.
3. Yes. We are currently in the process of inspecting our 2” and larger meters to insure that we have the correct meters in place to pick up both high and low flow water usage.
4. We do not have a formal recalibration policy or procedure in place. However, in November we did have the raw and finish meters at the water plant calibrated; at that time, a new finish water meter was installed.
5. We do have a meter replacement policy. All meters that read over one million (1,000,000) gallons are systematically being replaced. To date, 240 meters out of 920 in use have been replaced. In addition, meters that we find that are stopped are replaced, as well as any damaged meters.
6. We do not have a formal process to check for unauthorized consumption. However, we still use handheld readers to read our meters, so the lid is pulled off monthly for every meter in use for reading. Meters that are supposed to be locked off are checked periodically for unauthorized usage.
7. Yes, we do currently have a leak detection program in place. In fiscal year 2015, we suffered very high water loss due to service lines being torn out by the contractor who was replacing water lines on a rehab project funded by a grant. In addition, during the construction period, we had several main lines that blew out. We also had a hidden leak that was flowing into a creek at the rate of approximately 90,000 gallons per day. We hired someone to help us find that leak and then successfully repaired the leak. We also suffered a big water loss when a line at the bottom of one of our water tanks blew and we lost almost the whole tank of water before we found that broken line.
8. Yes we do have written policies for billing adjustments and those policies are strictly followed by all staff at all levels. Customers must sign a leak adjustment form; the mayor also signs the form before any adjustment is made. Our policy is to adjust sewer charges only if the water does not go into the sewer system. We never adjust water except in cases of misread meters or if a bill is generated on an account that should have been inactive.
9. Yes, we do have authorized non-customers users (volunteer fire department, etc) for whom we account for usage. We do have a method to report non-customer usage.
10. No, our system is not “zoned” to isolate water loss.

11. No, we do not search for leaks at night but rather during the day and early in the morning on weekends.
12. No, we cannot control pressure surges; our system is gravity fed.
13. Yes, we do have access to leak detection equipment; we purchased a new leak detector when we were having so many leaks in the past fiscal year. Since we acquired the leak detector, our water and wastewater superintendant has searched the entire water system for leaks. He found numerous leaks and the department has replaced over one hundred (100) service lines from corp to meter.
14. We leave door hangers, conduct knock and talks, and make phone calls. When meter readings are downloaded each month, they are reviewed and any reading that looks unusually high (or low) is rechecked for reading errors or leaks via a list generated by the water clerk when she downloads the meter readings into her computer billing system.
15. We do not have a formal public relations program to encourage citizens to report leaks. However, because we are such a small town and water system, our citizens do not hesitate to let us know when they see water pooling or running down the road.
16. Yes, we do have a policy to prosecute water theft or meter tampering/damage.
17. The monetary value of the lost water for FY 2015 is approximately \$100,000.
18. The cost to repair a leak is not always justified based on the amount of water being lost. We have detected numerous small leaks in roads and intersections. The cost to cut and repair the road to gain access to repair these small leaks is often greater than the cost of the lost water. As a small system, we are looking for less than fifty (50) gallons per minute leaking to get our water loss down to 0%. It is very cost prohibitive to search out these small leaks, tear up the roads, repair the leaks, and repave the roads for less than fifty (50) gallons a minute of water.

## **Summary of efforts made to bring Cowan Board of Public Utilities into compliance with water loss and finance regulations.**

- In May 2015, we hired Dan Weaver Services to perform leak detecting services in our system. Mr. Weaver found a huge hidden leak (it was running into a creek) while working with our water department supervisor. The leak was immediately repaired. This leak contributed significantly to our water loss for FY 2015.
- As of January 31, 2016, the Board of Public Utilities financial statements show a “positive change in net assets” of \$107,819.30 with an operating profit of \$112,106.98.
- We have just completed a water line replacement project funded through the South Central Tennessee Development District and are in the process of applying for another grant. The grant enabled us to replace old asbestos lines that had a tendency to break. If we are successful in our application for the current round of grants, we will continue replacing asbestos lines and lines with a history of breaks and leaks.
- The city council has adopted a meter replacement program; the object of this program is to replace all meters which are reading 1,000,000 and up. This program is ongoing; to date 240 meters with readings over 1,000,000 have been replaced. In addition, we replace broken, damaged, and stopped meters as they are reported or discovered.
- Our water superintendent has leak detected the entire water system since we purchased a new leak detector 2015 and has replaced in excess of 100 service lines which he found to be leaking.
- We plan to continue looking for leaks, working the entire system at least semi-annually and more frequently if we see a significant increase in the amount of water produced.
- Year to date in FY 2016, we are seeing a steady decrease in our water loss percentage and continue to look for and repairs leaks as we find them.
- The City of Cowan and the Cowan Board of Public Utilities continue to work with both MTAS and TAUD to assist us in identifying areas which still need to be assessed for water losses.

# Cowan Board of Public Utilities

P. O. Box 338  
Cowan, TN 37318

## Balance Sheet

As of January 2016

2/9/2016  
012:38:21 PM

<b>Assets</b>			
Cash			
Petty Cash	\$50.00		
Change Fund	\$100.00		
Total Cash		\$150.00	
Checking			
2013 CDBG Water Proj -3006616	\$100.00		
2013 SRLF WWTP Proj.-3006624	\$14,938.20		
2013 WWTP-Contr. Esc. 3006632	\$100.27		
FCUB-GF3003613	\$150,043.64		
FCUB Payroll 3003621	\$184.06		
Total Checking		\$165,366.17	
Savings			
FCUB CD #8058687	\$315,482.79		
FCUB MM#3004223	\$326,029.81		
Total Savings		\$641,512.60	
Accounts Receivable			
AR--Water Bills	\$61,513.55		
Total Accounts Receivable		\$61,513.55	
Other Assets			
Utility Plant in Service	\$6,400,140.57		
Accumulated Depreciation	(\$3,130,989.03)		
Due from City General	\$1,033.19		
Inventory	\$30,955.65		
Prepaid Insurance	\$11,803.00		
Fixed Assets	\$51,354.25		
Construction in Progress	\$400,881.35		
Total Other Assets		\$3,765,178.98	
Net Pension Asset Accounting		\$165,186.00	
<b>Total Assets</b>		<b>\$4,798,907.30</b>	
<b>Liabilities</b>			
General			
Accounts Payable	\$1,904.04		
Sales Tax Payable	\$1,919.41		
Customer Deposits	\$19,550.00		
Total General		\$23,373.45	
Inter-Fund Payables			
Due To General Fund	\$3,943.82		
Due To Sanitation	\$34,340.00		
Payroll Deductions			
Uniforms	\$167.84		
Total Payroll Deductions		\$167.84	
Other Liabilities			
Series 2008 Bond Issue	\$149,942.80		
Series 2009 Bond Issue	\$109,627.99		
2013 SRLF Loan	\$296,589.60		
Total Other Liabilities		\$556,160.39	
Pension Acctg			
Def. Inflows re: Pension Acctg	\$45,307.00		
<b>Total Liabilities</b>		<b>\$663,292.50</b>	
<b>Equity</b>			
Prior Years Fund Balance		\$307,041.95	
Fund Balance		\$309,369.09	

# Cowan Board of Public Utilities

## Profit & Loss Statement

July 2015 through January 2016

2/9/2016

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Equipment Oper./Maint.	\$4,597.00		
Water Plant Electricity	\$9,481.63		
Water Salaries	\$48,258.91		
Water Shop & Maintenance	\$96.14		
Water Lab & Testing	\$4,812.39		
Water Trans./Distr.	\$2,053.88		
State Maintenance Fee-WTP	\$1,566.70		
Total Water Dept Expense		\$77,383.90	
Utilities			
Electricity-City Hall	\$1,446.24		
Telephone	\$1,712.56		
Total Utilities		\$3,158.80	
Total Expenses			\$358,038.67
Operating Profit			\$109,903.67
Other Income			
Interest Income		\$1,956.10	
Contractor's Escrow Acct Int.		\$0.03	
Total Other Income			\$1,956.13
Other Expenses			
Interest on State Loan		\$156.15	
Bond Series 2008-Interest Exp.		\$3,913.35	
Bond Series 2009- Interest Exp		\$2,097.80	
Total Other Expenses			\$6,167.30
Net Profit / (Loss)			\$105,692.50

# AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0  
American Water Works Association  
Copyright © 2014. All Rights Reserved.

Click to access definition  
Click to add a comment

Water Audit Report for: **Cowan Board of Public Utilities**  
Reporting Year: **2016**      **7/2015 - 1/2016**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

### WATER SUPPLIED

← Enter grading in column 'E' and 'J' →

Volume from own sources:	<input type="text" value="7"/>	<input type="text" value="44.351"/>	MG/Yr
Water imported:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Water exported:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr

### Master Meter and Supply Error Adjustments

Pcrt:	<input type="text" value=""/>	Value:	<input type="text" value=""/>	MG/Yr
	<input type="radio"/>	<input type="radio"/>		
	<input type="radio"/>	<input type="radio"/>		
	<input type="radio"/>	<input type="radio"/>		

Enter negative % or value for under-registration  
Enter positive % or value for over-registration

**WATER SUPPLIED:**  MG/Yr

### AUTHORIZED CONSUMPTION

Billed metered:	<input type="text" value="7"/>	<input type="text" value="23.055"/>	MG/Yr
Billed unmetered:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Unbilled metered:	<input type="text" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr
Unbilled unmetered:	<input type="text" value="7"/>	<input type="text" value="0.554"/>	MG/Yr

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

**AUTHORIZED CONSUMPTION:**  MG/Yr

Click here:  for help using option buttons below

Pcrt:  Value:

Use buttons to select percentage of water supplied OR value

Pcrt:  Value:

### WATER LOSSES (Water Supplied - Authorized Consumption)

MG/Yr

#### Apparent Losses

Unauthorized consumption:  MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:   MG/Yr  
Systematic data handling errors:   MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:**  MG/Yr

#### Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:  MG/Yr

**WATER LOSSES:**  MG/Yr

### NON-REVENUE WATER

**NON-REVENUE WATER:**  MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

### SYSTEM DATA

Length of mains:   miles  
Number of active AND inactive service connections:    
Service connection density:  conn./mile main

Are customer meters typically located at the curbside or property line?  (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line  Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:   psi

### COST DATA

Total annual cost of operating water system:	<input type="text" value="10"/>	<input type="text" value="\$204,790"/>	\$/Year
Customer retail unit cost (applied to Apparent Losses):	<input type="text" value="9"/>	<input type="text" value="\$7.15"/>	\$/1000 gallons (US)
Variable production cost (applied to Real Losses):	<input type="text" value="10"/>	<input type="text" value="\$2,164.68"/>	\$/Million gallons <input type="checkbox"/> Use Customer Retail Unit Cost to value real losses

### WATER AUDIT DATA VALIDITY SCORE:

\*\*\* YOUR SCORE IS: 74 out of 100 \*\*\*

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

### PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Billed metered
- 3: Customer metering inaccuracies



STATE OF TENNESSEE  
**Water and Wastewater Financing Board**

James K. Polk State Office Building  
505 Deaderick Street, Suite 1700  
Nashville, Tennessee 37243-1402  
Phone (615) 401-7879 Fax (615) 741-1551

March 21, 2016

Mayor Joyce Brown  
City of Cowan  
P.O. Box 338  
Cowan, TN 37318

Dear Mayor Brown:

On March 10, 2016, the Water and Wastewater Financing Board met, in part, to discuss the excessive non-revenue water of the City of Cowan. While the Board took no formal action, they did ask the City to:

- **Provide a copy of all written non-revenue water policies**
  - Please provide documentation of these policies being adopted by the City Council
- **Adopt appropriate non-revenue water policies that are not already in place**
  - The City may want to contact TAUD or MTAS for help in this matter

**This required information should be in our office no later than April 29, 2016, for presentation at the May 12, 2016, meeting.**

If you need further assistance, or have any questions, please feel free to contact me at (615) 401-7879 or [John.Greer@cot.tn.gov](mailto:John.Greer@cot.tn.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "John Greer", with a large, stylized flourish extending to the right.

John Greer  
Utilities Board Specialist

**Cc: Becky Sherman, City Recorder**

**MAYOR**  
Joyce Brown

**COUNCIL**  
Steven Clark  
Ransom Green  
Tom McGee  
Adam Nelson  
Price Tucker

**WATER/WASTEWATER  
SUPERINTENDENT**  
Matt Farris

# City of Cowan

P.O. BOX 338  
COWAN, TENNESSEE 37318  
Office: (931) 967-7318  
Fax: (931) 967-7990  
recordersherman@comcast.net

**CITY RECORDER**  
Becky Sherman, CMFO, CMC

**CHIEF OF POLICE**  
Allen Edwards

**STREET/SANITATION  
SUPERINTENDENT**  
Steve Wilkinson

**FIRE CHIEF**  
Tommy Myers

**BUILDING INSPECTOR**  
Tommy Cohenour

May 11, 2016

Mr. John Greer  
Utilities Board Specialist  
State of Tennessee  
Water and Wastewater Financing Board  
James K. Polk State Office Building  
505 Deaderick Street, Suite 1700  
Nashville, TN 37243-1402

Dear Mr. Greer;

Per your letter of March 21, 2016 and your phone conversations with City Recorder Becky Sherman, I am submitting the Cowan Board of Public Utilities "Non-Revenue Water Policies" and the adopting resolution which was passed at the city council meeting on May 10, 2016. I want to thank you and your Board for your input in developing these policies.

Please know that we are working continuously to reduce our water loss. If there are other areas that need to be addressed or if you have suggestions to enhance the policy, please let me know.

Thank you for your time and patience while we developed this policy.

Sincerely,



Joyce Brown  
Mayor, City of Cowan, Tennessee

RESOLUTION NO. R16-05-01

CITY OF COWAN, TENNESSEE

RESOLUTION TO ADOPT A NON-REVENUE WATER POLICY

WHEREAS, the City of Cowan has been referred to the state of Tennessee's Water and Wastewater Financing Board as a result of having excessive non-revenue water as a percentage of operating cost and:

WHEREAS, the state of Tennessee's Water and Wastewater Financing Board requires the City of Cowan to adopt non-revenue water policies.

NOW, THEREFORE, BE IT RESOLVED by the Mayor and City Council of the City of Cowan that the Board hereby adopts the attached non-revenue water policy in compliance with requirements of the Water and Wastewater Financing Board of the State of Tennessee.

Passed and so ordered, this the tenth day of May 2016, the public welfare requiring it.

Signed: Joyce Brown  
Joyce Brown  
Mayor

Attest: Becky Sherman  
Becky Sherman  
City Recorder

# COWAN BOARD OF PUBLIC UTILITIES

## NON-REVENUE WATER POLICIES

ADOPTED BY COWAN CITY COUNCIL  
MAY 10, 2016

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## INTRODUCTION

The purpose of this Non-Revenue Water Policy is to ensure that the Cowan Board of Public Utilities has procedures and processes in place so that all metered water is accurately measured, accounted for and billed for.

## **SECTION 1—BILLING ADJUSTMENT POLICY**

**PURPOSE:** TO JUSTIFY BILLING ADJUSTMENTS AND TO ENSURE THAT SUCH ADJUSTMENTS ARE FAIR, ACCURATE, AND LEGITIMATE.

The primary purpose of this policy is to establish a method of adjusting bills.

**ADMINISTRATION:** THE WATER CLERK WILL TAKE ALL REQUESTS FOR BILLING ADJUSTMENTS.

Once a customer makes a billing adjustment request, the water clerk will review the customer's twelve month history to determine an average bill. Customer will sign a "request for adjustment" attesting to the reason for the increase in their bill. Customer will provide proof of repair as part of the adjustment process for a leak. Proof will be in the form of a plumber's bill or a receipt of repair materials purchased if the customer repaired the leak themselves.

The Mayor will sign off on the "request for adjustment".

Water clerk will, after calculating the twelve month average, adjust only the sewer portion of the total bill to the customer's average. Only the sewer portion of the bill resulting from a high reading will be adjusted. If the customer's water bill is ever adjusted due to anything other than a meter reading error, the actual flow through the meter will be used for calculation of non-revenue water.

Customers will be allowed one adjustment per twelve month billing period, that period beginning from the month of the last adjustment allowed.

Customers with swimming pools will be allowed an annual adjustment for filling the pool; only the sewer portion of the bill will be adjusted. Customers must call for a water department employee to read the meter before and after the pool is filled in order for an adjustment to be granted.

Customers will be allowed both a pool adjustment and a leak adjustment in the same time frame, but only one of each.

The water portion of the total bill will be adjusted only if the meter was incorrectly read.

**GOAL:** TO ALLOW FOR ADJUSTMENTS TO THE SEWER PORTION OF BILLS WHEN EXCESSIVE WATER USED DOES NOT GO INTO THE SEWER SYSTEM.

**TIMELINE:** ONGOING AND AS ALLOWED AND WHEN REQUESTED BY CUSTOMERS.

## **SECTION 2—CUSTOMER LEAK NOTIFICATION POLICY**

**PURPOSE:** TO INFORM CUSTOMERS OF HIGH METER READINGS DUE TO POSSIBLE LEAKS.

The primary purpose of this policy is to inform our water customers of the potential of customer service line leaks.

**ADMINISTRATION:** THE SUPERINTENDENT AND EMPLOYEES OF THE WATER / WASTEWATER AND THE WATER DEPARTMENT CLERK.

Water department employees who read meters will attempt to make contact with customers when they find a high reading and / or a meter which is turning. They will 1) do a knock and talk to inform the customers of the possible leak or 2) if the customer is not home, they will leave a door hanger informing the customer of a high reading or turning meter.

When the handheld readers are returned to city hall and readings downloaded into the computer, the water clerk will print the meter reading report and review the readings for any unusually high readings. Once high readings are identified by the clerk, she will create a "meter recheck" list to check for reading errors. If the readings are found to be accurate and no contact has been made with the customer, the clerk will call the customer to inform them of a possible problem. The clerk will make two (2) attempts to contact the customer by phone. Each attempt time and date will be recorded along with who was contacted if reached by phone. After two (2) unsuccessful attempts to contact the customer by phone, a card will be mailed to the customer. The date the card was mailed will be recorded.

When a customer suspects that he may have a leak and calls city hall, a water department employee will check the meter and inform the customer and the water clerk as to their findings.

Every effort will be made to contact the customer about possible leaks.

**GOAL:** TO IMMEDIATELY INFORM OUR WATER CUSTOMERS WHEN THEIR METER READING INDICATES THE POSSIBILITY OF A LEAK.

**TIMELINE:** ONGOING AND ESPECIALLY DURING METER READING.

### **SECTION 3—LEAK DETECTION POLICY**

**PURPOSE:** TO REDUCE WATER LOSS BY IMPLEMENTING A LEAK DETECTION PROGRAM.

The primary purpose of this policy is to implement a leak detecting schedule to locate and repair leaking pipes in our distribution system.

**ADMINISTRATION:** THE SUPERINTENDENT AND EMPLOYEES OF THE WATER / WASTEWATER DEPARTMENT WILL SEARCH FOR LEAKS USING THE DEPARTMENT'S LEAK DETECTING DEVICE.

The superintendent will track water pumped through the finished water meter at the water treatment plant. An upward trend in water pumped (with no verifiable or extraordinary circumstance known) is an indication of a possible leak; such a trend will trigger leak detection. The system is not currently divided into sub-metered areas; there are currently no plans to subdivide the system.

In addition, the superintendent will, on a regular basis, conduct leak detection throughout the distribution system and repairs will be made as needed. Leak detection will be conducted during overnight hours when water consumption and background noise are least.

When gallons of water pumped increases over two subsequent months with no parallel increase in water sold or used in flushing and cleaning activities, the Cowan City Council shall engage the services of a leak detection contractor to determine where the system is losing water.

**REPLACEMENT:** WATER DEPARTMENT EMPLOYEES WILL REPAIR AND REPLACE LEAKING LINES AS THEY ARE DISCOVERED.

New and repaired lines will be shown on system maps and location of leaks will be tracked to develop a history of areas which are prone to leakage, such as lines which have been in place for many years. This information will be vital in determining areas for future water line replacement projects.

**GOAL:** TO MINIMIZE LEAK OCCURRENCE AND WATER LOSS DUE TO FAULTY WATER SYSTEM INFRASTRUCTURE.

**TIMELINE:** LEAK DETECTION WILL BE AN ONGOING PROJECT.

## **SECTION 4—METER REPLACEMENT AND VERIFICATION OF METER ACCURACY POLICY**

**PURPOSE:** TO MAINTAIN AND PROVIDE REALIABE AND ACCURATE METER READING.

The primary purpose of this policy is to establish a consistent method for replacement of water meters and verification of meter accuracy. The objective of this policy is to increase efficiency in our meter reading practices, provide fair and accurate billing, and to develop a systematic method for tracking and replacing meters.

### **A. METER REPLACEMENT**

**ADMINISTRATION:** THE WATER CLERK WILL DESIGNATE METERS WHICH NEED REPLACEMENT, ON THE BASIS OF AGE AND CURRENT READINGS.

Our computerized billing system tracks both the age of meters and meter readings. Beginning in June of 2013, meters 1) being in the ground either ten years or 2) having a current reading greater than 1,000,000 gallons and prioritized by age and number of gallons registered are put on a list for replacement.

**REPLACEMENT:** WATER DEPARTMENT EMPLOYEES WILL REPLACE METERS IN ORDER AS PRIORITIZED BY THE CLERK FROM THE REPORTS GENERATED.

The water clerk will provide to water department employees a completed meter change out form showing the meter identification number and customer address. The water department employee replacing the meter will provide for the clerk the final reading on the old meter, the new meter number, the beginning reading on the new meter, the date changed, and by whom. The form is then returned to the water clerk who enters the new information into the billing system.

Change out orders are provided in increments of ten and the clerk keeps a record of all meters to be changed, as well as completed meter change out orders.

In addition, meters which are found to broken or stopped are replaced immediately.

**GOAL:** TO ENSURE THAT ALL METERS IN SERVICE ARE READING ACCURATELY.

**TIMELINE:** AT THE CURRENT RATE OF REPLACING APPROXIMATELY 100 METERS ANNUALLY, ALL METERS SHOULD BE REPLACED BY THE YEAR 2023, AT WHICH TIME THE PROCESS WILL BEGIN AGAIN.

**B. VERIFICATION FOR METER ACCURACY**

ADMINISTRATION: THE WATER / WASTEWATER SUPERINTENDANT CLERK WILL KEEP A RECORD OF METERS CALIBRATED, DATE, AND BY WHOM AND DATE OF NEXT CALIBRATION DUE.

All master production meters will be checked annually. The meter accuracy shall be not less than 95% and not more than 105% of the water that passes through the meter. If a master meter is not within Cowan's accuracy specification it will either be repaired or replaced.

All meters equal to or greater than 2 inches shall be checked for accuracy annually. If a meter is not within Cowan's accuracy specification it will either be repaired or replaced.

GOAL: TO ENSURE THAT ALL METERS IN SERVICE ARE READING ACCURATELY.

TIMELINE: ONGOING, BEGINNING AS OF THE DATE OF ADOPTION OF THIS POLICY.

## **SECTION 5—TAMPERING WITH WATER FACILITIES AND OBTAINING SERVICES USING FRADULENT MEANS**

**PURPOSE:** TO PROVIDE A COURSE OF ACTION AGAINST THOSE WHO TAMPER WITH WATER METERS AND/OR WHO ATTEMPT TO OBTAIN OR OBTAIN WATER AND SANITARY SEWER BY FRADULENT MEANS AS SPECIFIED IN T.C.A. 65-35-103.

The primary purpose of this policy is to establish a course of action against individuals who tamper with the utility's water meter in an attempt to receive water service without going through the proper channels with the utility.

**ADMINISTRATION:** THE WATER CLERK SHALL MAINTAIN AN ACCURATE COMPUTER RECORD OF CUSTOMERS.

All new customers shall complete an "application for water service" with the water clerk at Cowan City Hall. Upon completion of the application and payment of service charge and deposit, the water clerk shall notify a water department employee to activate service.

All renters shall pay a service charge and deposit before they receive service, unless the renting property owner has made arrangements to set up the account in his name. In such cases, the property owner is responsible for the bills. Water will not remain on in an owner's name, unless the water clerk is instructed otherwise. This will prevent a renter from moving in and using water without the consent of the owner and without the knowledge of the utility.

Meter readers will check all meters monthly as they read the meters on their route. Meter readers who find meters to be on and not in the reader as an active account will notify city hall. In such cases where the water has been illegally turned on, service shall be immediately discontinued. The water clerk will make every attempt to contact the property owner and give the resident an opportunity to make application for water and pay the fees. Resident will be charged for water retroactive to the last meter reading at the property, as recorded in the computer. Water service shall remain off until such time as customer applies for water and remits fees.

It shall be the policy of the Cowan Board of Public Utilities to automatically notify the police department, in cases where the meter has been tampered with and / or damaged; violator may be charged with a misdemeanor and cited into city court. The same action may be taken against 1) a customer who turns his water back on after his service has been discontinued for non-payment and 2) one who never makes application for water, but has usage.

**AUTHORITY:** Tennessee Code Annotated, 65-35-102 details prohibited acts as regards obtaining or attempting to obtain water by fraudulent means.

GOAL: TO ENSURE THAT ALL WATER USED IS METERED, ACCOUNTED FOR AND BILLED FOR.

TIMELINE: ONGOING.

## **SECTION 6—POLICY AMENDMENTS**

The City Council of the City of Cowan, Tennessee, may amend this policy as necessary or as required by changes in regulations governing water loss; such amendments shall be made by means of a resolution of the council and approved by a majority of the council.

# City of Hohenwald



# AWWA Free Water Audit Software: Reporting Worksheet

WAS v5.0  
American Water Works Association  
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Water Audit Report for: **City of Hohenwald, Tennessee**  
Reporting Year: **2015** / **7/2014 - 6/2015**

Please enter data in the white cells below. Where available, metered values should be used; if metered values are unavailable please estimate a value. Indicate your confidence in the accuracy of the input data by grading each component (n/a or 1-10) using the drop-down list to the left of the input cell. Hover the mouse over the cell to obtain a description of the grades

All volumes to be entered as: MILLION GALLONS (US) PER YEAR

To select the correct data grading for each input, determine the highest grade where the utility meets or exceeds all criteria for that grade and all grades below it.

### WATER SUPPLIED

----- Enter grading in column 'E' and 'J' ----->

Volume from own sources:	<input type="button" value="9"/>	<input type="text" value="413.750"/>	MG/Yr	<input type="button" value="E"/>	<input type="button" value="J"/>	
Water imported:	<input type="button" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr	<input type="button" value="E"/>	<input type="button" value="J"/>	
Water exported:	<input type="button" value="n/a"/>	<input type="text" value=""/>	MG/Yr	<input type="button" value="E"/>	<input type="button" value="J"/>	

### Master Meter and Supply Error Adjustments

Pcnt:	<input type="button" value=""/>	<input type="text" value=""/>	MG/Yr
Value:	<input type="radio"/>	<input type="radio"/>	
	<input checked="" type="radio"/>	<input type="radio"/>	
	<input type="radio"/>	<input type="radio"/>	
	<input checked="" type="radio"/>	<input type="radio"/>	

Enter negative % or value for under-registration  
Enter positive % or value for over-registration

**WATER SUPPLIED:**  MG/Yr

### AUTHORIZED CONSUMPTION

Billed metered:	<input type="button" value="9"/>	<input type="text" value="269.800"/>	MG/Yr	<input type="button" value="E"/>	<input type="button" value="J"/>	
Billed unmetered:	<input type="button" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr	<input type="button" value="E"/>	<input type="button" value="J"/>	
Unbilled metered:	<input type="button" value="n/a"/>	<input type="text" value="0.000"/>	MG/Yr	<input type="button" value="E"/>	<input type="button" value="J"/>	
Unbilled unmetered:	<input type="button" value="5"/>	<input type="text" value="5.172"/>	MG/Yr	<input type="button" value="E"/>	<input type="button" value="J"/>	

Default option selected for Unbilled unmetered - a grading of 5 is applied but not displayed

**AUTHORIZED CONSUMPTION:**  MG/Yr

Pcnt:    Value:  MG/Yr

Click here:  for help using option buttons below

Use buttons to select percentage of water supplied OR value

### WATER LOSSES (Water Supplied - Authorized Consumption)

MG/Yr

### Apparent Losses

Unauthorized consumption:   MG/Yr

Default option selected for unauthorized consumption - a grading of 5 is applied but not displayed

Customer metering inaccuracies:   MG/Yr  
Systematic data handling errors:   MG/Yr

Default option selected for Systematic data handling errors - a grading of 5 is applied but not displayed

**Apparent Losses:**  MG/Yr

Pcnt:    Value:  MG/Yr

MG/Yr  
   MG/Yr

### Real Losses (Current Annual Real Losses or CARL)

Real Losses = Water Losses - Apparent Losses:  MG/Yr

**WATER LOSSES:**  MG/Yr

### NON-REVENUE WATER

**NON-REVENUE WATER:**  MG/Yr

= Water Losses + Unbilled Metered + Unbilled Unmetered

### SYSTEM DATA

Length of mains:   miles  
Number of active AND inactive service connections:    
Service connection density:   conn./mile main

Are customer meters typically located at the curbstop or property line?

Average length of customer service line:  (length of service line, beyond the property boundary, that is the responsibility of the utility)

Average length of customer service line has been set to zero and a data grading score of 10 has been applied

Average operating pressure:   psi

### COST DATA

Total annual cost of operating water system:   \$/Year  
Customer retail unit cost (applied to Apparent Losses):   \$/1000 gallons (US)  
Variable production cost (applied to Real Losses):   \$/Million gallons  Use Customer Retail Unit Cost to value real losses

### WATER AUDIT DATA VALIDITY SCORE:

\*\*\* YOUR SCORE IS: 83 out of 100 \*\*\*

A weighted scale for the components of consumption and water loss is included in the calculation of the Water Audit Data Validity Score

### PRIORITY AREAS FOR ATTENTION:

Based on the information provided, audit accuracy can be improved by addressing the following components:

- 1: Volume from own sources
- 2: Unauthorized consumption
- 3: Systematic data handling errors

**AWWA Free Water Audit Software:  
System Attributes and Performance Indicators**

WAS v5.0

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Water Audit Report for:   
Reporting Year:

\*\*\* YOUR WATER AUDIT DATA VALIDITY SCORE IS: 83 out of 100 \*\*\*

System Attributes:

Apparent Losses:	<input type="text" value="4.434"/>	MG/Yr
+ Real Losses:	<input type="text" value="134.344"/>	MG/Yr
= <b>Water Losses:</b>	<input type="text" value="138.778"/>	MG/Yr

Unavoidable Annual Real Losses (UARL):  MG/Yr

Annual cost of Apparent Losses:

Annual cost of Real Losses:

Valued at **Variable Production Cost**

Return to Reporting Worksheet to change this assumption

Performance Indicators:

Financial:	}	Non-revenue water as percent by volume of Water Supplied:	<input type="text" value="34.8%"/>	
		Non-revenue water as percent by cost of operating system:	<input type="text" value="25.3%"/>	Real Losses valued at Variable Production Cost

Operational Efficiency:	}	Apparent Losses per service connection per day:	<input type="text" value="2.43"/>	gallons/connection/day
		Real Losses per service connection per day:	<input type="text" value="N/A"/>	gallons/connection/day
		Real Losses per length of main per day*:	<input type="text" value="566.25"/>	gallons/mile/day
		Real Losses per service connection per day per psi pressure:	<input type="text" value="N/A"/>	gallons/connection/day/psi

From Above, Real Losses = Current Annual Real Losses (CARL):  million gallons/year

Infrastructure Leakage Index (ILI) [CARL/UARL]:

\* This performance indicator applies for systems with a low service connection density of less than 32 service connections/mile of pipeline



**RECEIVED**

**JUN 22 2016**

**DEPT: COMPTROLLER  
OFFICE OF ADMINISTRATION**

**City of Hohenwald**  
118 W. Linden Avenue  
Hohenwald, Tennessee 38462  
(931) 796-2231

Danny McKnight – City Mayor

June 15, 2016

John Greer, Utilities Board Specialist  
State of Tennessee  
Water and Wastewater Financing Board  
505 Deaderick St.  
Nashville, TN 37243

Water Loss Checklist Responses:

1. Yes, we are and have made several personnel changes that pertains to leaks and inaccurate meter readings. We have also started replacing meters that are too large for several government buildings and locations.
2. Yes we do. However, we completed an investigation and found that not all employees were following procedures. We now have new forms and procedures, along with a new meter radio read in place.
3. Yes, after some personnel changes, all 2” meters have been inspected and separated by age and total number of connections. A large meter replacement program in on going since July 2015.
4. Yes we do for all master meters but not for service meters. We have replaced almost all of our master meters or zone meter cores and looking into the clamp on liquid flowmeters to recalibrate ourselves. All well meters are on a yearly recalibration plan with Southern Flow.

5. We started a replacement program in July 2015 and have replaced several meters. But we do not have a written policy on hand for replacements at this time. However, we are working on putting together a written replacement policy.
6. Yes, all accounts are reviewed monthly and each month we do cut-offs for non-payment and at that time we inspect for unauthorized consumption. Also we periodically check meters that were cut-off to insure they are still in fact off. A \$100 charge is billed if a customer has any unauthorized usage and theft charges are filed against them.
7. Yes to a small degree, but not in full force yet. Man power is our biggest problem with night time work. Zone meters are checked at least once a week for over usage. We are on the books to start a leak detection program with Rye Engineering beginning the 2<sup>nd</sup> week of July 2016.
8. Yes we do. (See attachment). All staff are following the policies.
9. Yes we do. Examples: Hohenwald Fire Dept, Lewis County Volunteer Fire. Both departments account for their water use and report it to City Hall following drills and fire calls.
10. Yes we can isolate for leak detection. Our system is in a loop, but we do realize that we need more zone meters.
11. No we do not. We do realize this is the ideal time, but due to personnel constraints, we do not.
12. No, we are a gravity fed system.
13. Yes, we do have two acoustic leak detectors and currently looking into purchasing 2 flow meters. However, in the past, personnel has not been scheduled to utilize these tools like they should be.
14. When we initially find that a customer has a leak either through our radio read system or noticing a customer has an abnormally high water usage, we contact them by phone whenever possible. When no one can be reached, we send someone to the address to notify the customer.
15. Yes, most of our public relations is done with our water bills. Each month we put inserts in our bills about water reports, high water usage, home leak detection, cross connections, storm drain issues, etc. We also periodically post in the Lewis County Herald to keep the public informed and aware of how to report leaks and things everyone can look for.

16. Yes we do. (see attached). In the past the City has taken a pretty lenient stance on the issue but last year we prosecuted every customer who tampered with or damaged a meter, as well as those who cut locks and turned a meter back on. The minimum charge is \$100 for unlawfully turning a meter back on without city approval.

17. The monetary value of lost revenue is \$551,328

18. No, we repair leaks as soon as we discover them.

Sincerely

A handwritten signature in blue ink, appearing to read "Danny McKnight". The signature is stylized and cursive.

Danny McKnight, Mayor



## **Water Loss Plan**

The City is contracting with Rye Engineering to jump start our water loss detection program. It is slated to begin the 2<sup>nd</sup> week of July 2016. We will start in our Hurst Rd Water Tank area. That area is where most of our water is pumped and stands the highest chance of finding leaks. During this time we will have 2 water department workers to stay with Rye Engineering and learn the process for leak detection.

The City is also in the process of procuring 2 flow meters. We plan to use the flowmeters to start our own in-house leak detection.

The City shall dedicate adequate personnel to the water loss reduction project and it shall be mandated that these employees be ordered to abandon said project only in emergency situations.

A program has been instituted to replace all large meters within the distribution system to ensure that each is capable of correctly detecting low flow.

The program also consists of replacing all ¾' residential meters based on age. So far in FY 2016, the City has replaced 290 meters and plans to replace at least 400 each year.

After strategically identifying areas of need, the program shall consist of systematically rebuilding the water distribution system over time, beginning at the source and working outward.

A Community Development Block Grant is currently scheduled to replace one of the City's biggest leakage areas on Buffalo Rd. The City has spent countless hours in this area repairing water main breaks for years.

The City of Hohenwald realizes the importance and the financial benefit to accounting for as much water as possible, but at the same time, is aware that such a program is extensive and will take ample time and continued funding to achieve a satisfactory outcome.



## CITY OF HOHENWALD WATER AND SEWER POLICIES

*The City of Hohenwald is an equal opportunity provider and employer*

118 West Linden Avenue \*Hohenwald, TN. 38462 PH: 931-796-2231 \* FAX: 931-796-6055

### WATER & SEWER TAPS:

1. **A tap fee shall be collected prior to making any water tap.** (The following fees do not include the required water connection fee which is **\$25.00** for water.) A base tap fee of **\$550.00** shall be charged for all **3/4 inch** taps. The tap fee includes making the tap, the meter, and running up to **50 feet of service line** to access the property line at nearest point of convenience for the City in normal soil. The applicant shall be responsible for any costs beyond **50 feet** or going through difficult soils (i.e., rock). **The applicant shall be responsible for all costs if a road bore and/or blasting is required.** The City shall approve all meter locations. All residential meters shall be **3/4 inch** taps unless engineering constraints require a deviation from this policy (i.e., sprinkler systems, distance, elevation, or other factors). **The customer is responsible for installation of the service line from the meter to the residence or point of final usage.** All installations, water and sewer, shall meet all local, state, and federal laws and regulations. **One meter shall service only one (1) residence (living quarters).** Garages, barns, and outside faucets shall be considered part of the meter package as long as they are **not** used as a living area water supply.

### **COMMERCIAL USE ONLY:**

1 inch meter and tap: \$1,000.00

2 inch meter and tap: \$2,500.00

2. **A tap fee shall be collected prior to making any sewer tap.** A non-refundable tap fee of **\$300.00** and a non-refundable connection fee of **\$25.00** shall be collected **before** the tap is made. All sewer tap locations shall be subject to approval by the City of Hohenwald. The City shall make the basic tap. The customer shall be responsible for any blasting and for all other installation expenses. All work must comply with all state and federal regulations.



### WATER AND SEWER CONNECTIONS / BILLING

1. Meter readings are read each month by an employee of the City of Hohenwald and bills are issued and payable monthly.
2. The City of Hohenwald meter reader and/or other authorized representatives for the City shall have access at all times to the premises supplied for the purpose of setting, reading, repairing, or removing meters; and/or for making necessary inspections. Proper accessibility ensures accurate readings and allows meter readers to examine meters for damages and/or leaks.
3. All applicants requesting water service will be required to show a valid photo ID before water service can be obtained.
4. If the applicant has other accounts, the balances on each account must be current before a customer can open a new account in his/her name. If the applicant wishes to close one account and open a new account, the outstanding balance must be paid in full and the final bill paid before the customer can open the new account. In the event a prior balance is missed for whatever reason, the outstanding balance on the customer's closed account will be transferred to the customer's new account.
5. A non-refundable connection fee of **\$25.00** shall be paid before any water meter is turned on. A sewer connection fee of **\$25.00** shall also be paid if sewer service is available at the same location.
6. Realtors/Landlords Water Use:  
48 hours or less will be billed \$10.00.  
48 hours or longer will be billed at the standard water and sewer rates.  
It is the responsibility of the realtor/landlord to inform the City when to cut off the water.
7. Renters, individuals with leases, or any other form of tenant must obtain, fill out, and return an **Owner's Authorization** form before water can be turned on in his/her name.
8. Owners of rental properties will be responsible for any explained or unexplained water usage during inactive periods between tenants.
9. Accounts owing **\$10.00** or more in previous balances by the next billing cycle will be stamped with disconnect notices. If the account is left unpaid at the end of the second billing cycle (meaning the account is **30** days past due), the meter will be disconnected by the date stamped on the bill which is usually the <sup>th</sup>. If the City is unable to lock meters on the above mentioned cut-off dates, the City may elect to extend the cut-off date; however, cut-off extensions can **NOT** be granted for any other reason.
10. If a customer's meter is locked due to nonpayment, a service fee of **\$15.00** per account/meter (**8:00a.m. to 3:00p.m.**) or **\$30.00** per account/meter (**after 3:00 p.m.**) will be paid in addition to the full amount owed on bill. If the customer is unable to pay the account in full, he or she may pay a minimum amount which equals the full amount of their current bill including any late charges along with **20%** of the customer's past due amount. This; however, means that the account holder will be on the disconnect list

again the following month if the amount left on their bill is **\$10.00 or greater**.

Reconnection after **3:00p.m.** will be at the customer's request only, otherwise the City will reconnect the following day.

11. Account holders who are on the cut-off list once the City of Hohenwald employee(s) leave office to lock meters must pay the service charge listed above of **\$15.00 regardless** of whether their meter was actually locked or not.
12. Customers who pay their water bill(s) with a bad check will be charged a **\$25.00** service fee plus any applicable bank fees that are charged to the City to process the returned check.
13. In addition to the above fees, customers who pay their delinquent water bill(s) with a bad check in order to keep their meter(s) from being locked will automatically be charged the normal **\$15.00** reconnect fee on each account for which the check was supposed to pay whether or not the meter(s) have been locked by the time the customer comes into the office.
14. Another check will not be accepted as payment to cover a bad check. Customers must pay with cash or money order only. In addition, payment will be applied to the same account(s) for which the bad check was initially meant to pay.
15. Any account that remains unpaid for **3 months** will automatically be placed in cut-off status which will end billing; however, if the customer comes back to reestablish water service **on the same account**, he or she will be required to pay the account in full plus a minimum bill for the months the account remained cutoff (**up to 12 months**). In addition he or she will be required to pay the regular **\$25.00** fee for water connection or **\$50.00** for water and sewer connection.



16. Customers with **inactive meters** will be required to pay at least their area's minimum bill every month or have their meter disconnected, the account permanently closed, and the final bill paid. If the meter has been disconnected and the customer wishes to reconnect, he or she must pay the number of months they were disconnected times their area's minimum bill for up to **twelve (12)** months. In addition, the customer will have to pay the regular **\$25.00** hook-up fee for water connection or **\$50.00** for water and sewer connection. Agriculture meters used during drought periods may be exempt upon mayoral approval.
17. **All** water customers are required to pay their areas minimum bill every month **or** submit a **Termination Request** form to discontinue services. Once the Termination form is submitted, the water meter shall be read and the meter will be locked or disabled for the customer's final bill.
18. Customers wanting to terminate water service must submit a service **Termination Request** form to the Town the day **before** service is to be discontinued. Any and all charges including penalties incurred on the account after the customer leaves the rental property will be owed by the customer, **IF** the customer neglects to terminate his or her water and/or sewer service.
19. Customers who need to have a meter turned on for **inspection purposes** can pay a reduced **\$10.00** connection fee. **A Water Inspection Request form** must be submitted and the meter can **ONLY** be on for a maximum of **24 hours. USAGE MUST NOT EXCEED THEIR AREAS ALLOWANCE FOR A MINIMUM BILL.** It is the responsibility of the customer to make sure the City has relocked the meter. If the customer does not follow through, he/she will be subject to the normal hook-up and billing fees discussed previously in these policies.
20. Any customer's meter that is used for dwelling or business purposes that have toilets, sinks, etc... **AND** is easily accessible to the Town's sewer system will pay all sewer charges including sewer hook-up fees regardless of whether he/she is connected to the City's septic or has his/her own septic system in place.
21. If a meter is turned on or installed where sewer lines are easily accessible, **BUT** the customer is **NOT** connected to a septic system **OR** the City's sewer system **AND** the meter is **DOES NOT** provide service any type of toilets, sinks, etc (i.e. a standalone outdoor faucet); the customer may bypass the standard sewer charges including sewer hook-up fees.
22. All damages to the City of Hohenwald Water and Sewer Department's property (meter box, meter, lines, locks, water fire hydrants, and all other items present) that is caused by unauthorized use or tampering will be assessed and charged to the listed meter user. The City may also elect to prosecute at its discretion. There is a minimum **\$100** charge for unauthorized use.

## **City of Hohenwald Water Leak Billing Adjustment Policy**

The purpose of this policy is to provide the City of Hohenwald with a written policy regarding providing billing adjustments for water leaks on the customer (or property) side of the meter, or significant abnormalities in water consumption.

### **Introduction:**

Customers are responsible for the service and fittings to the Water Utility System beginning at the meter on the customer's side and anything beyond. Any leaks in the line which are the responsibility of the customers must be repaired, by the customer, solely at their expense.

No adjustment or credit will be applied to the water bill for a leak on the customer side unless it meets the criteria defined within this policy.

The customer is responsible for monitoring higher than expected usage. Customer must investigate higher than expected usage to determine if the usage was caused by a property side leak. Customers should promptly repair leaks.

### **Billing Adjustment Guidelines:**

Leak adjustments will be approved by management.

Leak must be repaired prior to adjustment

Must provide receipt of repair parts or services

One (1) adjustment per twelve (12) month period if a leak has caused water usage to double the highest water usage for customer out of the last 3 prior month's billings.

The adjustment will be based on each customer's average usage. If the leak continues more than one (1) billing cycle, the customer shall receive relief for a portion of the excess water usage on a maximum of two (2) billing cycles. Leaks will be adjusted a maximum of 30%. Sewer charges will be adjusted a maximum of 30% as well. Any further adjustments shall be approved by management.

## **WATER AND SEWER CONNECTIONS/BILLING**

1. Meter readings are manually read each month by an employee of the City of Hohenwald and bills are issued and payable monthly.
2. The City of Hohenwald Meter reader and/or other authorized representatives for the City shall have access at all times to the premises supplied for the purpose of setting, reading, repairing, or removing meters; and/or for making necessary inspections. Proper accessibility ensures accurate readings and allows meter readers to examine meters for damages and/or leaks.
3. All applicants requesting water services will be required to show a valid photo ID before water service can be obtained.
4. If the applicant has other accounts, the balances on each account must be current before a customer can open a new account in his/her name. If the applicant wishes to close one account and open a new account, the outstanding balance must be paid in full and the final bill will be mailed to the new service address. If a final bill is left unpaid or if there is a prior balance missed for whatever reason, the outstanding balance on the customer's closed account will be transferred to the customer's new account.
5. A non-refundable connection fee of \$25 shall be paid before any water meter is turned on.
6. Realtors/Landlords Water Use:
  - 48 hours or less will be billed \$10
  - 48 hours or longer will be billed at the standard water and sewer rates
7. All damages to the City of Hohenwald Water and Sewer Department's property (meter box, meter, lines, locks, water fire hydrants, and all other items present) that is caused by unauthorized use or tampering will be assessed and charges to the listed meter user. The City may also elect to prosecute at its discretion.

# Technical Assistance

# Town of Carthage

**BASS & BASS**

ATTORNEYS AT LAW  
P. O. Box 500  
226 North Main Street  
Carthage, Tennessee 37030  
Telephone (615) 735-1122  
Fax (615) 735-3149  
[realestate@bassandbass.com](mailto:realestate@bassandbass.com)

**RECEIVED**

**AUG 29 2016**

**DEPT: COMPTROLLER  
OFFICE OF ADMINISTRATION**

James L. Bass  
[jlbass@bassandbass.com](mailto:jlbass@bassandbass.com)

David Bass  
[dbass@bassandbass.com](mailto:dbass@bassandbass.com)

August 26, 2016

Mr. John Greer  
Utilities Specialist  
State of Tennessee  
Comptroller of the Treasurer  
Suite 1700  
James K. Polk Building  
505 Deadrick Street  
Nashville, TN 37243

**RE: WATER BOARD REVIEW OF RATES  
Town of Carthage, TN**

Dear Mr. Greer:

On behalf of the Town of Carthage, I am requesting the water rate board or appropriate board to review our water rates. Specifically, we are seeking a review of rates centered around wholesale customer (Cordell Hull Utility District) who, by contract we sell at \$3.75 per 1000 gallons. That contract is attached. Notice the provision that triggers a rate increase in Paragraph 9.

Earlier this year, there was a rate increase to our customer-residents. That Ordinance is also attached. Cordell Hull Utility is resisting the rate increase based on the fact that it was not state-mandated. We raised rates for two reason. First, in an effort to get an SRF loan, we got a letter from Sharon Moody, dated April 10, 2015, which stated that our rates needed to be raised to show financial soundness, thereby raising our ability to qualify for the loan (which we did receive). That letter is attached. Secondly, our city engineer, Jerry Warren, showed the city council a rate chart that revealed a quick demise into the red if we didn't raise the raises. His chart summary of water costs is attached. It shows the rates with and without depreciation. You will also note that this figures show three breakdowns: The first figure is based on all our customer base (includes city citizens; 25 Utility District wholesale customer & Cordell Hull District wholesale customer). The next figure includes city customers and Cordell Hull District and excludes wholesale customer 25 Utilities (which we don't serve now). The last figure only includes our city customers, with no wholesale customers/utility districts.

Mr. John Greer  
August 26, 2016  
Page Two (2)

We need guidance from the Board to determine if a rate increase is justified by us and expected by the State based on the cost of water production; our engineer's report and/or the state letter from Ms. Moody.

Please advise if you need any other information from us.

Best regards,

**BASS AND BASS**

By:

A handwritten signature in black ink, appearing to read "David Bass", written in a cursive style.

David Bass  
City Attorney

JDB/c  
Enc.  
cc: Town of Carthage

## AGREEMENT

**THIS AGREEMENT MADE AND ENTERED** into as of the 6 day of February, 2014 by and between **TOWN OF CARTHAGE**, a municipal corporation, hereinafter referred to as "Town" and the **CORDELL HULL UTILITY DISTRICT**, a quasi-municipal corporation hereinafter referred to as the "District".

### **WITNESSETH:**

**WHEREAS**, the TOWN is the owner and operator of a certain water treatment and distribution system and DISTRICT is the owner of certain water distribution lines outside of and adjacent to the TOWN incorporated limits, the two systems connecting at a location just North of the Town's municipal city limits on Turkey Creek Highway, and

**WHEREAS**, the DISTRICT has purchased water from the TOWN since approximately October 7, 1976 through an Agreement previously executed by the parties, and

**WHEREAS**, the parties are desirous of continuing the relationship and to update the agreement;

**NOW, THEREFORE, IN CONSIDERATION** of the premises, payments and mutual covenants and agreements contained herein, it is agreed by and between the parties as follows:

1. **WATER FURNISHED.** The TOWN agrees to furnish and deliver fresh potable treated water supply to the master meter, and the DISTRICT agrees to purchase, at a minimum, 90% of its total water requirements from the District and the DISTRICT shall not

manufacture or purchase any amount greater than 10% of its required usage for its customers, except in the event of an emergency, from other sources without the specific consent, in writing, of the TOWN. The DISTRICT shall not re-sell water to any water distributor or subscriber other than its users, unless it does so to independent truck water hauler for the consumer's own personal use.

2. **TREATMENT OF WATER.** The TOWN shall determine the mode and method of the treatment of the water supplied and may use any application which is approved by the Department of Public Health and Environment of the State of Tennessee.

3. **POINT OF DELIVERY & SERVICE OF METER.** The delivery point is that point previously determined by the parties, which is located at the master meter southwest of the water tank on Turkey Creek Highway. The meter, any replacement and maintenance of the meter shall be furnished by the DISTRICT. The TOWN reserves the right to check the accuracy of the master meter at such time and frequencies as it desires so long as it does so with a good faith reason to question the accuracy or validity of the meter readings at the master meter. If the TOWN hires a certified water meter repair technician to check the accuracy of the master meter and it reads inaccurate outside the range of acceptability, then the DISTRICT shall pay for the services of the certified technician. For purposes of the paragraph, the range of acceptability shall be established by the American Water Works Association Standard C-700, which currently permits as acceptable, an accuracy of 90% through 101.5% on the rate of flow according to the AWWA Standards. This contract standard shall follow the acceptable standard as it is modified and established, from time to time by said association.

4. **RULES AND REGULATIONS.** The water supplied shall be subject to the rules and regulations adopted by the TOWN or as same may from time to time be amended and as same are applicable to other customers of the TOWN except as may be specifically provided.

5. **RATES.** The DISTRICT shall pay TOWN at the wholesale rate of \$3.75 per 1000 gallon.

6. **PAYMENTS.** The master meter shall be read monthly by the TOWN and water bills rendered monthly based upon said reading. The DISTRICT shall have the right to jointly read the meter at the connecting point; however, a time agreeable to both parties shall first be designated. The charges are due when the bill is rendered and is subject to a 10% late charge if not paid by the 10<sup>th</sup> day of the month.

7. **DISTRICT SAVED HARMLESS.** The DISTRICT agrees to indemnify and save the TOWN harmless from any damages resulting from any act or omission in connection with the water line or lines or the operation of the distribution system beyond the point or points of delivery of water. Likewise, the TOWN agrees to indemnify and save the DISTRICT harmless from any damages resulting from any act or omission in connection with the water line or lines or the operation of the distribution system prior to the point or points of delivery of water.

8. **COMMENCEMENT AND DURATION OF AGREEMENT.** This Agreement shall be effective on the next billing cycle after the execution of this agreement and remain effective for ten (10 years) until February 6, 2024, unless same shall be amended or changed by the parties, same to be in writing and signed by appropriate officials of both parties.

9. **RATE INCREASE.** The above water rates will not be subject to change during the contract period, unless the TOWN is mandated by the appropriate State of Tennessee regulatory agency or department, to increase the water rates, to all its customers, in an effort to prevent any operating deficiency that would otherwise cause the TOWN to violate the Tennessee Code Annotated prohibition against operating a water system or utility at an operating loss.

In the event that the rates set forth herein this Agreement increase by fifty percent (50%) beyond the initial contract rate, for whatever reason, the DISTRICT may terminate this Agreement upon ninety (90) days written notice.

10. **TAXES.** In the event of the assessment of any taxes, fees or assessments, the responsibility of payment shall be that of the DISTRICT.

11. **OBLIGATION TO SUPPLY AND FAILURE TO DELIVER.** The TOWN will operate and maintain its water system in a reasonably effective manner and will take such action as may be necessary to furnish the DISTRICT with the quantity of water set forth in Section 1 with necessary pressure. When the TOWN anticipates that the normal quantity of water or pressure of water to be delivered to the DISTRICT will change because of operational problems within the TOWN's water system, the TOWN shall notify the DISTRICT of such anticipated variations as soon as the TOWN becomes aware such variations from normal operations will occur. In the event the TOWN is unable to supply the necessary amount of water, the DISTRICT may seek other sources for as long as necessary until the issue is resolved.

Temporary or partial failures to deliver water shall be remedied with all reasonable

dispatch. In the event of an extended shortage of water or in the event the supply of water available to DISTRICT is otherwise diminished over an extended period of time, the supply of water to the DISTRICT shall be reduced or diminished in the same ratio or proportion as the supply to the TOWN's other customers is reduced or diminished. If water service by the TOWN is interrupted by reason of injunction, strike, riot, flood, fire, use of water to fight fire, water main supply breaks, power failures, earthquake, breakdown or necessity of repairs to the TOWN's water system or any other cause beyond the TOWN's control, the TOWN shall use its best efforts to restore water service as quickly as reasonably possible.

**12. CHEMICAL ANALYSIS.** The TOWN shall supply, upon request, a comprehensive chemical analysis report of the water supplied to the DISTRICT.

**13. NOTICE OF EMERGENCY.** Both parties shall immediately notify the other of any emergency or condition which may affect the quality of water in either parties' system.

**14. TERMINATION OF EXISTING WATER SUPPLY AGREEMENT.** Upon the effective date of this Agreement, the parties existing water purchase contract dated October 7, 1976, and any amendments thereto shall terminate.

**15. SPECIFIC PERFORMANCE.** In addition to all other remedies available at law and in equity, any action for specific performance shall be available to the parties for the enforcement of any term, covenant, or condition of this Agreement.

**16. TIME OF ESSENCE.** Time is of the the essence in performance of this Agreement, and all of the terms, covenants, and conditions herein contained.

17. **WAIVER OF RIGHTS.** The failure of the parties to insist upon a strict performance of any of the terms, covenants or conditions of this Agreement shall not be deemed a waiver of any rights or remedies of the DISTRICT or the TOWN, and shall not be deemed a waiver of any subsequent breach or default in any of the terms, covenants, or conditions herein contained.

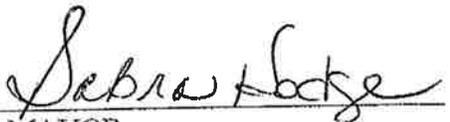
18. **GOVERNING LAW.** This Agreement is made in Tennessee and shall be governed by the laws of the State of Tennessee.

19. **ATTORNEY FEES AND COSTS.** In the event either party shall be required to seek enforcement of this Agreement or file suit related to any of its terms or provisions, the breaching party shall be responsible for all costs and expenses in bringing such proceeding, including, but not limited to, a reasonable attorneys fee.

20. **BINDING ON SUCCESSORS,** This Agreement shall bind and enure to the benefit of the successors and assigns of the parties.

**IN WITNESS WHEREOF,** the parties hereto have caused this instrument to be duly executed by proper persons duly authorized on the date set forth opposite their respective signatures.

**TOWN OF CARTHAGE**

By:   
MAYOR

ATTEST:

Sara Davenport by Michael Ray  
SARA DAVENPORT  
CITY RECORDER

Date: 3/7/14

CORDELL HULL UTILITY DISTRICT

By: Oron Spivey

PRESIDENT

ATTEST:

Brandon Powell  
SECRETARY

Date:

ACKNOWLEDGMENTS

STATE OF TENNESSEE  
COUNTY OF SMITH

Personally appeared before me, the undersigned authority, a Notary Public in and for the County and State aforesaid, **SABRA HODGE**, and **SARA DAVENPORT** with whom I am personally acquainted, (or proven to me on the basis of satisfactory evidence) and who, upon oath, acknowledged themselves to be the Mayor and City Recorder, respectively, of **TOWN OF CARTHAGE, a Tennessee Municipal Corporation**, the within named bargainor, and that she as such Mayor, and she as such city recorder, executed the foregoing instrument for the purposes therein contained, by signing the name of the Corporation by themselves as Mayor and City recorder, for the Town of Carthage.

WITNESS MY HAND and official seal at Offices, Smith County, Tennessee, on this the 7 day of ~~February~~ March, 2014.

NOTARY PUBLIC

My Commission Expires: 1-14-15



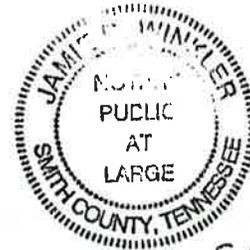
STATE OF TENNESSEE  
COUNTY OF SMITH

Personally appeared before me, the undersigned authority, a Notary Public in and for the County and State aforesaid, Troy Spruay, and Brandon Powell with whom I am personally acquainted, (or proven to me on the basis of satisfactory evidence) and who, upon oath, acknowledged themselves to be the President and Secretary, respectively, of The CORDELL HULL UTILITY DISTRICT, a quasi-municipal corporation, the within named bargainor, and that he as such President and he as such Secretary, executed the foregoing instrument for the purposes therein contained, by signing the name of the Corporation by themselves as President and Secretary, for the CORDELL HULL UTILITY DISTRICT.

**WITNESS MY HAND** and official seal at Offices, Smith County, Tennessee, on this the 6<sup>th</sup> day of February, 2014.

*Notary Public*

My Commission expires: 5-18-16



My Commission Expires 5-18-16

# Town of Carthage

Donnie Dennis, Mayor



P.O. Box 259  
314 Spring Street  
615/735-1881

Carthage, Tennessee 37030

ORDINANCE NO. 428

AN ORDINANCE TO AMEND THE WATER AND SEWER RATES FOR THE TOWN OF CARTHAGE, TENNESSEE, THE CORDELL HULL UTILITY DISTRICT, AND CUSTOMERS OUTSIDE THE TOWN OF CARTHAGE WHO ARE SERVED BY THE TOWN OF CARTHAGE WATER AND SEWER SYSTEM ORDINANCE.

WHEREAS, it is mandated that the Town of Carthage Water and Sewer Systems operate in a solvent financial posture; and

WHEREAS, the Highway 25 Utility District has established its own water supply system, thereby causing the Town of Carthage to determine that the solvent financial posture to be jeopardized; and

WHEREAS, it has been determined through careful evaluation that an increase in the water and sewer rates are necessary;

NOW, THEREFORE, BE IT ORDAINED that the Town of Carthage Board of Mayor and Aldermen/Women amend the following sections of the Town of Carthage Water and Sewer rates:

Section 1: The established water rates for customers served by the Town of Carthage Municipal Water System within the City Limits as follows:

<u>Gallons Per Month</u>	<u>Water rate inside city limits</u>
First 1,000 gallons	17.50 (minimum)
All over 1,000 gallons	5.00 per thousand gallon

Section 2: All established water rates for customers served by the Town of Carthage Municipal Water System outside the City Limits are as follows:

<u>Gallons Per Month</u>	<u>Water rate outside city limits</u>
First 1,000 gallons	22.02 (minimum)
All over 1,000 gallons	4.76 per thousand gallons

Section 3: The established water rates for Cordell Hull Utility District served by the town of Carthage Municipal Water system shall be as follows:

<u>Gallons per Month</u>	<u>Water rate for Utility District</u>
First 1,000 gallons	4.51
All over 1,000 gallons	4.51

Section 4: The established sewer rates for customers served by the Town of Carthage Municipal Sewer system inside the City limits are as follows:

<u>Gallons per Month</u>	<u>Sewer rates inside the city limits</u>
First 1,000 gallons	17.50 (minimum)
All over 1,000 gallons	5.00 per thousand gallons

# Town of Carthage

Donnie Dennis, Mayor



P.O. Box 259  
314 Spring Street  
615/735-1881

Carthage, Tennessee 37030

Section 5: The established penalties, fees and water and sewer tap rates for customers inside and outside the city limits are as follows:

Water Deposits:

Homeowners	\$100.00
Renters	\$200.00
Meter Set Fee	\$50.00
Bad Debt Deposit	\$100.00
Reconnect Fee	\$50.00
Returned Check/Bank Draft Fee	\$30.00
All 2" or larger meters (monthly maintenance fee)	\$50.00

Water Tap Fee Schedule:

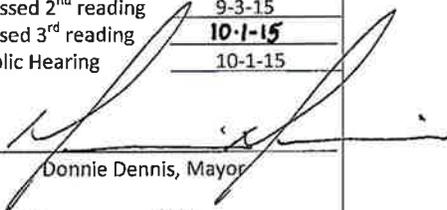
5/8"	\$1250.00
1"	\$1438.00
1 1/2"	\$1725.00
2"	\$2012.00
2 1/2" or larger	BILLED AT INSTALLATION COSTS

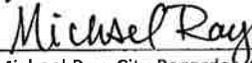
Sewer Rate Schedule:

All Taps	\$1438.00
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Section 6: these amendments shall become effective upon third and final reading and shall appear on FEBRUARY water/sewer service bill, the public welfare requiring it.

Passed 1 <sup>st</sup> reading	8-6-15
Passed 2 <sup>nd</sup> reading	9-3-15
Passed 3 <sup>rd</sup> reading	10-1-15
Public Hearing	10-1-15

  
Donnie Dennis, Mayor

  
Michael Ray, City Recorder, CMFO



STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION

Division of Water Resources  
**State Revolving Fund Loan Program**  
William R. Snodgrass – Tennessee Tower  
312 Rosa L. Parks Ave., 12<sup>th</sup> Floor  
Nashville, TN 37243

April 10, 2015

The Honorable Donnie Dennis  
Mayor, Town of Carthage  
P. O. Box 259  
Carthage, TN 37030

RE: Additional Revenue Recommendation  
Carthage (Smith County), Tennessee  
DWSRF Project Descriptions: (1) Water Tank Replacement - New 600,000 Gallon  
Water Storage Tank - \$1,000,000; (2) WTP Improvements - New Solids Handling Basin  
and Three New Intake Pumps - \$592,000; (3) Replacement of Existing Water Meters with  
AMR Meters - \$374,500

Dear Mayor Dennis:

Based on a review of audited financial statements for fiscal years 2012 through 2014; projections of revenue and expenses through fiscal year ending June 30, 2019; and, user rates, the State Revolving Fund (SRF) Loan Program has determined that the Town of Carthage needs to generate an additional \$75,240 per year or \$6,270 per month from the water and sewer fund in order to financially qualify for the proposed \$1,966,500 Drinking Water SRF loans.

The additional revenue could be generated by a six percent (6.00%) increase in the existing water/wastewater user rates or by other means. Please note that user rate increases may be implemented in increments and that the final increment does not have to be effective until the loan reaches the repayment cycle or completion of construction whichever occurs first.

This proposed loan will be subject to bypass on July 10, 2015, if no significant progress toward completion of the loan is noted by the SRF personnel.

If you have any questions, please contact me at (615) 532-0472 or [sharon.moody@tn.gov](mailto:sharon.moody@tn.gov).

Sincerely,

Sharon B. Moody  
SRF Loan Program, Finance Section

cc: Ms. Dawn Kupferer, Kwill Consultants, Cookeville, TN, Consultant (via e-mail)  
Mr. Jerry Warren, P. E., Warren and Associates, Lebanon, TN, Consultant (via e-mail)  
Mr. Michael Ray, C.M.F.O., City Recorder, Town of Carthage, TN (via e-mail)  
SRF Loan Program Managers (via e-mail)  
User Charge System File

Town of Carthage

9/2/2015

Rev 82516

	A. Water Plant Expenses	B. System Expenses	C. Debt Service	D. Depreciation	E. Total Costs	F. Total Gallons in 1,000	Cost to Produce/Supply 1,000 Gallons			W/O Depr
2012-2013										
	345,196	168,845	51,800	171,406	737,247	230,729	\$3.20	All	565,841	\$2.45
	345,196	168,845	51,800	171,406	737,247	181,638	\$4.06	W/O-25	565,841	\$3.12
	345,196	168,845	51,800	171,406	737,247	132,098	\$5.58	W/O-Both	565,841	\$4.28
2013-2014										
	434064	196608	51124	170000	851796	239780	\$3.55	All	681,796	\$2.84
	434064	196608	51124	170000	851796	191920	\$4.44	W/O-25	681,796	\$3.55
	434064	196608	51124	170000	851796	143920	\$5.92	W/O Both	681,796	\$4.74
2014-2015										
	476713	208294	50675	170000	905682	224845	\$4.03	All	735,682	\$3.27
	476713	208294	50675	170000	905682	176985	\$5.12	W/O-25	735,682	\$4.16
	476713	208294	50675	170000	905682	128985	\$7.02	W/O Both	735,682	\$5.70

*J. Warren, P.E.*  
8/26/16

# Miscellaneous

# Oversight List

<b>WATER AND WASTEWATER FINANCING BOARD</b>			
<b>Oversight September 2016</b>			
<b>SYSTEM</b>		<b>COUNTY</b>	
		<b>LAST AUDIT</b>	
City of Bluff City		Sullivan	2015
City of Brentwood	WL	Williamson	2015
Town of Brighton		Tipton	2014
Town of Chapel Hill		Marshall	2015
City of Charlotte		Dickson	2015
City of Collinwood	WL	Wayne	2015
City of Copperhill	WL	Polk	2014
City of Covington		Tipton	2015
City of Cowan	WL	Franklin	2015
City of Crossville		Cumberland	2015
City of Dunlap		Sequatchie	2015
Town of Englewood		McMinn	2015
City of Erin	WL	Houston	2015
City of Friendship	WL	Crockett	2015
Town of Gainesboro		Jackson	2015
City of Gleason		Weakley	2015
Town of Henning	WL	Lauderdale	2014
City of Hohenwald	WL	Lewis	2015
Humphreys County		Humphreys	2015
Lauderdale County Water	WL	Lauderdale	2015
City of Luttrell		Union	2015
City of Maynardville		Union	2015
Town of Maury City		Crockett	2015
City of Middleton		Hardeman	2015
Town of Monterey		Putnam	2015
Town of Newbern		Dyer	2015
City of Niota		McMinn	2015
Town of Oakland	WL	Fayette	2015
Town of Obion		Obion	2014
City of Ramer		McNairy	2015
City of Rocky Top		Anderson/Campbell	2015
City of Smithville		DeKalb	2015
City of South Fulton	WL	Obion	2014
City of Springfield	WL	Robertson	2015
Town of Stanton		Haywood	2014
City of Sunbright		Morgan	2015
City of Sweetwater	WL	Monroe/McMinn	2015
Town of Tiptonville	WL	Lake	2015
Town of Toone	WL	Hardeman	2014
Town of Vonore		Blount/Monroe	2015
Watauga Regional Water Authority		Carter	2015
Town of Woodbury		Cannon	2015

# Next WWFB Meeting

November 10th,  
2016

10:00 AM CST

LP 31